



# ArcGIS Data Appliance: OpenStreetMap Vector Basemaps



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# Get started

# Introduction to ArcGIS Data Appliance: OpenStreetMap Vector Basemaps

OpenStreetMap (OSM) Vector Basemaps provides detailed maps from contributors with local knowledge that you can use with your ArcGIS and web applications. Vector tiles enable dynamic cartography and provide the flexibility to create your own basemap style. The vector basemaps are available as tile layers that can be added to existing maps as either a basemap or an overlay layer.

OSM Vector Basemaps provides a content solution that works with [ArcGIS Enterprise](#). It is included (shipped separately) with ArcGIS Data Appliance 2024 with World Standard, World Advanced, North America Standard, and North America Advanced product options. It can also be licensed as a stand-alone option.

## **Note:**

The World Basic product option includes OSM Vector Basemaps: Basic (WMA only), which is included (shipped separately) on the World Basic USB flash drive.

The OSM Vector Basemaps help includes the following topics:

- [OSM Vector Basemaps content](#)
- [Directory of map styles](#)
- [System requirements](#)
- [Set up OSM Vector Basemaps](#)
- Information on how to [use OSM Vector Basemaps](#)
- Methods to [customize](#) and [localize](#) OSM Vector Basemap styles
- Reference information including [FAQs](#), [Troubleshooting](#), and [Support](#)

# OSM Vector Basemaps content

OSM Vector Basemaps is delivered on a USB flash drive loaded with two vector tile packages, styles, and style publishing toolboxes (.tbx file).

## **Note:**

OSM Vector Basemaps ships separately.

The World Basic product option includes OSM Vector Basemaps: Basic, Web Mercator Auxiliary Sphere (WMA) only down to ~1:144,000, which is included with World Basic on the World Basic flash drive. All items included with OSM Vector Basemaps: Basic have the following file name structure: DAWB2024.

This version includes the following:

- Installation vector tile packages that you upload to your ArcGIS Enterprise portal using ArcGIS Pro and publish as a hosted vector tile service on your hosting server:
  - `OSM_Vector_Basemap_DA2024_Install.vtpk`—A vector tile package for customers who want to use Web Mercator Auxiliary Sphere (WMA).
  - `OSM_Vector_Basemap_GCS_DA2024_Install.vtpk`—A vector tile package for customers who want to use OSM Vector Basemaps in WGS84 Geographic (GCS). This .vtpk file uses the WGS84 Geographic, version 2 tiling scheme.
  - `OSM_Vector_Basemap_DAWB2024_Install.vtpk`—A vector tile package for customers who want to use OSM Vector Basemaps: Basic WMA.
- [Map styles](#) (for each projection) that you publish as vector tile layers to your Enterprise portal to use in your maps and apps or customize. These styles require resources included in the VectorBasemapStyles folder for publishing.
- Vector Style publishing tools for managing vector basemap tile layers (map styles) in your Enterprise portal:
  - `VectorStylePublisher.tbx`—This toolbox is used to create vector basemap tile layers.
  - `VectorStyleUpdater.tbx`—This toolbox is used to update existing vector basemap tile layers.
- Map style text files to help you with map style updates:
  - `DA2024_OSM_WMA_StyleUpdater_template.csv`—This file manages WMA styles.
  - `DA2024_OSM_GCS_StyleUpdater_template.csv`—This file manages GCS styles.
  - `DAWB2024_OSM_WMA_StyleUpdater_template.csv`—This file manages OSM Vector Basemaps: Basic styles.
- Documentation file (`data_appliance_osm_vector_basemaps.pdf`) that includes instructions for getting started, setup, using OSM Vector Basemaps, and more.

## **Note:**

Do not use the `OSM_Vector_Basemap_DA2024_Install`, `OSM_Vector_Basemap_GCS_DA2024_Install`, or `OSM_Vector_Basemap_DAWB2024_Install` vector tile packages for anything other than publishing the tile layer (hosted). Once you publish the tile layer to your Enterprise portal, do not share the .vtpk files publicly (Everyone), as distribution of these items outside of your organization is not permitted.

## What's new

This update of ArcGIS Data Appliance: OpenStreetMap Vector Basemaps contains two updated vector tile packages (.vtpk files) used to publish as hosted vector tile services in your ArcGIS Enterprise portal. One is in the Web Mercator Auxiliary Sphere (WMA) projection and the other is in the WGS84/GCS (GCS) tiling scheme. Map styles can be published as vector tile layers for each option.

These vector tile packages contain updated global data and local authoritative data from the OpenStreetMap community through the inclusion of Daylight Map Distribution of OpenStreetMap data. This map distribution is intended to leverage the work of the OSM community and enhance that with additional data validation to detect and remove map vandalism and geometry errors. This dataset also includes an expansion of the coverage of buildings in the map beyond those contributed by the OSM community.

OSM Vector Basemaps contains a total of 12 vector tile layers (map styles). All of the OSM Vector Basemaps vector tile layers (map styles) include cartographic styling refinements.

OSM Vector Basemaps now supports localization. There are 40 languages supported within each OSM Vector Basemap vector tile package.

Existing users of the vector basemaps in ArcGIS Data Appliance can update the hosted tile layer as well as update 10 styles from version 2023. The VectorStyleUpdater toolbox uses a template of existing item IDs and can be run in ArcGIS Pro. Two new styles, OpenStreetMap (Esri Navigation) and OpenStreetMap (Esri Navigation Dark), can be published with the VectorStylePublisher tool.

New users can publish any or all of the full set of 12 styles.

### **Note:**



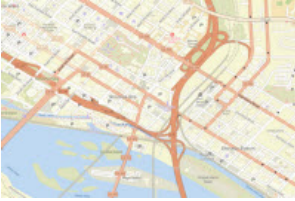

The World Basic product option includes OSM Vector Basemaps: Basic (WMA only) down to ~1:144,000, which ships separately on the World Basic USB flash drive. OSM Vector Basemaps: Basic contains a total of 12 vector tile layers (map styles).



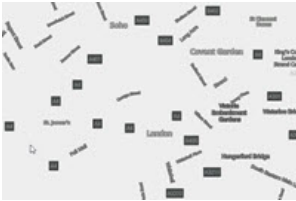
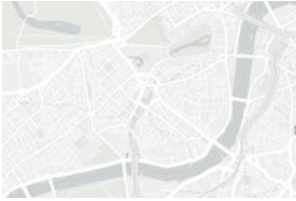
# Directory of map styles

OpenStreetMap (OSM) Vector Basemaps includes the following 12 vector tile layers. The styles can be published in the Web Mercator Auxiliary Sphere (WMA) projection or the WGS84/GCS (GCS) tiling scheme.

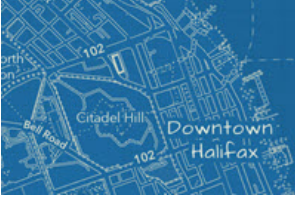
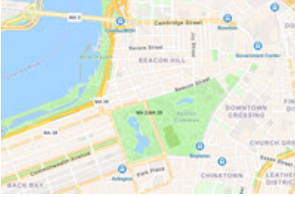
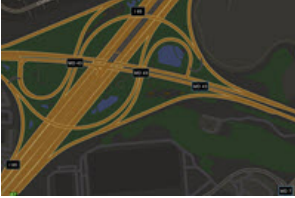
 **Note:**

OSM Vector Basemaps: Basic (WMA only) displays map features down to ~1:144,000.

| Layer name and thumbnail   | Style folder name                         | Description   |
|--|---|---|
| <p>OpenStreetMap</p>                                    | <p>openstreetmap</p>                      | <p>This tile layer provides a vector basemap of OSM data created by Esri. This vector tile basemap was authored in ArcGIS Pro from the OSM Daylight Map Distribution data that was rendered using OSM cartography.</p>  |
| <p>OpenStreetMap (with Relief)</p>                     | <p>openstreetmaprelief</p>                | <p>This tile layer provides a vector basemap of OSM data created by Esri. This vector tile basemap was authored in ArcGIS Pro from the OSM Daylight Map Distribution data that was rendered using OSM cartography. This layer is designed for use with the World Hillshade layer.</p>   |
| <p>OpenStreetMap (Esri Street style)</p>              | <p>openstreetmapesristreetstyle</p>       | <p>This tile layer provides a vector basemap of OSM data created by Esri. This vector tile basemap was authored in ArcGIS Pro from the OSM Daylight Map Distribution data that was rendered using a cartographic style similar to the Esri Vector Basemap World Street Map style.</p>   |
| <p>OpenStreetMap (Esri Street with Relief style)</p>  | <p>openstreetmapesristreetreliefstyle</p> | <p>This tile layer provides a vector basemap of OSM data created by Esri. This vector tile basemap was authored in ArcGIS Pro from the OSM Daylight Map Distribution data that was rendered using a cartographic style similar to the Esri Vector Basemap World Street Map (with Relief) style. It is designed to be used with the World Hillshade layer.</p> |

| Layer name and thumbnail  | Style folder name                                | Description   |
|---|--|---|
| <p>OpenStreetMap (Esri Hybrid Reference style)</p>         | <p>openstreetmapesrihybridstyle</p>              | <p>This tile layer provides a vector basemap of OSM data created by Esri. This vector tile basemap was authored in ArcGIS Pro from the OSM Daylight Map Distribution data that was rendered using a cartographic style similar to the Esri Vector Basemap Hybrid Reference Layer style. This layer is designed to be overlaid on imagery.</p> |
| <p>OpenStreetMap (Esri Dark Gray Canvas Base)</p>          | <p>openstreetmapesridarkgraycanvasbase</p>       | <p>This tile layer provides a vector basemap of OSM data created by Esri. This vector tile basemap was authored in ArcGIS Pro from the OSM Daylight Map Distribution data that was rendered in dark neutral colors.</p>   |
| <p>OpenStreetMap (Esri Dark Gray Canvas Reference)</p>    | <p>openstreetmapesridarkgraycanvasreference</p>  | <p>This tile layer provides a vector basemap of OSM data created by Esri. This vector tile basemap was authored in ArcGIS Pro from the OSM Daylight Map Distribution data and features map labels for use with the Dark Base layer.</p>   |
| <p>OpenStreetMap (Esri Light Gray Canvas Base)</p>       | <p>openstreetmapesrilightgraycanvasbase</p>      | <p>This tile layer provides a vector basemap of OSM data created by Esri. This vector tile basemap was authored in ArcGIS Pro from the OSM Daylight Map Distribution data that was rendered in light neutral colors.</p>  |
| <p>OpenStreetMap (Esri Light Gray Canvas Reference)</p>  | <p>openstreetmapesrilightgraycanvasreference</p> | <p>This tile layer provides a vector basemap of OSM data created by Esri. This vector tile basemap was authored in ArcGIS Pro from the OSM Daylight Map Distribution data and features map labels for use with the Light Base layer.</p>  |



| Layer name and thumbnail   | Style folder name           | Description   |
|--|-----------------------------|---|
| OpenStreetMap (Blueprint)<br>             | openstreetmapblueprint      | This tile layer provides a vector basemap of OSM Daylight Map Distribution data created by Esri. This vector tile basemap presents the map in a creative cartographic style resembling a blueprint technical drawing.                         |
| OpenStreetMap (Esri Navigation)<br>       | openstreetmapnavigation     | This tile layer provides a vector basemap of OSM data created by Esri. This vector tile basemap was authored in ArcGIS Pro from the OSM Daylight Map Distribution data that was rendered with a focus on navigation features.                 |
| OpenStreetMap (Esri Navigation Dark)<br> | openstreetmapnavigationdark | This tile layer provides a vector basemap of OSM data created by Esri. This vector tile basemap was authored in ArcGIS Pro from the OSM Daylight Map Distribution data that was rendered in a dark style with a focus on navigation features. |

# Frequently asked questions

Listed below are frequently asked questions and answers regarding ArcGIS Data Appliance: OpenStreetMap Vector Basemaps.

- [How does ArcGIS Data Appliance: OpenStreetMap Vector Basemaps work?](#)
- [How do I set up OSM Vector Basemaps?](#)
- [Where does the data come from?](#)
- [Does OSM Vector Basemaps include imagery?](#)
- [What services are available?](#)
- [Are there any use restrictions when using OSM Vector Basemaps?](#)
- [Where can I find more information about editing custom styles?](#)
- [Where can I find more information about using basemaps in my Portal for ArcGIS Map Viewer Classic?](#)
- [What if I need further assistance?](#)

## **How does ArcGIS Data Appliance: OpenStreetMap Vector Basemaps work?**

ArcGIS Data Appliance: OpenStreetMap Vector Basemaps (OSM Vector Basemaps) is published as a hosted vector tile service from your ArcGIS Enterprise portal along with 12 map styles that you can share, use, and customize within your organization. For more information on vector basemaps and the differences between raster and vector tile layers, see [Tile layers](#) in the Portal for ArcGIS help.

## **How do I set up OSM Vector Basemaps?**

Refer to the instructional video and help documentation on the [OSM Vector Basemaps Additional resources](#) section of the ArcGIS Data Appliance 2024 website to learn how to set up and use OSM Vector Basemaps.

## **Where does the data come from?**

The data is provided exclusively by Esri (OSM) and its contributors through the use of the OSM Daylight Map Distribution data. Esri uses this Daylight Map Distribution data in addition to an expanded building footprint dataset that is a companion to Daylight. This data is used to author the map using OSM cartography and generate a vector tile package.

