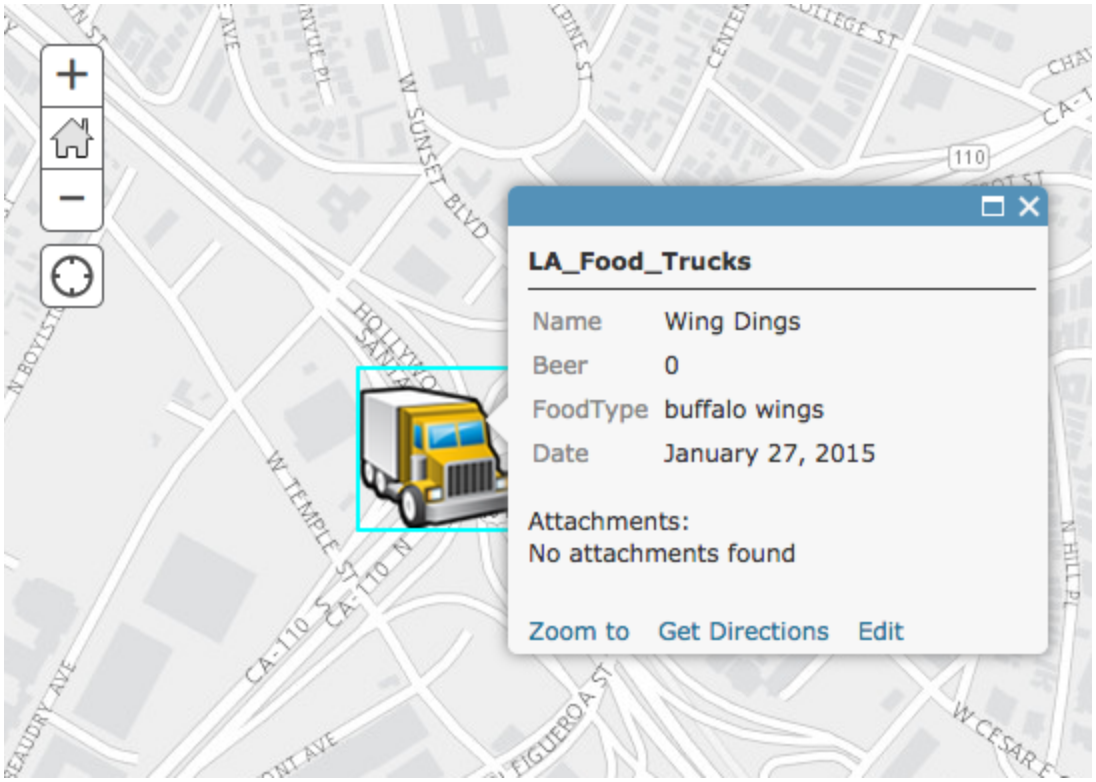
GeoDev How-to: Create cloud-based spatial data from scratch

Data 95%	Design 5%	Code 0%



In this post we'll learn how to create a new spatially enabled cloud-based dataset for your mapping app.

What are ArcGIS Online Hosted Feature Services?

ArcGIS Online allows you to create and edit spatially-enabled feature services in the cloud without learning to be a database administrator or bothering to write server side code.

In this how-to you will…

Step 1: Use ArcGIS for Developers to define the schema for a new hosted feature service.
Step 2: Add your first feature with the ArcGIS Map Viewer.

NOTE: If you are new to ArcGIS, please review the getting started article before proceeding.

Step 1: Create a new dataset in the cloud

In this section you will use your ArcGIS for Developers subscription to create a hosted feature service (feature layer) in the cloud. The data will represent new locations for food trucks in LA. The feature service will be stored in ArcGIS Online.