## **Does OSM Vector Basemaps include imagery?**

No. OSM Vector Basemaps does not include raster basemaps or imagery.

## **What services are available?**

OSM Vector Basemaps only requires one service published as a hosted vector tile layer from your portal. Other maps are included as map styles that you publish to your portal as tile layers. See [Directory of map styles](#) for the vector tile layers included with OSM Vector Basemaps.

### **Are there any use restrictions when using OSM Vector Basemaps?**

The OSM Vector Basemaps maps provided in ArcGIS Data Appliance are intended for use with Esri software. Redistribution rights are granted by Esri and the data vendor for hard-copy renditions or static, electronic map images (for example, .gif and .jpeg) that are plotted, printed, or publicly displayed with proper metadata and source or copyright attribution to the respective data vendor or vendors. For copyright and attribution information, see **Credits** for a specific map published to your portal.

### **Where can I find more information about editing custom styles?**

View the [New ways of customizing Esri Vector Basemaps](#) article on the ArcGIS Blog website for more information about editing custom styles.

### **Where can I find more information about using basemaps in my Portal for ArcGIS Map Viewer Classic?**

See [Customize basemaps](#) and [Choose a basemap \(Map Viewer Classic\)](#) in the Portal for ArcGIS help for more information about using basemaps in your Portal for ArcGIS Map Viewer Classic.

### **What if I need further assistance?**

For all questions, feedback, and troubleshooting, and to report issues, contact Esri [Support](#).

# System requirements

# OSM Vector Basemaps system requirements for ArcGIS Data Appliance 2024

The following software components and prerequisites are required before you deploy OSM Vector Basemaps for ArcGIS Data Appliance 2024:

- ArcGIS Pro Basic, Standard, or Advanced 3.1 or later
- An ArcGIS Enterprise 10.9.1, 11.0, 11.1, or 11.2 deployment meeting the base ArcGIS Enterprise deployment specifications

## Note:

Authentication exclusions—The Linux public key infrastructure (PKI) configuration is not supported.

## Before you start

Before you begin your deployment, do the following:

1. Check with your portal administrator to verify or request the following:
  - A Portal for ArcGIS account with the [Publisher or Administrator role enabled](#).
  - A [named user license enabled](#) for ArcGIS Pro Standard or Advanced.
  - The following minimum available space per .vtpk file on your Enterprise 10.9.1, 11.0, 11.1, or 11.2 portal content directory:

| Vector Tile Package (.vtpk) file                   | Minimum total available space required | Hosting server's job directory available space required | Hosting server's cache directory available space required |
|--|--|---|---|
| OSM_Vector_Basemap_DA2024_Install.vtpk (WMA)       | 104 GB                                 | 52 GB   | 52 GB   |
| OSM_Vector_Basemap_GCS_DA2024_Install.vtpk (WGS84) | 104 GB                                 | 52 GB   | 52 GB   |
| OSM_Vector_Basemap_DAWB2024_Install.vtpk (WMA)     | 16 GB                                  | 8 GB  | 8 GB  |

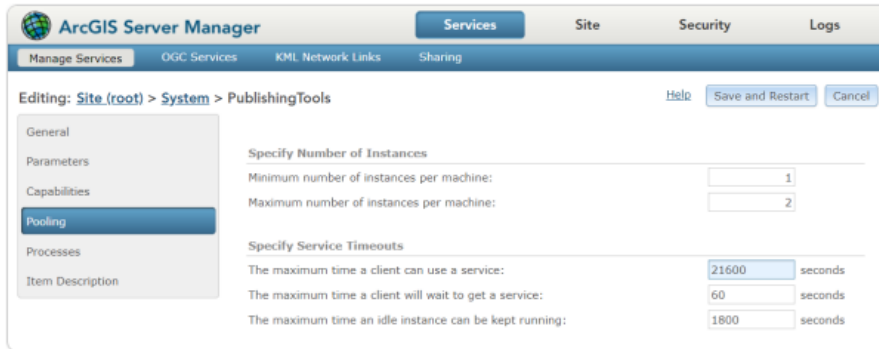
2. Check with your ArcGIS Server administrator to verify or request the following:
  - The following minimum available space per .vtpk file on your ArcGIS Server machine:

| Vector Tile Package (.vtpk) file                   | Minimum total available space required (Enterprise 10.9.1, 11.0, 11.1, 11.2) |
|--|--|
| OSM_Vector_Basemap_DA2024_Install.vtpk (WMA)       | 104 GB   |
| OSM_Vector_Basemap_GCS_DA2024_Install.vtpk (WGS84) | 104 GB   |
| OSM_Vector_Basemap_DAWB2024_Install.vtpk (WMA)     | 16 GB  |

- **Enough pooling time** for ArcGIS Server. Successfully publishing a large .vtpk file as a hosted vector tile service requires more time for the web client to communicate with ArcGIS Server. Check with your ArcGIS Server administrator to confirm that the **The maximum time a client can use a service** option is set to 21,600 seconds.

Complete the following steps for ArcGIS Server 10.9.1, 11.0, 11.1, or 11.2:

- Open a new browser and access ArcGIS Server Manager, for example, <https://PORTALNAME/server/manager>, and sign in.
- Click **Site (root) > System > PublishingTools**.
- Click **Pooling**, and under **Specify Service Timeouts**, change the value for **The maximum time a client can use a service** from 3,600 seconds (1 hour) to 21600 seconds (6 hours).



- Click **Save and Restart**.
- Sign out of ArcGIS Server Manager.

ArcGIS Data Appliance 2024: OSM Vector Basemaps is delivered on a USB flash drive loaded with vector tiles, styles, and style publishing tools.

3. Copy all contents of the USB flash drive to your local computer. Ensure your local computer has enough storage space to download the files from the flash drive. The additional storage space required for the local staging path is equal to the size of the .vtpk file being shared to your portal.

# Setup

# Set up ArcGIS Data Appliance: OpenStreetMap Vector Basemaps

The instructions to set up ArcGIS Data Appliance: OpenStreetMap Vector Basemaps depend on whether you are a new or existing user. See the appropriate instructions as follows:

- [New user](#)
- [Existing user](#)

When you finish setting up ArcGIS Data Appliance: OpenStreetMap Vector Basemaps, your vector basemaps are ready to use.



# Set up OSM Vector Basemaps (new user)

For information about what's included with OSM Vector Basemaps, see [OSM Vector Basemaps content](#).

 **Note:**

Before you proceed, review the [system requirements](#) to confirm that you can deploy OSM Vector Basemaps on your system.

Once you confirm that the system requirements are met, the workflow to set up OSM Vector Basemaps is as follows:

1. [Upload the package to your ArcGIS Enterprise portal](#)
2. [Publish the hosted tile layer \(service\)](#)
3. [Publish tile layers \(map styles\)](#)
4. [Share tile layers \(map styles\)](#)

 **Note:**

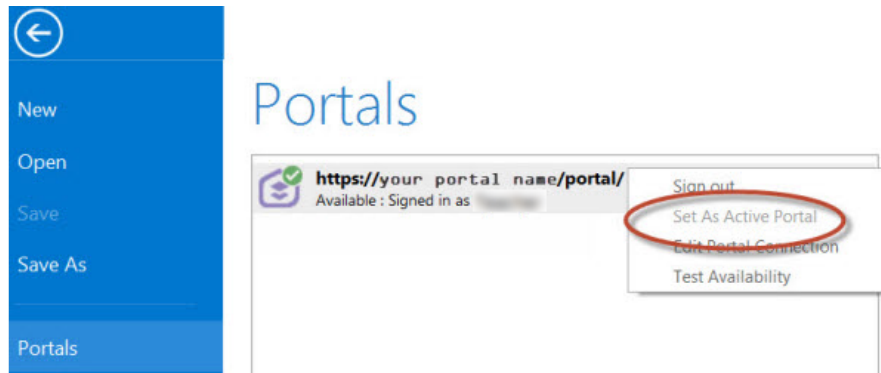
OSM Vector Basemaps includes two vector tile packages (.vtpk) on the flash drive. The OSM\_Vector\_Basemap\_DA2024\_Install.vtpk file is in the Web Mercator Auxiliary Sphere (WMA) projection. The OSM\_Vector\_Basemap\_GCS\_DA2024\_Install.vtpk file is in the WGS84/GCS (GCS) tiling scheme. The following steps reflect the sharing process of the OSM\_Vector\_Basemap\_DA2024 WMA vector tile package. To share the GCS package, you need to enter the correct .vtpk file name for the input package as well as take the GCS naming into consideration when publishing the hosted tile layer. The OSM Vector Basemaps styles in the GCS directory already take the GCS naming into account in the metadata files.

To use OSM Vector Basemaps: Basic (WMA) included with the World Basic (WB) product option, you need to enter the correct .vtpk file name for the OSM\_Vector\_Basemap\_DAWB2024\_Install.vtpk file as well as take the WB naming into consideration when publishing the hosted tile layer.

## Upload the package to your ArcGIS Enterprise portal

First, you need to copy the entire USB flash drive contents to your local computer if you have not already done so.

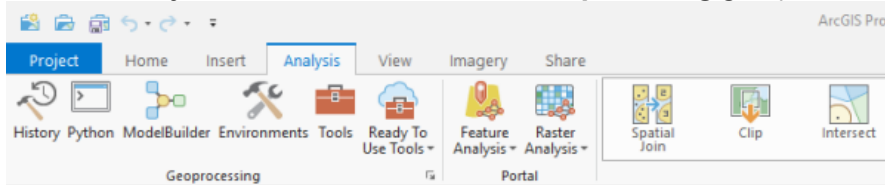
1. Start ArcGIS Pro, sign in to your ArcGIS Enterprise portal, click the **Options** button **...**, and click **Set As Active Portal**.



**Note:**

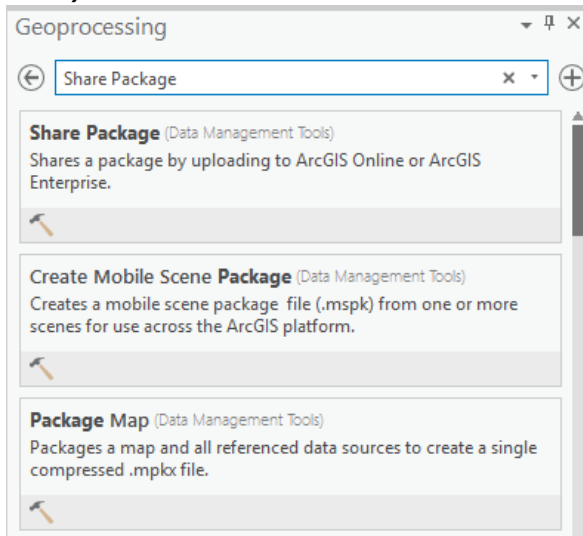
You must sign in and connect to your portal before you proceed. You cannot enter your portal username and password when using the Share Package tool later in these instructions. The tool obtains your credentials from ArcGIS Pro.

2. Create a project.
3. Click the **Analysis** tab, and click **Tools** in the **Geoprocessing** group.



The **Geoprocessing** pane appears.

4. In the **Geoprocessing** pane, search for Share Package, and select the **Share Package (Data Management Tools)** tool from the search results.



5. On the **Share Package** dialog box, do the following:
  - a. For **Input Package**, provide the path to the vector tile package, for example, C:\Projects\OSM\_Vector\_Basemaps\_2024\VTPK\OSM\_Vector\_Basemap\_DA2024\_Install.vtpk.
  - b. For **Summary**, type OSM Vector Basemap for Data Appliance 2024.
  - c. For **Tags**, type 2024, v2.

**Caution:**

Do not change the **Credits** parameter value and do not check the **Everybody** or **Within Organization** check boxes for sharing.



6. Click **Run**.

It will take approximately 30 to 120 minutes to upload the package to your portal. A **Share Package Uploaded Successfully** message appears in the **Share Package** window once the upload is complete.

7. Through your portal, confirm that the .vtpk file uploaded successfully.

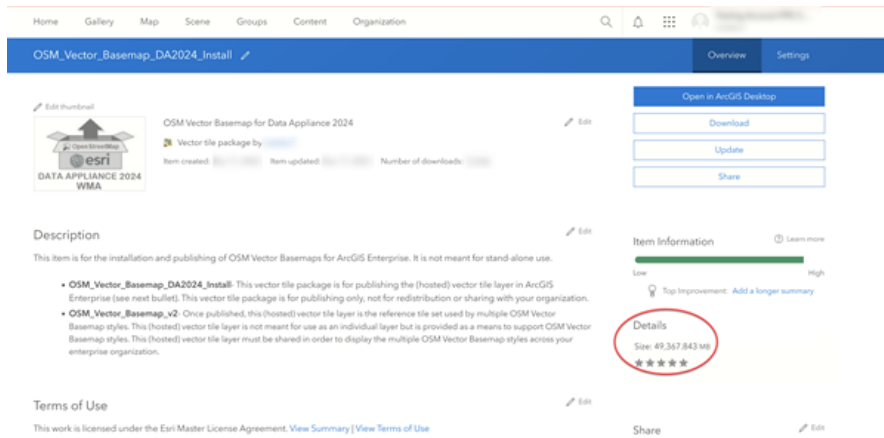
a. Open a web browser and sign in to your portal.