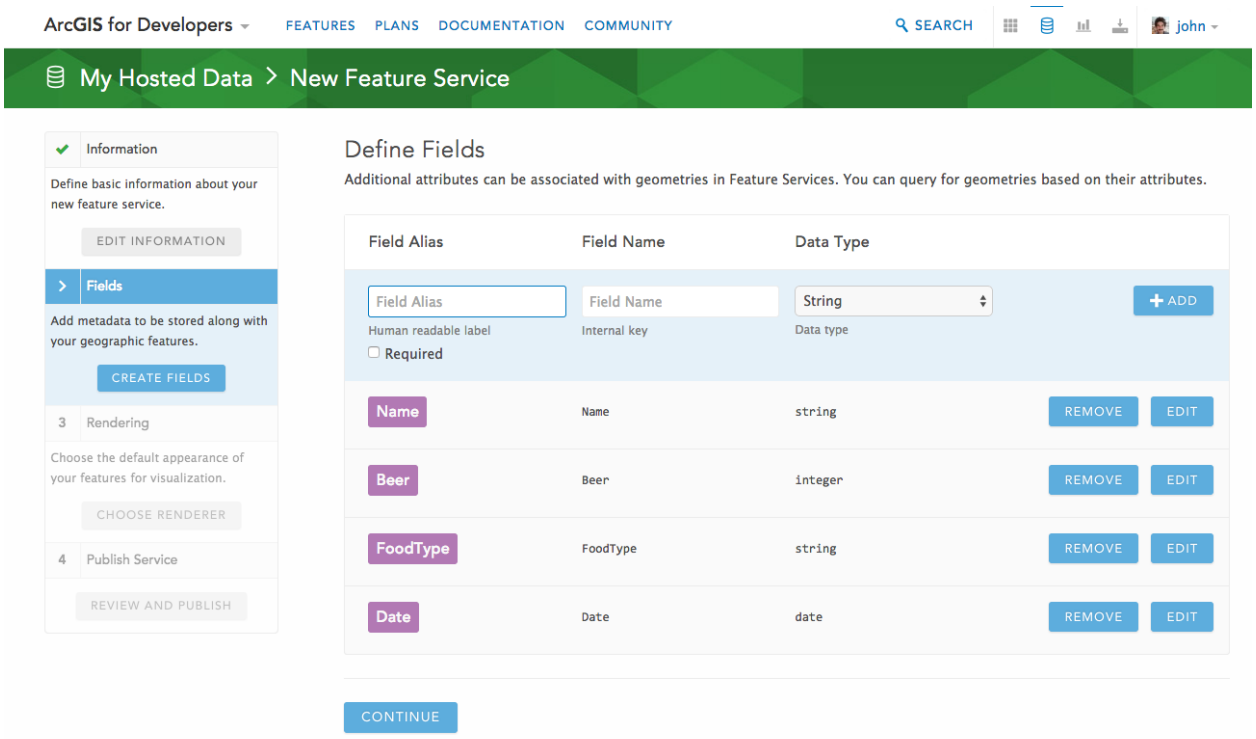
TIP: A hosted feature service is a spatially-enabled database table that lives in the cloud. It's accessible via a RESTful web service that is hosted by ArcGIS Online. They can be used to store points, lines or polygons and other attribute data, and they can be added to maps or communicated w/ directly to insert, update, delete and query individual features. A feature service is also referred to as a "feature layer" once it has been added to a map. Learn more about feature services here.

Create a new feature service with attribute fields

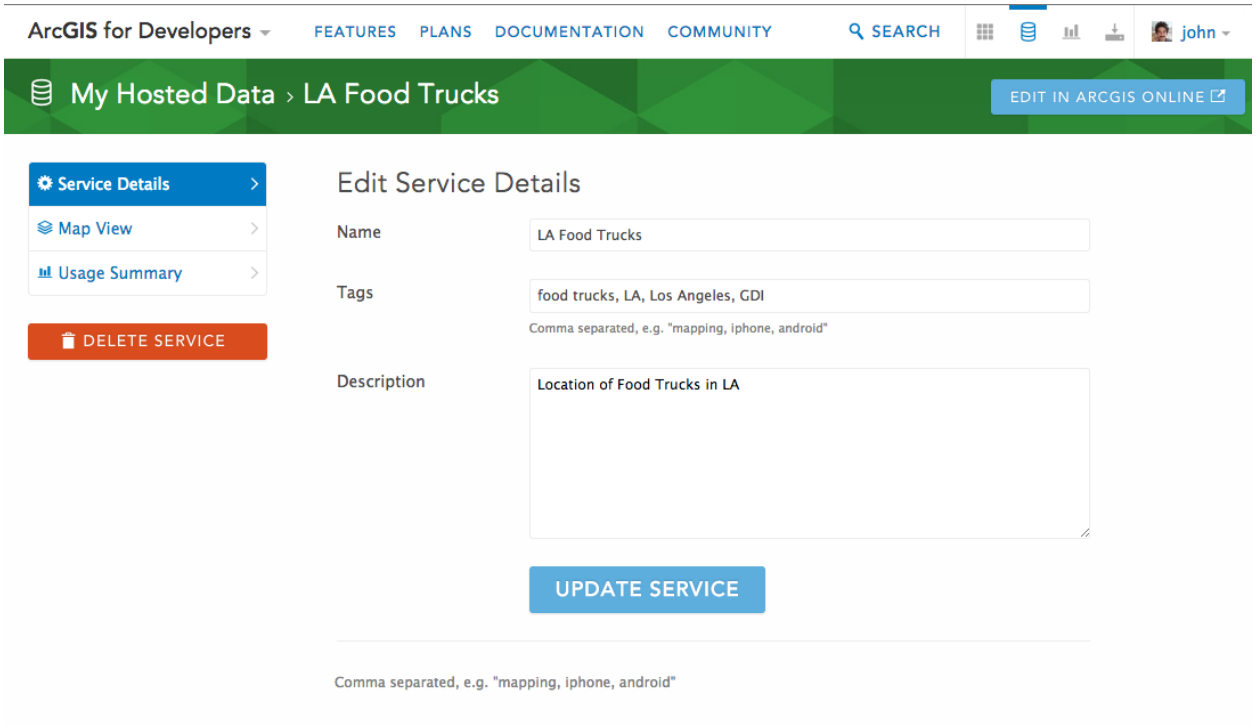
The easiest way to create a new feature service with custom attribute fields is to use the interactive tools in ArcGIS for Developers, so let's start there.

1. Log in to ArcGIS for Developers.
2. Click on Hosted Data.

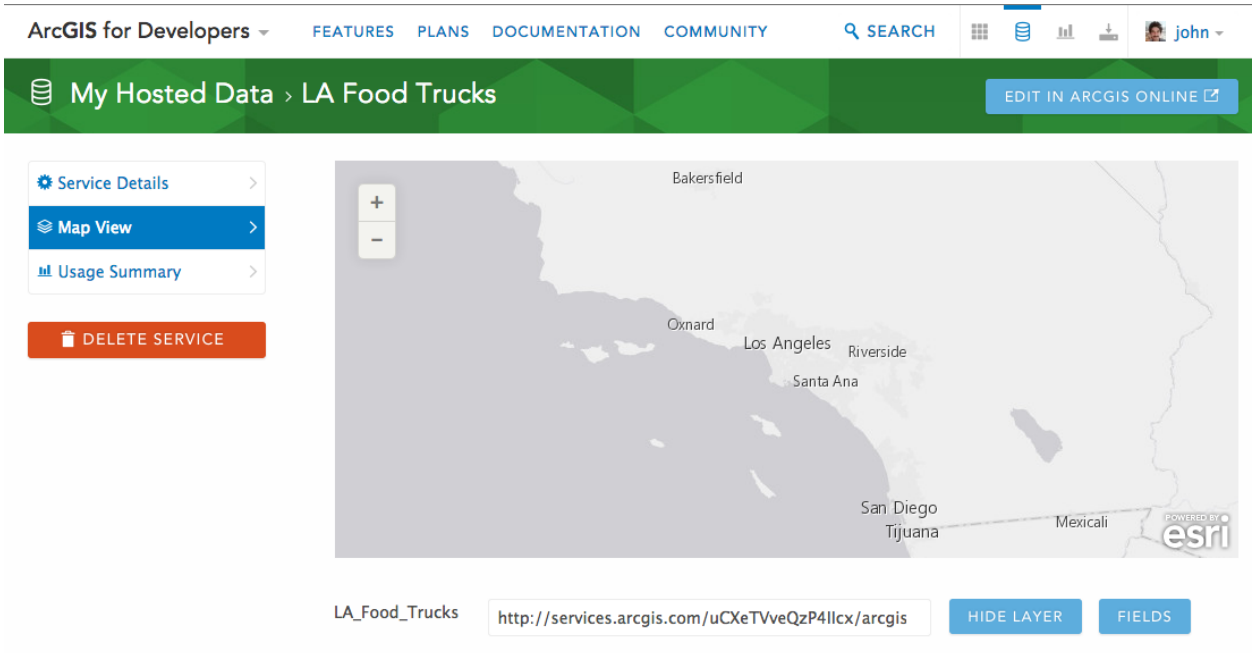
3. Click > New Feature Service and fill out the following fields:
    a. **Title: LA Food Trucks**
    b. **Description:** Location of food trucks in LA
    c. **Geometry:** Points
    d. **Tags:** food trucks, Los Angeles, LA
4. Click > Continue.
5. Add the following database fields to the service:
    a. **Field Alias:** Name **Field Name:** Name **Data Type:** String
    b. **Field Alias:** FoodType **Field Name:** FoodType **Data Type:** String
    c. **Field Alias:** Beer **Field Name:** Beer **Data Type:** Integer