The OSM\_Vector\_Basemap\_DA2024\_Install tile package is located in the root folder.

b. Confirm that the **Size** value of the tile package matches the size for your vector tile package and Enterprise version in the following table and **Shared with** indicates that the item is not shared.

| Vector tile package .vtpk file                     | Enterprise version | Size          |
|--|--------------------|---------------|
| OSM_Vector_Basemap_DA2024_Install.vtpk (WMA)       | 10.9.1             | 49,368 MB     |
|  | 11.0               | 51,766 MB     |
|  | 11.1 or 11.2       | 49,367.843 MB |
| OSM_Vector_Basemap_GCS_DA2024_Install.vtpk (WGS84) | 10.9.1             | 49,588 MB     |
|  | 11.0               | 51,997 MB     |
|  | 11.1 or 11.2       | 49,588.417 MB |
| OSM_Vector_Basemap_DAWB2024_Install.vtpk (WMA)     | 10.9.1             | 6,960 MB      |
|  | 11.0               | 7,298 MB      |
|  | 11.1 or 11.2       | 6,959.575 MB  |

Your item should look similar to the following when uploading OSM\_Vector\_Basemap\_DA2024\_Install.vtpk (WMA) in Enterprise 11.1 and 11.2:



**Note:**

If the size is not correct, delete the item and upload the OSM\_Vector\_Basemap\_DA2024\_Install tile package again. You may want to discuss the problem with your portal administrator.

For the OSM\_Vector\_Basemap\_GCS\_DA2024\_Install tile package, if the size is not correct, delete the item and upload it again.

For the OSM\_Vector\_Basemap\_DAWB2024\_Install.vtpk tile package (WMA), if the size is not correct, delete the item and upload it again.

See the [Troubleshooting OSM Vector Basemaps](#) topic for more information.

## Publish the hosted tile layer (service)

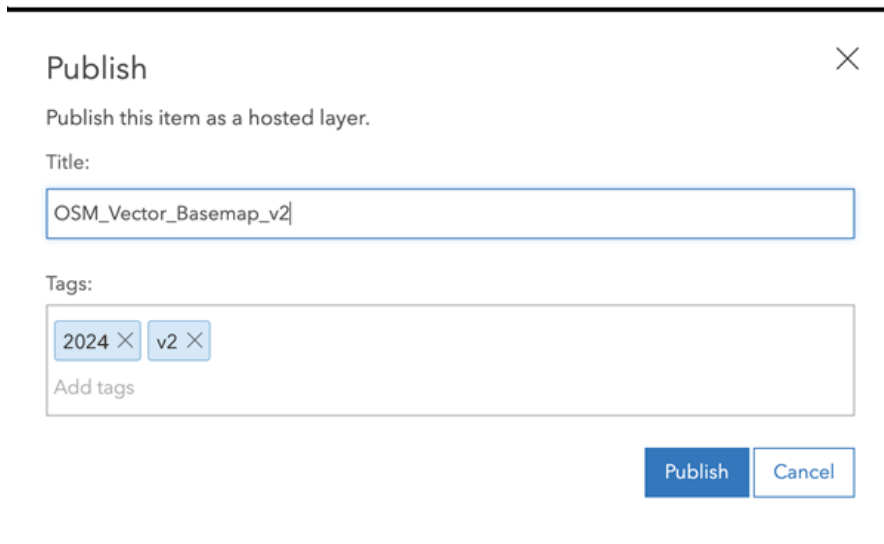
Now you'll publish the OSM Vector Basemap hosted tile layer service from your portal.

1. Sign in to your ArcGIS Enterprise portal.

**Note:**

Your account must have publishing credentials.

2. In **My Content**, go to the item page for the vector tile package (OSM\_Vector\_Basemap\_DA2024\_Install.vtpk) you uploaded to your portal.
3. Click **Publish**, change the title to OSM\_Vector\_Basemap\_v2, and click **Publish** again.



**Note:**

For the GCS tile package (OSM\_Vector\_Basemap\_GCS\_DA2024\_Install.vtpk), change the title to OSM\_Vector\_Basemap\_GCS\_v2.

For the WB tile package, (OSM\_Vector\_Basemap\_DAWB2024\_Install.vtpk), change the title to OSM\_Vector\_Basemap\_v2.

**Note:**

It will take 30 to 120 minutes to create the hosted layer, depending on your system configuration.

The OSM\_Vector\_Basemap\_v2 hosted tile layer is created.

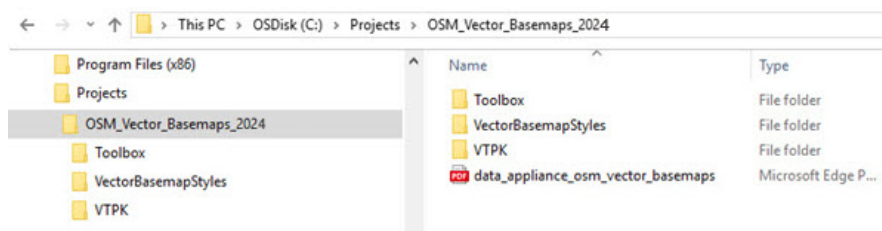
|                          |                                   |                     |
|--------------------------|-----------------------------------|---------------------|
| <input type="checkbox"/> | Title                             |                     |
| <input type="checkbox"/> | OSM_Vector_Basemap_v2             | Tile Layer (hosted) |
| <input type="checkbox"/> | OSM_Vector_Basemap_DA2024_Install | Vector Tile Package |

## Publish tile layers (map styles)

You'll publish your map styles next.

The VectorStylePublisher geoprocessing toolbox can be run in ArcGIS Pro. This toolbox publishes 12 new tile layers to your portal.

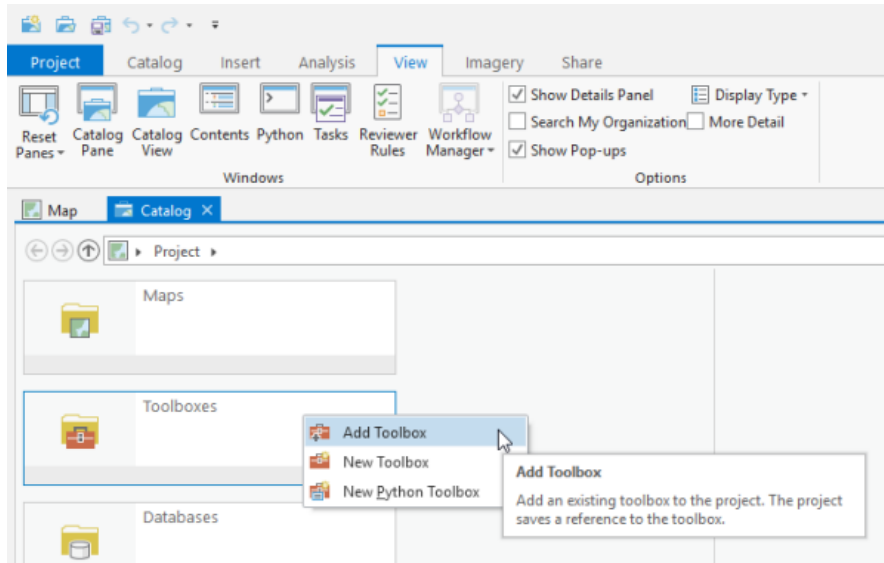
These instructions assume that the toolbox and VectorBasemapStyles folder are on your local computer.



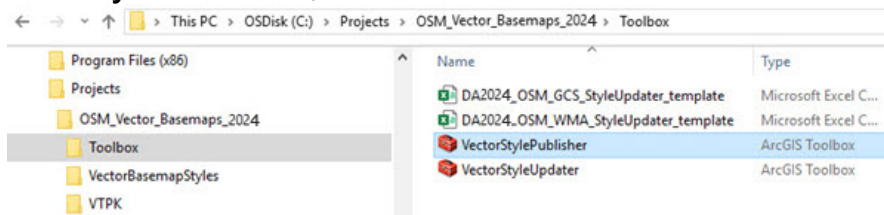
**Note:**

You must have a portal account assigned to the default Publisher or Administrator role, or your account must be assigned to a custom role that has privileges to create content and publish hosted tile layers.

1. Start ArcGIS Pro, sign in to your ArcGIS Enterprise portal, click the **Options** button **...**, and click **Set As Active Portal**.
2. Create a project.
3. Click the **View** tab, click **Catalog View** in the **Windows** group, right-click **Toolboxes** in the Catalog view, and select **Add Toolbox**.

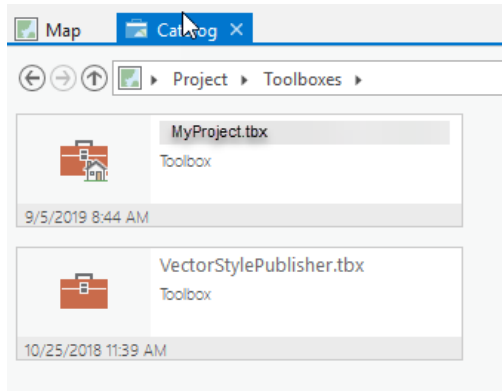


4. Browse to the location on your local computer where you copied the contents of the USB flash drive, select **VectorStylePublisher.tbx**, and click **OK**.

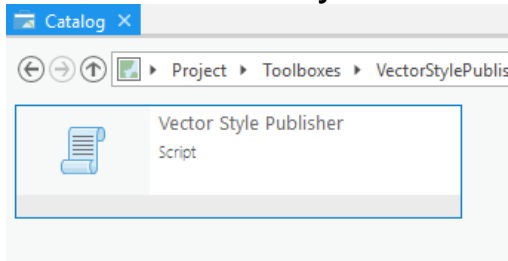


The VectorStylePublisher toolbox is added to the project.

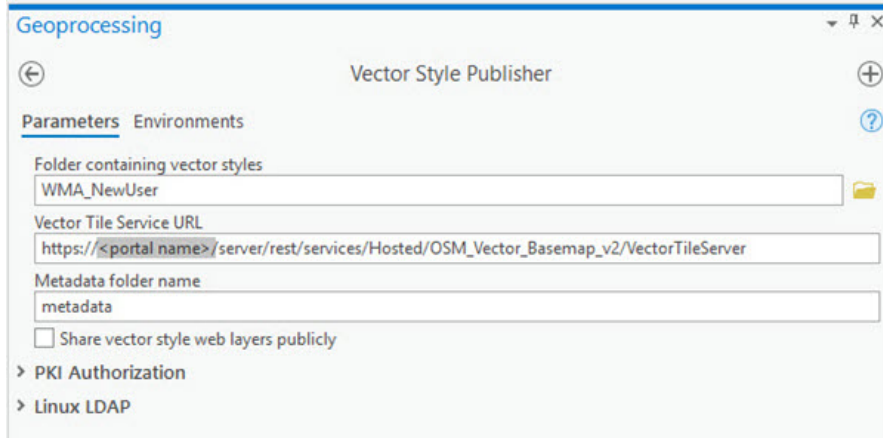
5. Double-click **Toolboxes** and double-click **VectorStylePublisher.tbx**.



6. Double-click the **Vector Style Publisher** script.



7. On the **Vector Style Publisher** dialog box, click the **Parameters** tab and do the following:



- a. For **Folder containing vector styles**, browse to the location of the VectorBasemapStyles folder on your local computer, for example, C:\Projects\OSM\_Vector\_Basemaps\_2024\VectorBasemapStyles\WMA\WMA\_NewUser.

**Note:**

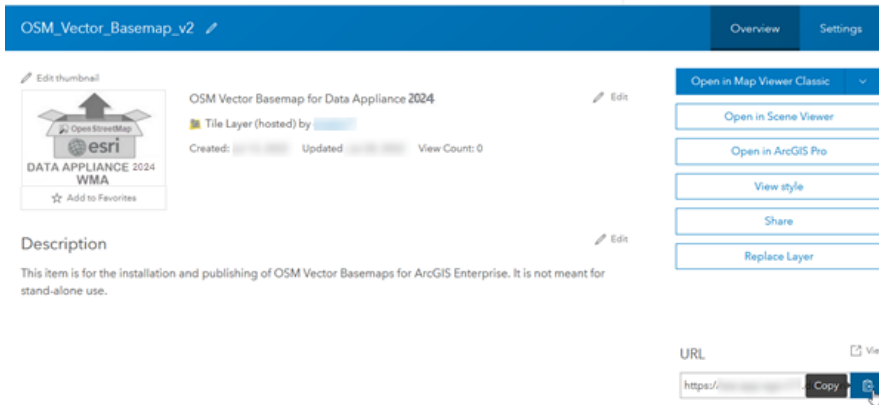
For the GCS tile package, browse to the location of the VectorBasemapStyles folder on your local computer, for example, C:\Projects\OSM\_Vector\_Basemaps\_2024\VectorBasemapStyles\GCS\GCS\_NewUser.

For the WB tile package, browse to the location of the VectorBasemapStyles folder on your local computer, for example, C:\Projects\OSMWB\_Vector\_Basemaps\_2024\VectorBasemapStyles\WB\_NewUser.

- b. For **Vector Tile Service URL**, provide the URL of the OSM Vector Basemap hosted tile layer, for example, https://portalname.domain.com/server/rest/services/Hosted/OSM\_Vector\_Basemap\_v2/VectorTileServer.

**Note:**

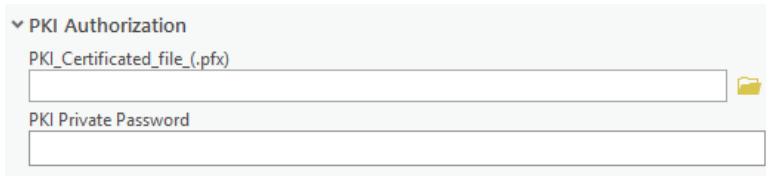
The vector tile service URL is in the **URL** section of the **OSM\_Vector\_Basemap\_v2** hosted tile layer item page. Click the **Copy** button and paste the URL in the **Vector Tile Service URL** parameter text box.



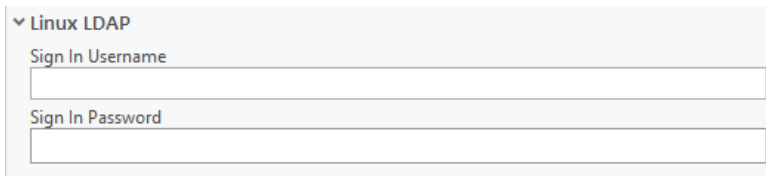
- c. For **Metadata folder name**, keep the default name **metadata**.

**Note:**

If you are using a portal with PKI authentication, expand **PKI Authorization** and provide values for the **PKI\_Certificated\_file\_(.pfx)** and **PKI Private Password** parameters.



If you are using a portal with Linux LDAP authentication, expand **Linux LDAP** and provide values for the **Sign In Username** and **Sign In Password** parameters.



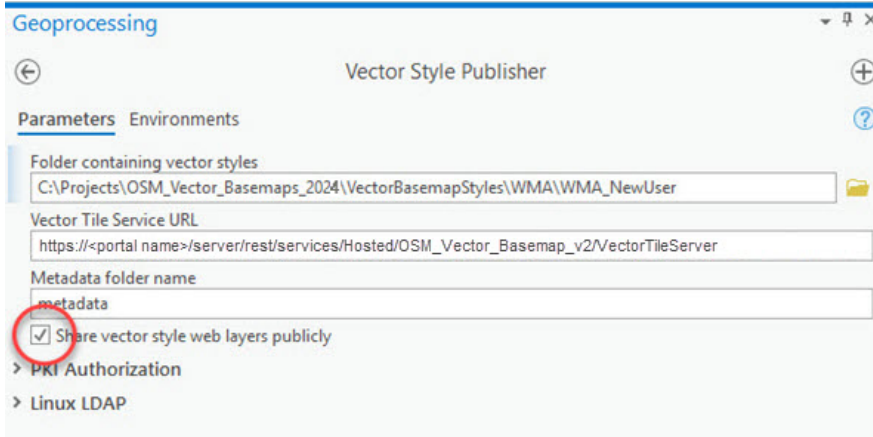
- d. Click **Run**.

The 12 vector tile layers (map styles) are created in your assigned ArcGIS Enterprise account. You can view the items in **My Content**. Fourteen items are listed: 12 vector tile layers, the .vtpk file, and the hosted tile layer.

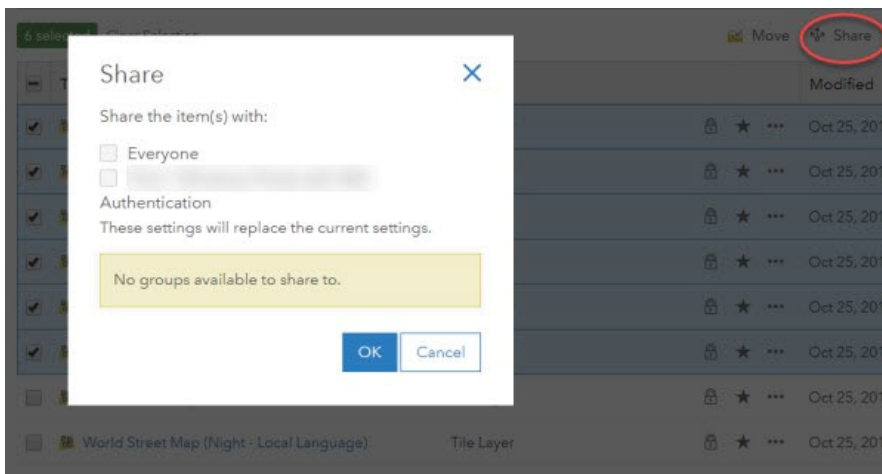
## Share tile layers (map styles)

The items created are private unless you check the **Share vector style web layers publicly** check box to make them public.



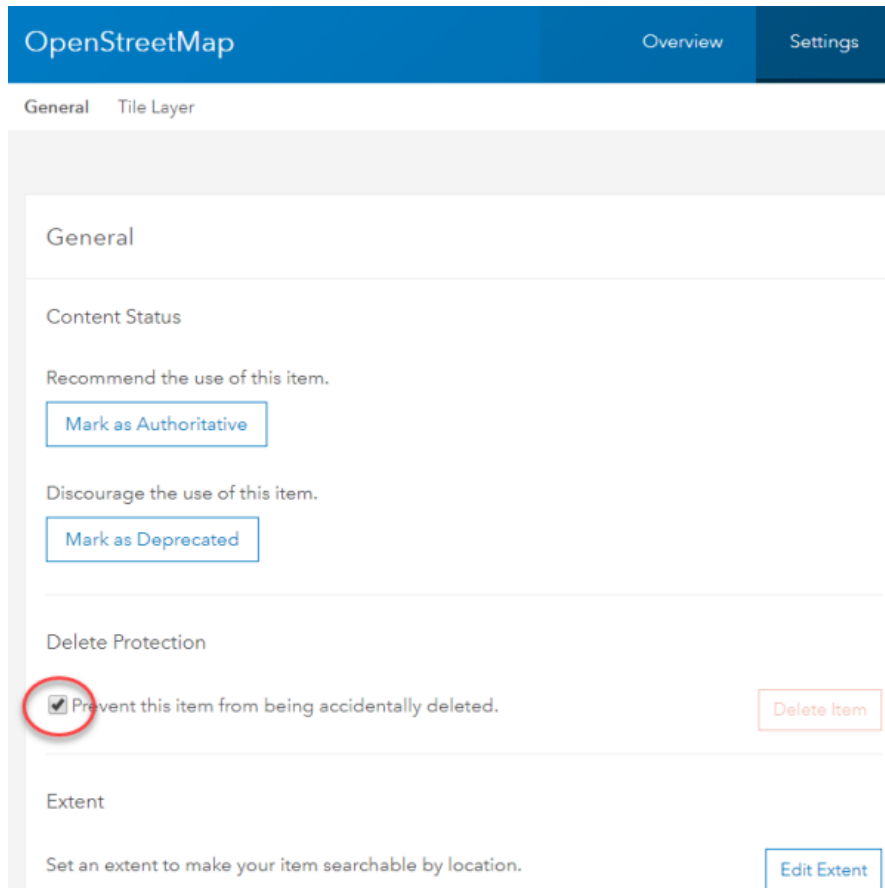


Alternatively, you can select the map items in your portal and change the sharing settings.



 **Note:**

Delete protection for all items is applied on publishing the tile layers. To change the protection setting, open the item and click the **Settings** tab. Under **Delete Protection**, uncheck **Prevent this item from being accidentally deleted** and click **Save**.



Once you set up OSM Vector Basemaps, you can do the following:

- [Use OSM Vector Basemaps](#)
- [Customize OSM Vector Basemap styles](#)
- [Localize OSM Vector Basemap styles](#)

# Set up OSM Vector Basemaps (existing user)

Follow the workflows below to update OSM Vector Basemaps in WMA for ArcGIS Data Appliance 2024.

## Note:

To use OSM Vector Basemaps in the GCS format, complete the steps using the information for GCS.

To use OSM Vector Basemaps: Basic (WMA) included with the World Basic (WB) product option, complete the steps using the information for WB.

For information about what's included with OSM Vector Basemaps, see [OSM Vector Basemaps content](#) and [What's new](#).

You'll use the following workflow to update OSM Vector Basemaps:

1. [Upload the package to your ArcGIS Enterprise portal](#)
2. [Publish the new hosted tile layer \(service\)](#)

## Note:

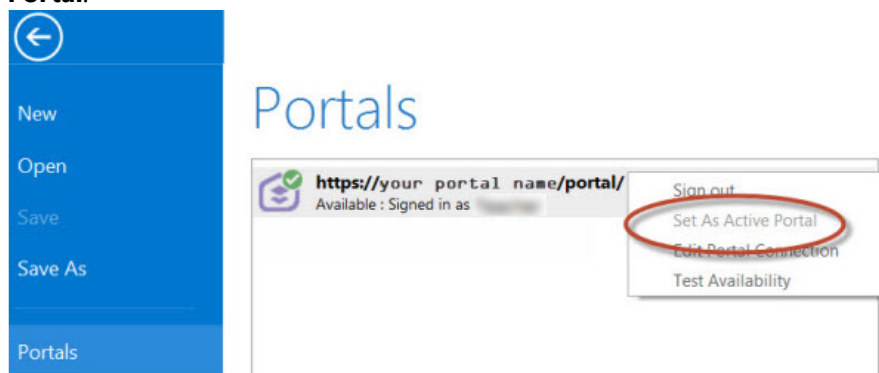
The title of the new hosted tile layer must be different than the title of the existing hosted tile layer (for example, the name of the new layer is OSM\_Vector\_Basemap\_DA2024\_v2).

3. [Replace the existing hosted tile layer \(service\) with the new hosted tile layer](#)
4. [Update existing tile layers \(map styles\)](#)
5. [Publish new tile layers \(map styles\)](#)
6. [Share tile layers \(map styles\)](#)

## Upload the package to your ArcGIS Enterprise portal

First, you need to copy the entire USB flash drive contents to your local computer if you have not already done so. Review the [system requirements](#) to confirm that you can deploy the OSM Vector Basemaps update.

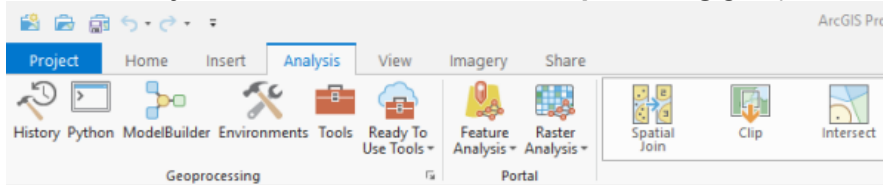
1. Start ArcGIS Pro, sign in to your ArcGIS Enterprise portal, click the **Options** button **...**, and click **Set As Active Portal**.



**Note:**

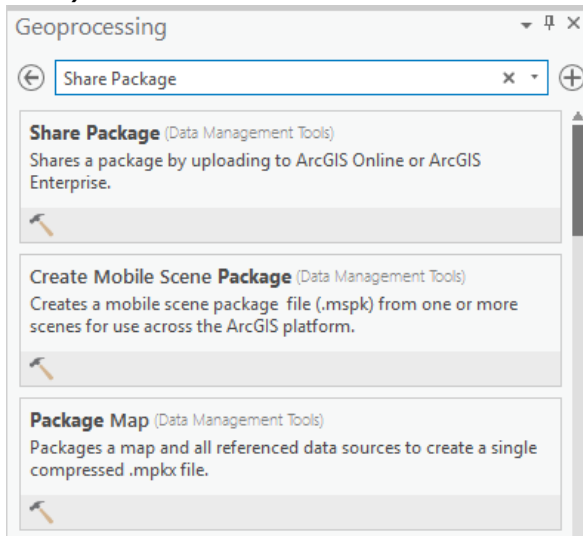
You must sign in and connect to your portal before you proceed. You cannot enter your portal username and password when using the Share Package tool later in these instructions. The tool obtains your credentials from ArcGIS Pro.

2. Create a project.
3. Click the **Analysis** tab, and click **Tools** in the **Geoprocessing** group.



The **Geoprocessing** pane appears.

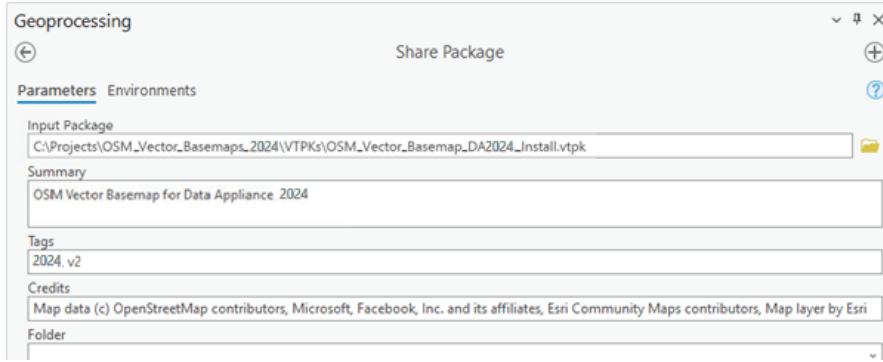
4. In the **Geoprocessing** pane, search for Share Package, and select the **Share Package (Data Management Tools)** tool from the search results.



5. On the **Share Package** dialog box, do the following:
  - a. For **Input Package**, provide the path to the vector tile package, for example, C:\Projects\OSM\_Vector\_Basemaps\_2024\VTPK\OSM\_Vector\_Basemap\_DA2024\_Install.vtpk.
  - b. For **Summary**, type OSM Vector Basemap for Data Appliance 2024.
  - c. For **Tags**, type 2024, v2.

**Caution:**

Do not change the **Credits** parameter value and do not check the **Everybody** or **Within Organization** check boxes for sharing.