6. Click Continue.
7. Now pick the default symbol that will represent each food truck location. Any one of them will work.
8. Click Continue.
9. Click Publish Service.



At this point you've defined the database schema and you have an empty feature service published in ArcGIS Online. It is fully accessible as a web service and can be added to maps and accessed by applications.

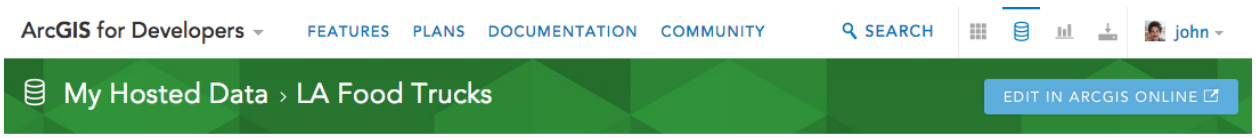


The next step is to add some features to it.

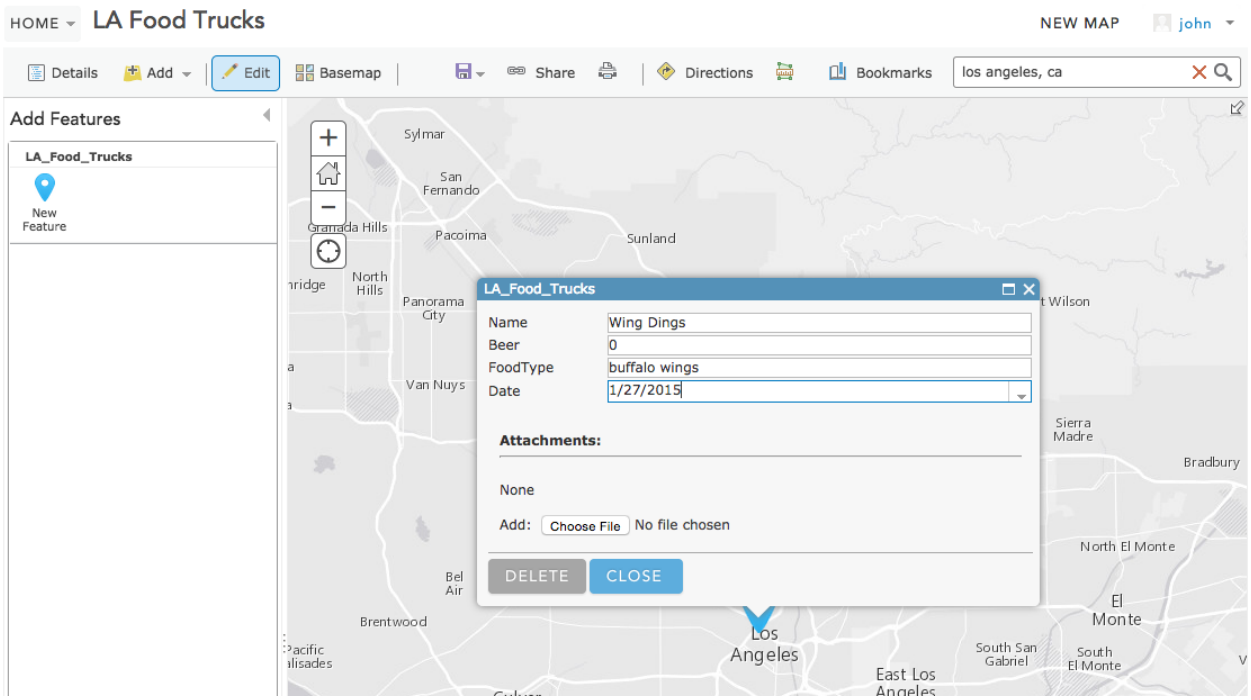
Step 2: Add data to your service

The easiest way to add new features to a feature service is to use the Map Viewer. The Map Viewer is also one of the easiest places to design maps for your apps.