6. Click **Run**.

It will take approximately 30 to 120 minutes to upload the package to your portal. A **Share Package Uploaded Successfully** message appears in the **Share Package** window once the upload is complete.

7. Through your portal, confirm that the .vtpk file uploaded successfully.

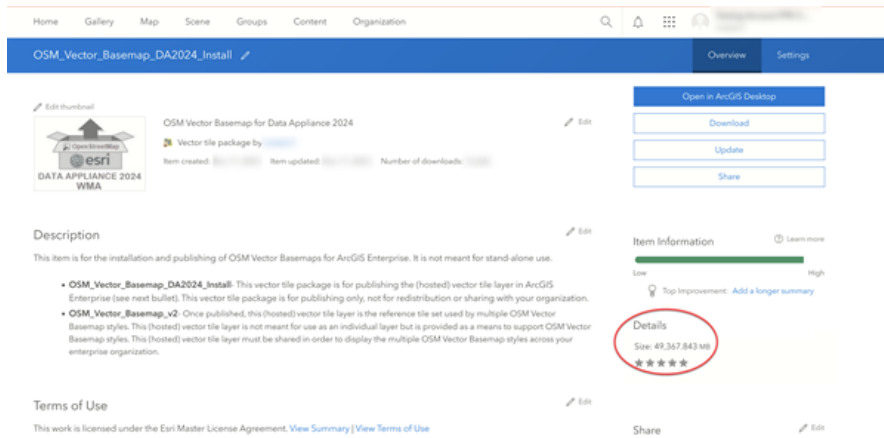
a. Open a web browser and sign in to your portal.

The OSM\_Vector\_Basemap\_DA2024\_Install tile package is located in the root folder.

b. Under **Details**, confirm that the **Size** value of the tile package matches the size for your vector tile package and Enterprise version in the following table and **Shared with** indicates that the item is not shared.

| Vector tile package .vtpk file                     | Enterprise version | Size          |
|--|--------------------|---------------|
| OSM_Vector_Basemap_DA2024_Install.vtpk (WMA)       | 10.9.1             | 49,368 MB     |
|  | 11.0               | 51,766 MB     |
|  | 11.1 or 11.2       | 49,367.843 MB |
| OSM_Vector_Basemap_GCS_DA2024_Install.vtpk (WGS84) | 10.9.1             | 49,588 MB     |
|  | 11.0               | 51,997 MB     |
|  | 11.1 or 11.2       | 49,588.417 MB |
| OSM_Vector_Basemap_DAWB2024_Install.vtpk (WMA)     | 10.9.1             | 6,960 MB      |
|  | 11.0               | 7,298 MB      |
|  | 11.1 or 11.2       | 6,959.575 MB  |

Your item should look similar to the following when uploading OSM\_Vector\_Basemap\_DA2024\_Install.vtpk (WMA) in Enterprise 11.1 or 11.2:



**Note:**

If the size is not correct, delete the item and upload the OSM\_Vector\_Basemap\_DA2024\_Install tile package again. You may want to discuss the problem with your portal administrator.

For the OSM\_Vector\_Basemap\_GCS\_DA2024\_Install tile package, if the size is not correct, delete the item and upload it again.

For the OSM\_Vector\_Basemap\_DAWB2024\_Install.vtpk tile package (WMA), if the size is not correct, delete the item and upload it again.

See the [Troubleshooting OSM Vector Basemaps](#) topic for more information.

## Publish the new hosted tile layer (service)

Now you'll publish the new OSM Vector Basemaps hosted tile layer service from your portal.

1. Sign in to your ArcGIS Enterprise portal.

**Note:**

Your account must have publishing credentials.

2. In **My Content**, go to the item page for the vector tile package (OSM\_Vector\_Basemap\_DA2024\_Install.vtpk) you uploaded to your portal.
3. Click **Publish**, change the title to OSM\_Vector\_Basemap\_DA2024\_v2, and click **Publish** again.

Publish
✕

Publish this item as a hosted layer.

Title:

OSM\_Vector\_Basemap\_DA2024\_v2

Tags:

2024 ✕

v2 ✕

Add tags

Publish

Cancel

 **Note:**





For the GCS tile package, use the OSM\_Vector\_Basemap\_GCS\_DA2024\_Install.vtpk file. Change the title to OSM\_Vector\_Basemap\_GCS\_DA2024\_v2 for the hosted tile layer that is published.

For the WB tile package, use the OSM\_Vector\_Basemap\_DAWB2024\_Install.vtpk file. Change the title to OSM\_Vector\_Basemap\_DAWB2024\_v2 for the hosted tile layer that is published.

 **Note:**

It will take 30 to 120 minutes to create the hosted layer, depending on your system configuration.

The OSM\_Vector\_Basemap\_DA2024\_v2 hosted tile layer is created.

| <input type="checkbox"/> | Title   |                     |  |
|--------------------------|---|---------------------|--|
| <input type="checkbox"/> |  OSM_Vector_Basemap_DA2024_v2      | Tile Layer (hosted) |  |
| <input type="checkbox"/> |  OSM_Vector_Basemap_DA2024_Install | Vector Tile Package |  |

## Replace the existing hosted tile layer (service) with the new hosted tile layer (service)

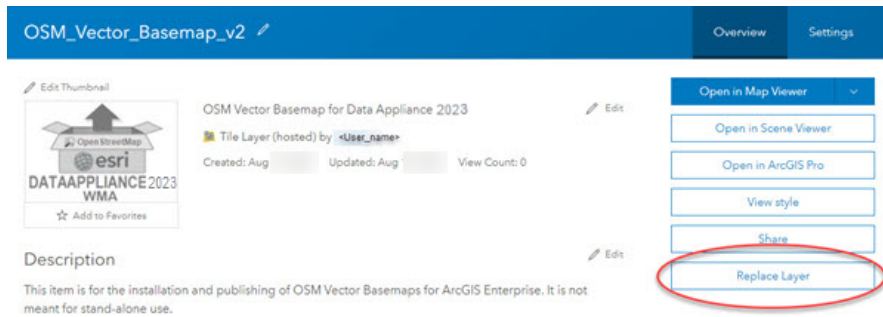
Next, you'll replace the 2023 basemap hosted tile layer (service) with the 2024 hosted tile layer (service).

1. Sign in to your ArcGIS Enterprise portal.

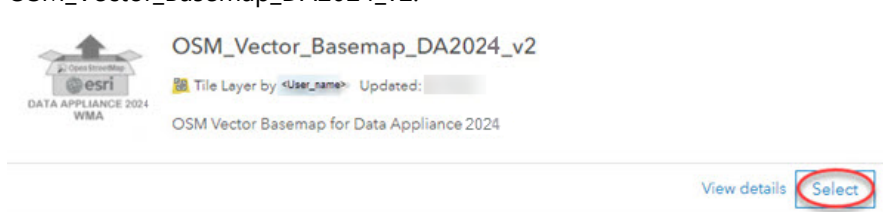
 **Note:**

Your account must have publishing credentials.

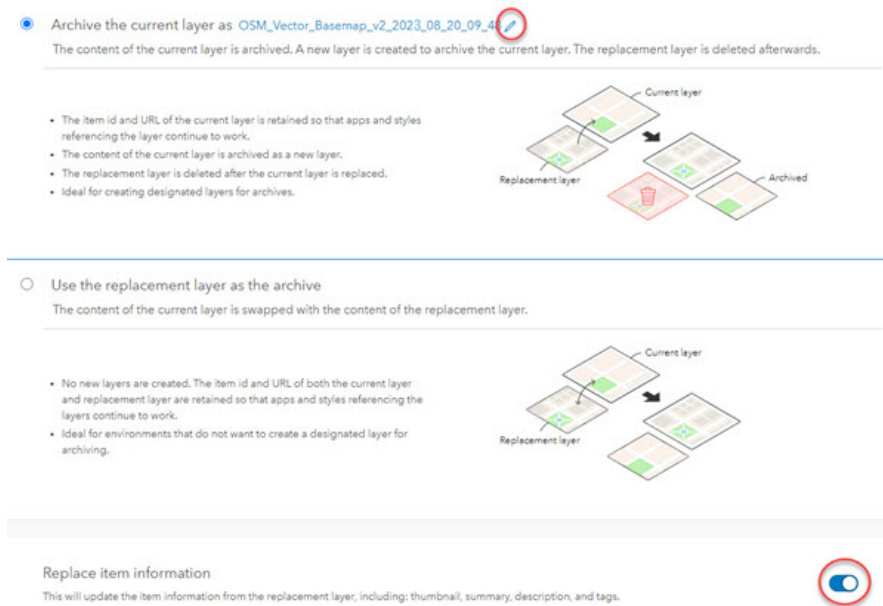
2. In **My Content**, go to the item page for the **OSM\_Vector\_Basemap\_v2** vector tile service.
3. Click **Replace Layer**.



4. Click **Select**, and select the new hosted tile layer that you just published, for example, OSM\_Vector\_Basemap\_DA2024\_v2.



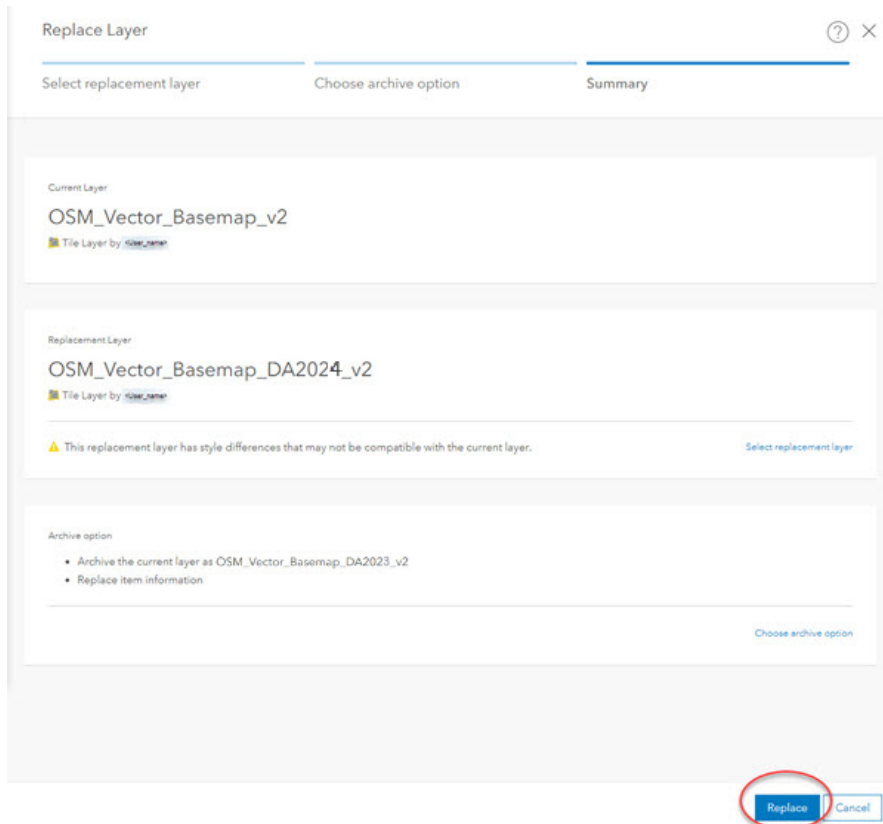
5. For **Archive the current layer as**, click the edit button and change the value to OSM\_Vector\_Basemap\_DA2023\_v2 and click **Save**. Then, scroll to **Replace item information** and click the toggle button.



6. Click **Next**.

7. On the **Replace Layer** summary, click **Replace**.





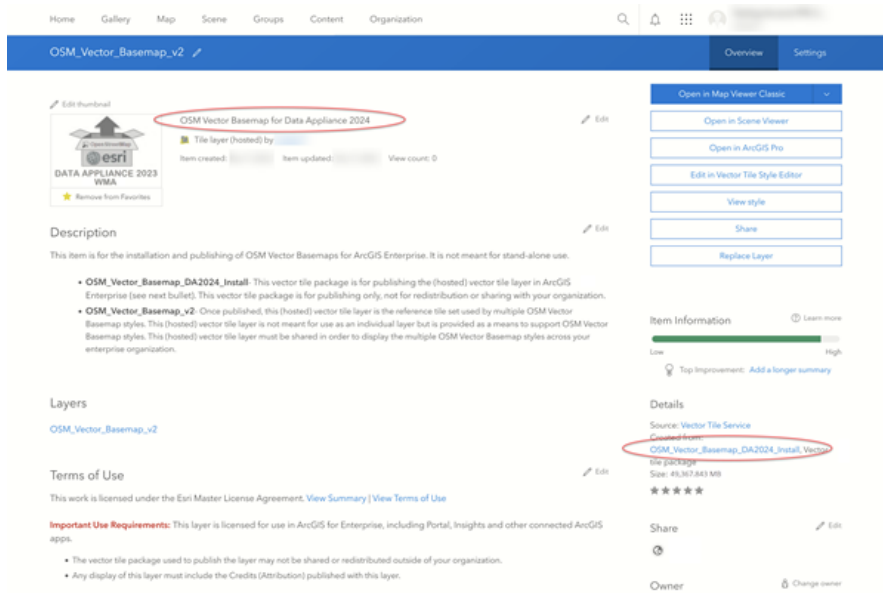
**Note:**

The current layer starts as DA2023. The replacement layer is DA2024. You are archiving the DA2023 hosted tile layer, and the current layer (OSM\_Vector\_Basemap\_v2) now displays the DA2024 hosted tile layer. Replacing the tile set allows the item ID and URL paths to remain intact, so maps and apps continue to work with the current layer and display the new DA2024 basemap content.

The **Success** message flashes briefly at the top of the screen.

8. To verify a successful replacement, in **My Content**, go to the item page for the **OSM\_Vector\_Basemap\_v2** vector tile service.

Your item should look like the following:



**Note:**

The thumbnail is not replaced, but the summary is OSM Vector Basemap for Data Appliance 2024 and the **Details** section indicates it was created from the OSM\_Vector\_Basemap\_DA2024\_Install Vector Tile Package.

## Update existing tile layers

Use the Vector Style Updater tool to update your existing layers.

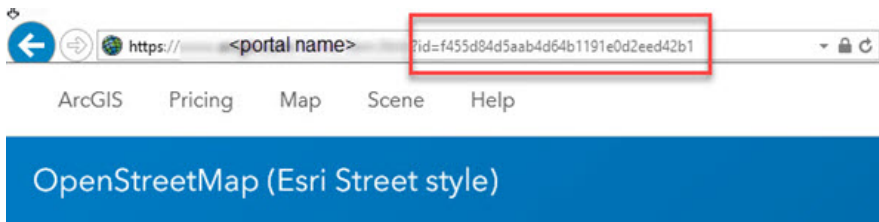
1. Open the DA2024\_OSM\_WMA\_StyleUpdater\_template.csv file located in the C:\Projects\OSM\_Vector\_Basemaps\_2024\Toolbox folder.

**Note:**

For GCS, open the DA2024\_OSM\_GCS\_StyleUpdater\_template.csv file located in the C:\Projects\OSM\_Vector\_Basemaps\_2024\Toolbox folder.

For WB, open the DAWB2024\_OSM\_WMA\_StyleUpdater\_template.csv file located in the C:\Projects\OSMWB\_Vector\_Basemaps\_2024\Toolbox folder.

- a. Include the item IDs of all your existing styles in the **itemid** column in this table. The item ID for each style can be obtained from the portal URL for each style. Only copy and paste the series of letters and numbers after ...id=.



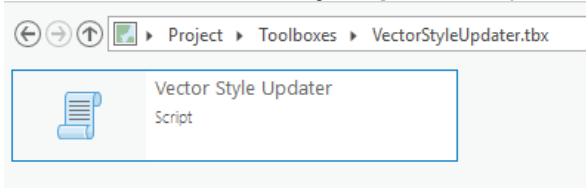
- b. Once you fill in the **itemid** column, save the file and rename it DA2024\_OSM\_WMA\_StyleUpdater.csv.

| Item ID                          | Title  | Folder Name                               |
|----------------------------------|--|---|
| 33465cd9e0b4ba9a8a8e2e36c13750   | OpenStreetMap                                    | openstreetmap                             |
| 7fbd42e675054613601163819a8875f  | OpenStreetMap (with Relief)                      | openstreetmaprelief                       |
| 10e853ac216471136653c340826e82   | OpenStreetMap (Esri Hybrid Reference style)      | openstreetmapesrihybridstyle              |
| 8b5d4c968d4c4ac909aefc4f1256b1   | OpenStreetMap (Esri Street with Relief style)    | openstreetmapesristreetreliefstyle        |
| 8631e72eb2b042efae3e9fd19106a79  | OpenStreetMap (Esri Street style)                | openstreetmapesristreetstyle              |
| b26dab0bb7f04cd889ad8f11e2327167 | OpenStreetMap (Esri Dark Gray Canvas Base)       | openstreetmapesridarkgraycanvasbase       |
| 6f83ad8e7b1045b6871daee837f6d9   | OpenStreetMap (Esri Dark Gray Canvas Reference)  | openstreetmapesridarkgraycanvasreference  |
| 62436c4f7ec649468103c0e4119c374e | OpenStreetMap (Esri Light Gray Canvas Base)      | openstreetmapesrilightgraycanvasbase      |
| 9baee937bda74880b1c83845778a20a  | OpenStreetMap (Esri Light Gray Canvas Reference) | openstreetmapesrilightgraycanvasreference |
| fe3aac0eca14cbe8d702658917e1d9   | OpenStreetMap (blueprint)                        | openstreetmapblueprint                    |

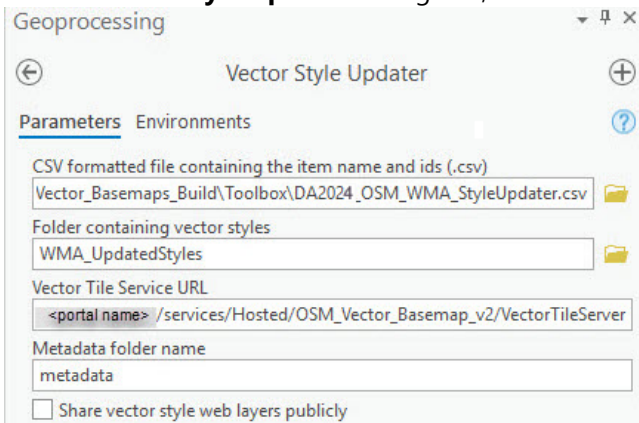
**Note:**

These are example item IDs. Use the IDs that are unique to your items in your portal.

2. Run the Vector Style Updater tool.
  - a. Start ArcGIS Pro, sign in to your ArcGIS Enterprise portal, , click the **Options** button **...**, and click **Set As Active Portal**.
  - b. Create a project.
  - c. Click the **View** tab, click **Catalog View** in the **Windows** group, right-click **Toolboxes**, and click **Add Toolbox**.
  - d. Browse to the location on your local computer where you copied the contents of the USB flash drive, click **VectorStyleUpdater.tbx**, and click **OK**.  
The VectorStyleUpdater toolbox is added to the project.
  - e. Double-click **Toolboxes**, and double-click **VectorStyleUpdater.tbx**.
  - f. Double-click the **Vector Style Updater** script.



- g. On the **Vector Style Updater** dialog box, click the **Parameters** tab and do the following:



- i. For **CSV formatted file containing the item name and ids (.csv)**, browse to the location of the `DA2024_OSM_WMA_StyleUpdater.csv` file on your local computer.

- ii. For **Folder containing vector styles**, browse to the location of the WMA Updated Styles folder on your local computer, for example, C:\Projects\OSM\_Vector\_Basemaps\_2024\VectorBasemapStyles\WMA\WMA\_ExistingUser\WMA\_UpdatedStyles.

**Note:**

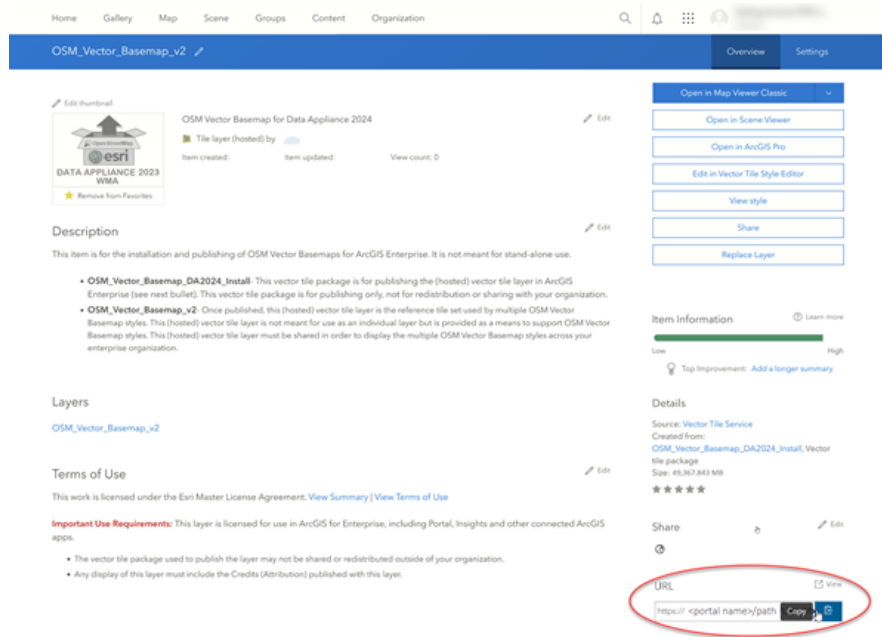
For the GCS tile package, browse to the location of the VectorBasemapStyles folder on your local computer, for example, C:\Projects\OSM\_Vector\_Basemaps\_2024\VectorBasemapStyles\GCS\GCS\_ExistingUser\GCS\_UpdatedStyles.

For the WB tile package, browse to the location of the VectorBasemapStyles folder on your local computer, for example, C:\Projects\OSMWB\_Vector\_Basemaps\_2024\VectorBasemapStyles\WB\_ExistingUser\WB\_UpdatedStyles.

- iii. For **Vector Tile Service URL**, provide the URL of the OSM Vector Basemap tile layer that you replaced above, for example, https://portalname.domain.com/server/rest/services/Hosted/OSM\_Vector\_Basemap\_v2/VectorTileServer.

**Note:**

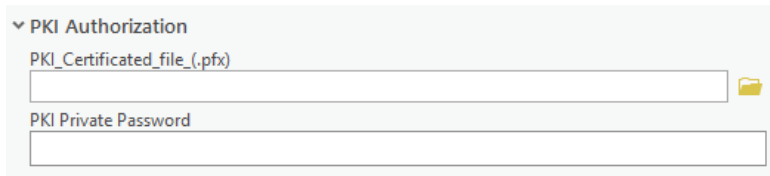
The vector tile service URL is in the URL section of the **OSM\_Vector\_Basemap\_v2** hosted tile layer item page. Click the **Copy** button and paste the URL in the **Vector Tile Service URL** parameter text box.



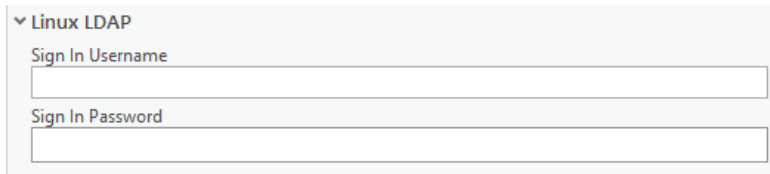
- iv. For **Metadata folder name**, keep the default name **metadata**.

 **Note:**

If you are using a portal with PKI authentication, expand **PKI Authorization** and provide values for the **PKI Certificated file (.pfx)** and **PKI Private Password** parameters.



If you are using a portal with Linux LDAP authentication, expand **Linux LDAP** and provide values for the **Sign In Username** and **Sign In Password** parameters.



3. Click **Run**.

It can take up to a minute to update each existing style in your portal using the Vector Style Updater tool.

The VectorStyleUpdater toolbox displays a successful update message when complete.

 **Note:**

If there are warnings, rerun the VectorStyleUpdated toolbox until you receive a successful update message.

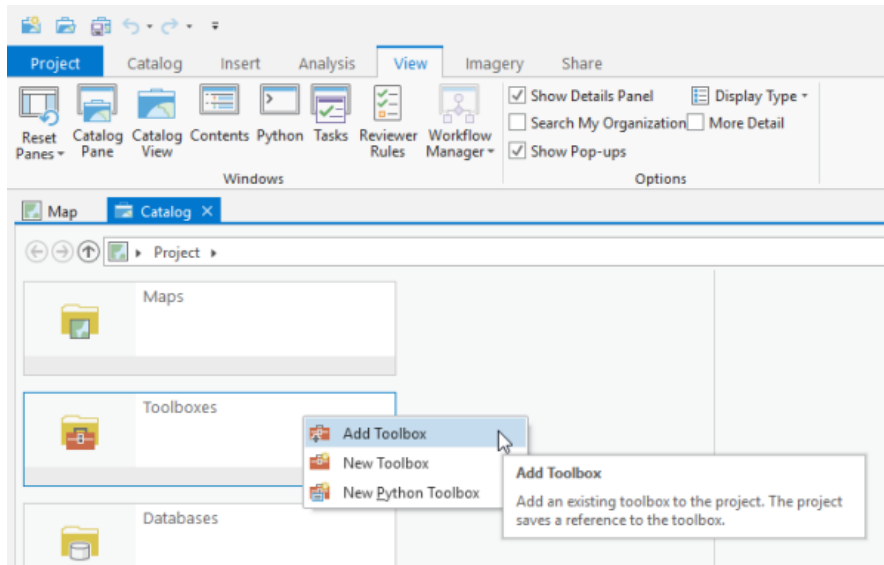
The 10 vector tile layers (map styles) are updated in your assigned ArcGIS Enterprise account. You can view the 10 items in **My Content**.

## Publish new tile layers (map styles)

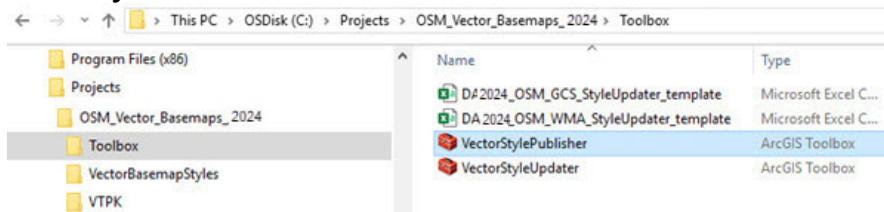
You'll publish the new map styles next.