1. Go to ArcGIS for Developers > Hosted Data > LA Food Trucks.
2. Click Edit in ArcGIS Online. This will launch a map and the empty feature layer will automatically be added.



3. In the map viewer, find “Los Angeles, California” and zoom to the location.
4. Close the popup.
5. Zoom in a little.
6. Click ‘Edit’ to sketch in your first feature (and add attributes).

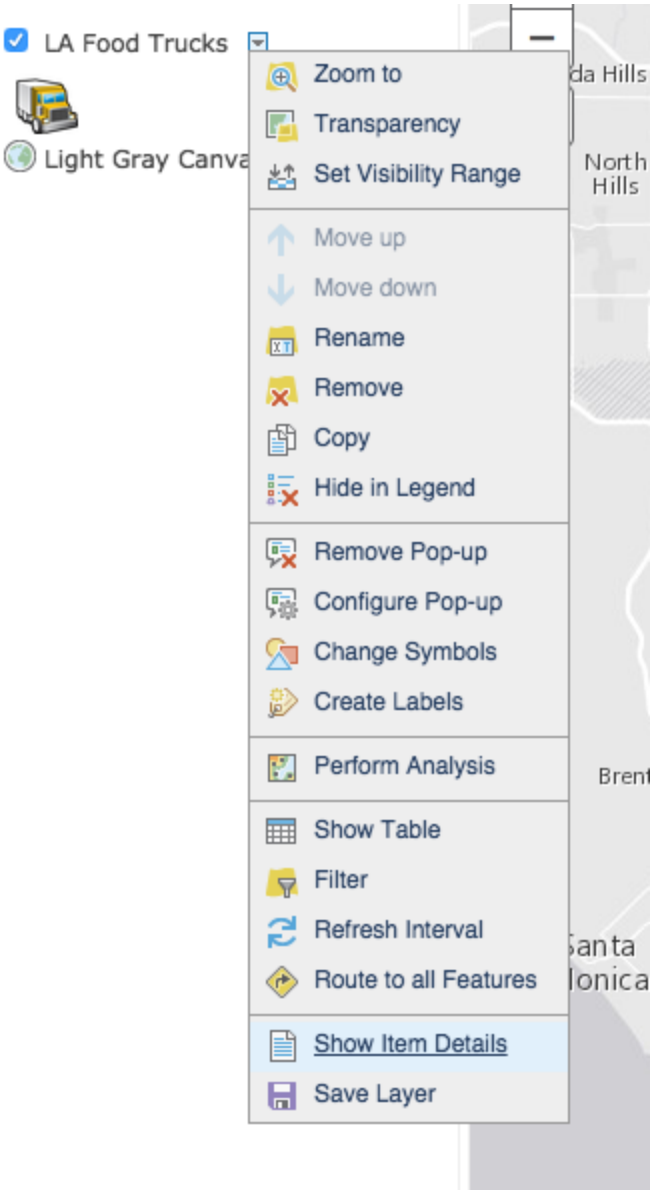


7. Now, lets update the symbol used to draw our features. Click on ‘Details’, expand the dropdown on the righthand side of our layer and select ‘Change Symbols’
8. Choose ‘Options’ and select whatever symbol seems like the most fun.
9. Once you’re happy with a new symbol, select ‘Save Layer’ to update the service itself.