The VectorStylePublisher geoprocessing toolbox can be run in ArcGIS Pro. This toolbox publishes new private map items in your portal for one new vector tile layer.

1. In the ArcGIS Pro project you created to update the existing styles, select the **View** tab, select **Catalog View** in the **Windows** group, right-click **Toolboxes**, and select **Add Toolbox**.

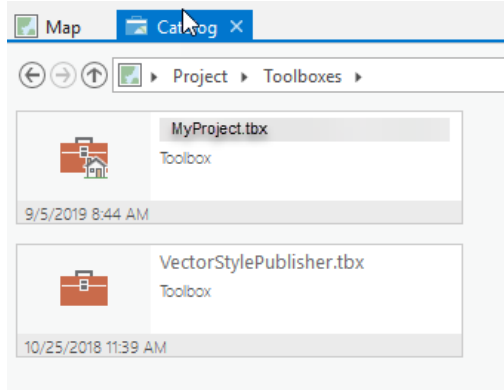


2. Browse to the location on your local computer where you copied the contents of the USB flash drive, select **VectorStylePublisher.tbx**, and select **OK**.

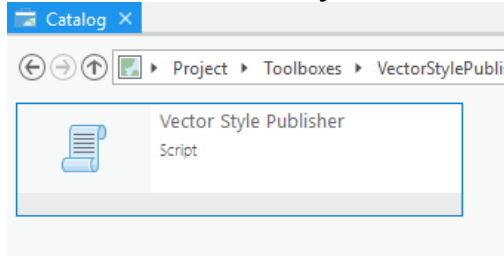


The VectorStylePublisher toolbox is added to the project.

3. Double-click **Toolboxes**, and double-click **VectorStylePublisher.tbx**.



4. Double-click the **Vector Style Publisher** script.



5. On the **Vector Style Publisher** dialog box, select the **Parameters** tab and provide the following:

- a. For **Folder containing vector styles**, browse to the location of the WMA New Styles folder on your local computer, for example, C:\Projects\OSM\_Vector\_Basemaps\_2024\VectorBasemapStyles\WMA\WMA\_ExistingUser\WMA\_NewStyles.

 **Note:**

For the GCS tile package, browse to the location of the VectorBasemapStyles folder on your local computer, for example, C:\Projects\OSM\_Vector\_Basemaps\_2024\VectorBasemapStyles\GCS\GCS\_ExistingUser\GCS\_NewStyles.

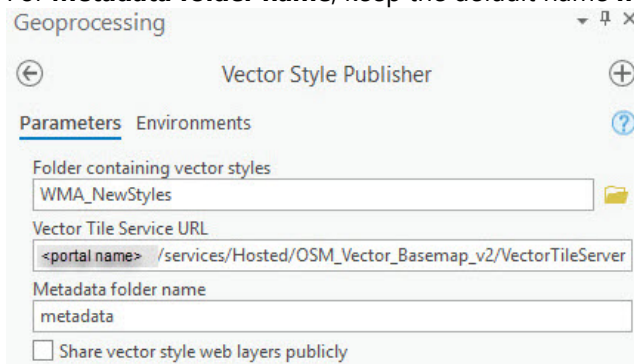
For the WB tile package, browse to the location of the VectorBasemapStyles folder on your local computer, for example, C:\Projects\OSMWB\_Vector\_Basemaps\_2024\VectorBasemapStyles\WB\_ExistingUser\WB\_NewStyles.

- b. For **Vector Tile Service URL**, provide the URL of the OSM Vector Basemap tile layer, for example, [https://portalname.domain.com/arcgis/rest/services/Hosted/OSM\\_Vector\\_Basemap\\_v2/VectorTileServer](https://portalname.domain.com/arcgis/rest/services/Hosted/OSM_Vector_Basemap_v2/VectorTileServer).

 **Note:**

The vector tile service URL is in the **URL** section of the **OSM\_Vector\_Basemap\_v2** hosted tile layer item page. Click the **Copy** button and paste the URL in the **Vector Tile Service URL** parameter text box.

- c. For **Metadata folder name**, keep the default name **metadata**.



**Note:**

If you are using a portal with PKI authentication, expand **PKI Authorization** and provide values for the **PKI\_Certificated\_file\_(.pfx)** and **PKI Private Password** parameters.



If you are using a portal with Linux LDAP authentication, expand **Linux LDAP** and provide values for the **Sign In Username** and **Sign In Password** parameters.

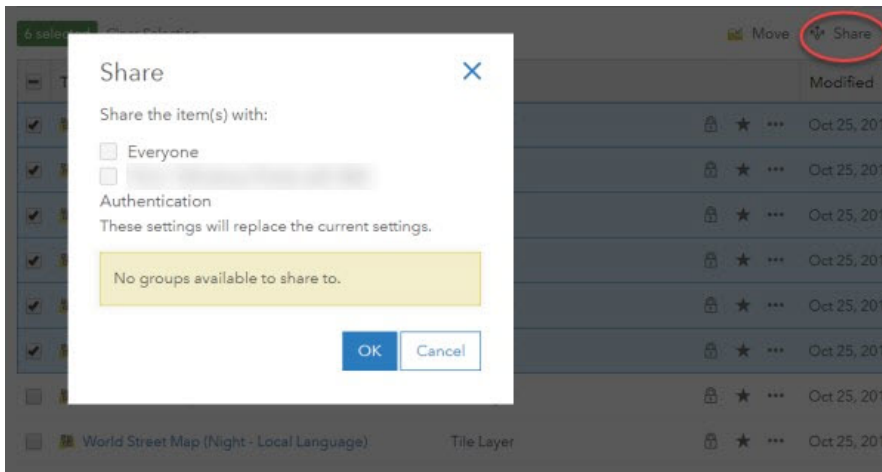


d. Click **Run**.

The two new vector tile layers (map styles) are created in your assigned ArcGIS Enterprise portal account. You can view the items in **My Content**. Sixteen items are listed: 12 vector tile layers (2 new plus 10 existing), both 2023 and 2024 .vtpk files, and the active and archived hosted tile layers.

### Share tile layers (map styles)

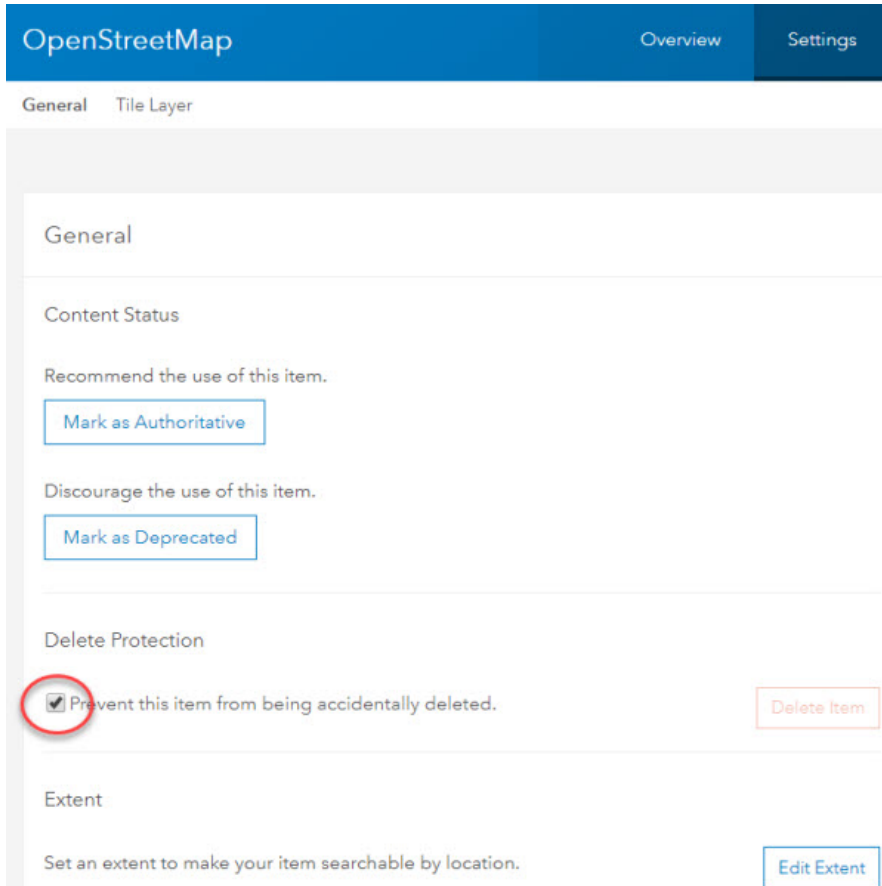
The items initially created are private unless you made them public through the **Publisher toolbox** dialog box or by selecting the map items in your portal and changing the sharing settings.





 **Note:**

Delete protection for all items is applied on publishing the tile layers. To change the protection setting, open the item and click the **Settings** tab. Under **Delete Protection**, uncheck **Prevent this item from being accidentally deleted** and click **Save**.



Once you set up the OSM Vector Basemaps update, you can do the following:

- [Use OSM Vector Basemaps](#)
- [Customize OSM Vector Basemap styles](#)
- [Localize OSM Vector Basemap styles](#)

# Troubleshoot OSM Vector Basemaps

Listed below are issues you may encounter when working with OSM Vector Basemaps content for ArcGIS Data Appliance 2024 as well as recommended solutions.

- [What if the size of the uploaded .vtpk file does not match the size of the source .vtpk file?](#)
- [When running the Share Package tool to share the .vtpk file from OSM Vector Basemaps, I encountered the Cancelled function, aborted by user error message.](#)
- [What if I encounter the There was an error message when I try to publish the service?](#)
- [What do I do if the progress bar keeps loading when I'm trying to publish my service?](#)

## What if the size of the uploaded .vtpk file does not match the size of the source .vtpk file?

If your hosted tile layer service did not publish successfully, an issue may have occurred during the upload of the vector tile package (.vtpk) file to your portal. The size of the .vtpk file on disk and the size of the uploaded file on your portal must match.

Confirm that the **Size** value of the tile package matches the size for your vector tile package and Enterprise version in the following table:

| Vector tile package .vtpk file                     | Enterprise version | Size          |
|--|--------------------|---------------|
| OSM_Vector_Basemap_DA2024_Install.vtpk (WMA)       | 10.9.1             | 49,368 MB     |
|  | 11.0               | 51,766 MB     |
|  | 11.1 or 11.2       | 49,367.843 MB |
| OSM_Vector_Basemap_GCS_DA2024_Install.vtpk (WGS84) | 10.9.1             | 49,588 MB     |
|  | 11.0               | 51,997 MB     |
|  | 11.1 or 11.2       | 49,588.417 MB |
| OSM_Vector_Basemap_DAWB2024_Install.vtpk (WMA)     | 10.9.1             | 6,960 MB      |
|  | 11.0               | 7,298 MB      |
|  | 11.1 or 11.2       | 6,959.575 MB  |

You can check the size of the uploaded vector tile package (supporting the service) on the item details page. The following screenshot shows the OSM\_Vector\_Basemap\_DA2024\_Install vector tile package details in Enterprise 11.1 and 11.2:

## Details

Size: 49,367.843 MB



If the size does not match, review the log through the server manager to see whether there are any errors.

In some cases, the ArcGIS Pro Share Package geoprocessing tool may have produced a **Success** message, but when you check the size of the .vtpk file from the item details page, it does not match. Here are some solutions that you can try to resolve this issue:

- Upload the .vtpk file again. First, delete the OSM\_Vector\_Basemap\_DA2024\_Install.vtpk, OSM\_Vector\_Basemap\_GCS\_DA2024\_Install.vtpk, or OSM\_Vector\_Basemap\_DAWB2024\_Install.vtpk file from your portal. Next, upload the OSM\_Vector\_Basemap\_DA2024\_Install.vtpk, OSM\_Vector\_Basemap\_GCS\_DA2024\_Install.vtpk, or OSM\_Vector\_Basemap\_DAWB2024\_Install.vtpk file again using the ArcGIS Pro Share Package geoprocessing tool.
- Verify with your portal administrator that there is the following minimum available space per .vtpk file on your Enterprise 10.9.1, 11.0, 11.1, or 11.2 portal:

| Vector tile package (.vtpk) file                   | Minimum total available space required | Hosting server's job directory available space required | Hosting server's cache directory available space required |
|--|--|---|---|
| OSM_Vector_Basemap_DA2024_Install.vtpk (WMA)       | 104 GB                                 | 52 GB   | 52 GB   |
| OSM_Vector_Basemap_GCS_DA2024_Install.vtpk (WGS84) | 104 GB                                 | 52 GB   | 52 GB   |
| OSM_Vector_Basemap_DAWB2024_Install.vtpk (WMA)     | 16 GB                                  | 8 GB  | 8 GB  |

Ensure that there is space on <ArcGIS portal install drive>\arcgis\arcgisportal where the content items are stored.

- Verify that you are using a supported version of ArcGIS Pro. See the [system requirements](#) for details.

Contact Esri [Support](#) if you still cannot successfully upload the .vtpk file.

 **Note:**

The following answers reflect troubleshooting of the WMA vector tile package and service. To troubleshoot the GCS vector tile package and service, you need to take the GCS naming into consideration. To troubleshoot the Basic vector tile package and service, you need to take the WB naming into consideration.