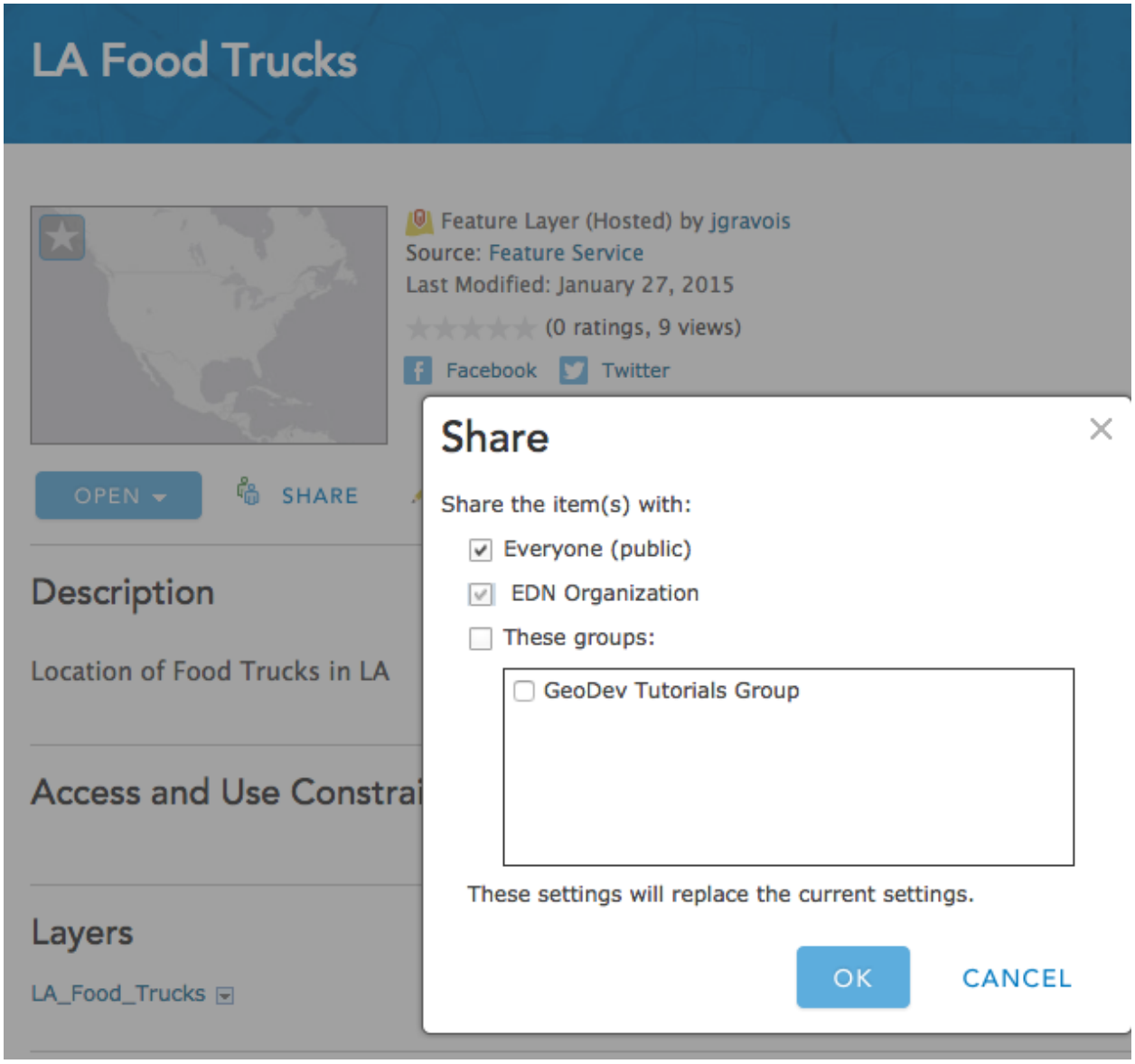
TIP: Learn more about working with the map viewer and changing layer symbols here.

Visit the Item Details page to see your new Hosted Feature Service (and administer settings)

1. Now we can take a look at some other options that are available for administering our new service.
2. Expand the dropdown on the righthand side of our layer again and select ‘View Item Details’



3. From here we can use ‘Share’ to decide who the service will be visible to and ‘Edit’ to change editing rules.
4. For now, lets share our new service with ‘Everyone’ so that its not necessary to login to interact with it.



Next episode...

In this installment we defined the schema of a new dataset and added our first feature manually. Now that we have our own data 'in the cloud', next time we can learn about interacting with our service programmatically using REST requests. This will allow us to query and edit individual food trucks however we want.

What's next?

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