**When running the Share Package tool to share the .vtpk file from OSM Vector Basemaps, I encountered the Cancelled function, aborted by user error message.**

When you publish the .vtpk file, it creates a copy of the file at \\arcgisportal\temp in the C: drive, which is the staging path. There is not enough space on the C: drive for the staging process, so the publishing attempt failed. Ensure your local computer has enough storage space to download the files from the flash drive. The additional storage space required for the local staging path is equal to the size of the .vtpk file being shared to your portal.

**What if I encounter the error message "There was an error message when I try to publish the service?"**

Work with your systems administrator to check the ArcGIS Server Manager logs.

If there is an error due to a geoprocessing service (PublishingTools) timing out or crashing, you may have skipped a [system requirements](#) step. Confirm that you changed the value of **The maximum time a client can use a service** to 21,600 seconds.

Once you have updated the geoprocessing service maximum time, do the following:

1. On your server, delete the OSM\_Vector\_Basemap\_v2 or OSM\_Vector\_Basemap\_GCS\_v2 hosted tile layer.
2. On the ArcGIS Server machine, delete the job in the <ArcGIS\_Server\_Install\_Path>\arcgis\arcgisserver\directories\arcgisjobs\system\publishingtools\_gpserver\<Job\_ID> folder.

**Note:**

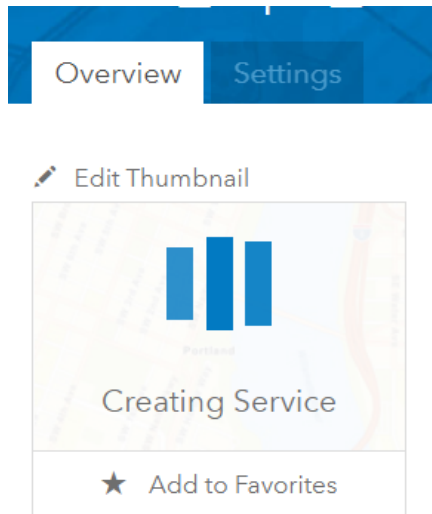
You can find the job ID in the log file.

3. Restart the server.
4. Verify you have the following minimum available space per .vtpk file on your ArcGIS Server:

| Vector tile package (.vtpk) file                   | Minimum total available space required (Enterprise 10.9.1, 11.0, 11.1, 11.2) |
|--|--|
| OSM_Vector_Basemap_DA2024_Install.vtpk (WMA)       | 104 GB   |
| OSM_Vector_Basemap_GCS_DA2024_Install.vtpk (WGS84) | 104 GB   |
| OSM_Vector_Basemap_DAWB2024_Install.vtpk (WMA)     | 16 GB  |

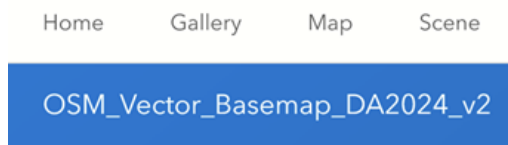
5. In your portal, publish the OSM\_Vector\_Basemap\_v2 or OSM\_Vector\_Basemap\_GCS\_v2 tile layer again.

### What do I do if the progress bar keeps loading when I'm trying to publish my service?



If the **Creating Service** progress bar continues to load after two hours, the browser connection to the portal may have failed.

Sign out of the portal and sign in again to see whether the thumbnail has changed to the Data Appliance 2024 icon, because the browser connection does not affect the creation of the service.



If the thumbnail changes to the Data Appliance 2024 icon, confirm that the map displays as expected.

## Additional resources

The following resources are available for OSM Vector Basemaps:

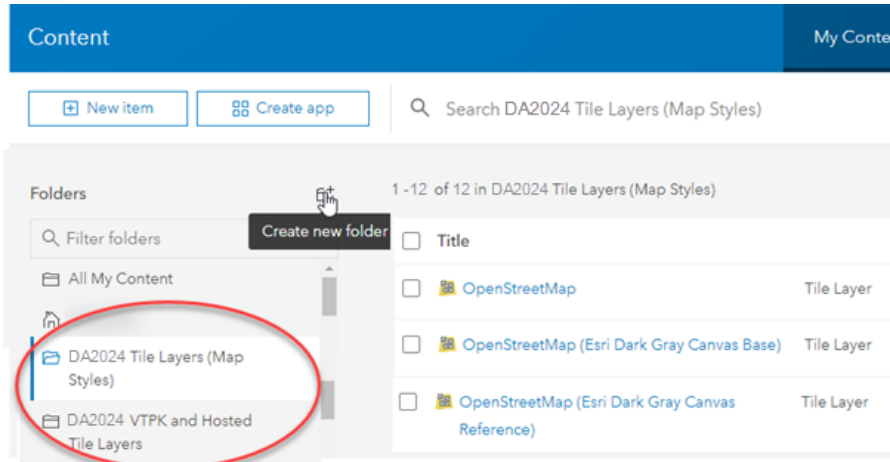
- [ArcGIS Data Appliance 2024: OSM Vector Basemaps help](#) (PDF)
- [ArcGIS Data Appliance 2024: Esri Vector Basemaps New user information video](#) (captioned MP4) demonstrating uploading, updating, and publishing Esri Vector Basemaps to your portal—Instructions for uploading and publishing OSM Vector Basemaps are similar to Esri Vector Basemaps. The names of the files and styles used in the video reflect the source data. Substitute OpenStreetMap file names for Esri Vector Basemaps file names when following the instructions in the video.
- [ArcGIS Data Appliance 2024: Esri Vector Basemaps Existing user information video](#) (captioned MP4) demonstrating uploading, updating, and publishing Esri Vector Basemaps to your portal—Instructions for uploading and publishing OSM Vector Basemaps are similar to Esri Vector Basemaps. The names of the files and styles used in the video reflect the source data. Substitute OpenStreetMap file names for Esri Vector Basemaps file names when following the instructions in the video.
- [Tile layers](#), [Customize basemaps](#), and [Choose a basemap \(Map Viewer Classic\)](#) in the Portal for ArcGIS help
- [New ways of customizing Esri Vector Basemaps](#) blog article
- [Create a custom basemap style](#) using the ArcGIS Vector Tile Style Editor on the ArcGIS Developer website

# Use



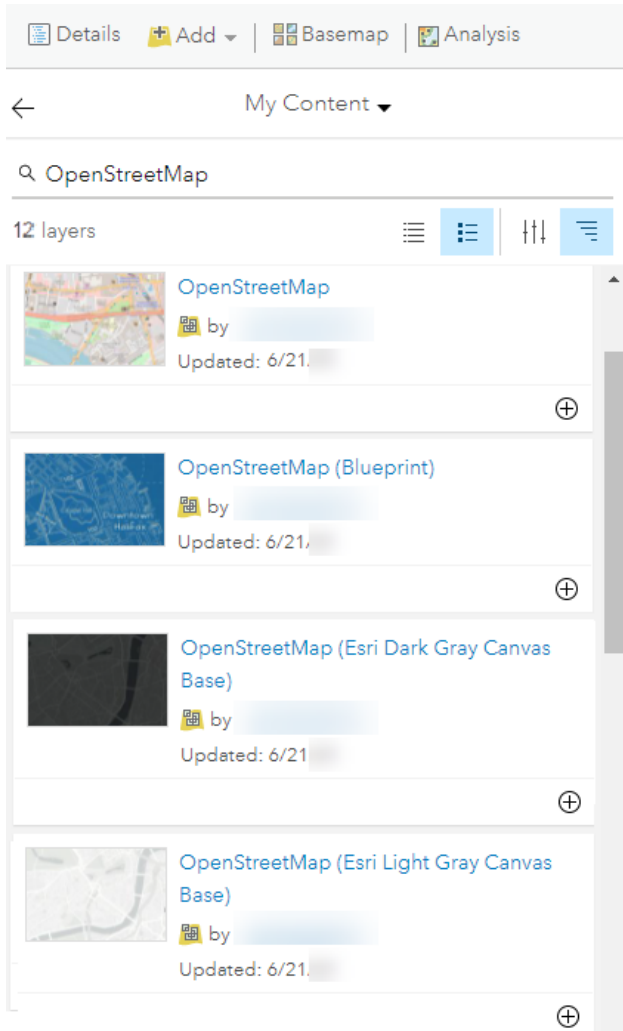
# Use OSM Vector Basemaps

With the addition of vector tile packages (.vtpk), hosted tile layers, and tile layers in your portal, a number of items appear in the ArcGIS Enterprise **Content** window. With the correct administrative privileges, you can create folders, groups, and categories. By creating folders and moving items into them, you can organize the **Content** window to make it easier to find the items you are looking for. The following image shows some folder name suggestions. See [Manage content](#) in the Portal for ArcGIS help for information about managing content in ArcGIS Enterprise.

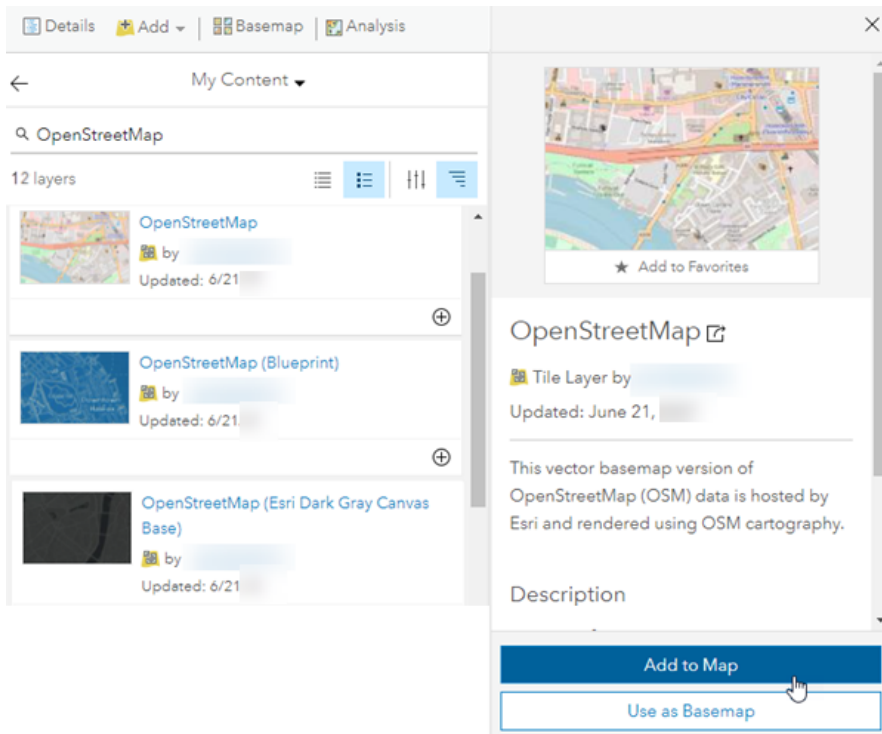


You can use OSM Vector Basemaps in applications in the following ways:

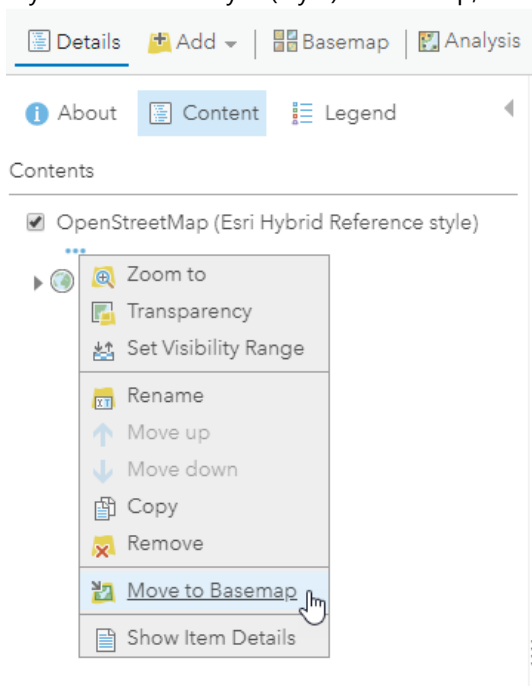
- Add the 12 map tile layers (styles) to a map in ArcGIS Pro or to Map Viewer Classic in your Enterprise portal.



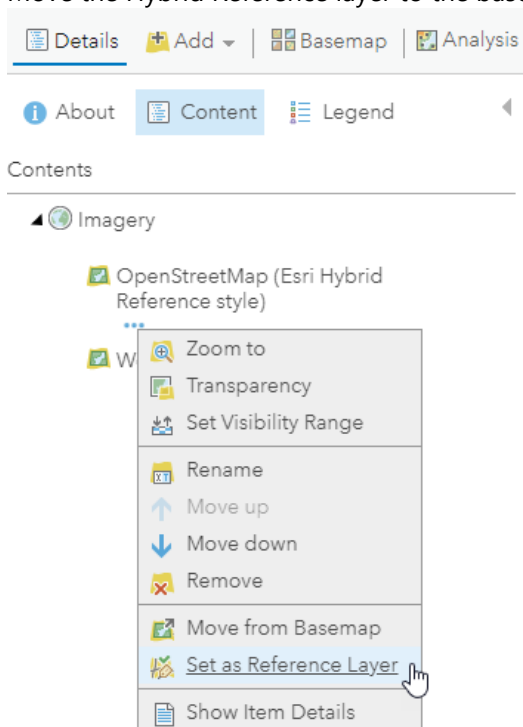
- Add the tile layers (styles) to an existing basemap, or add them as the basemap.



- Use 3 of the 12 map tile layers (styles) with a raster layer—World Hillshade or World Imagery—as the basemap in their web map:
  - OpenStreetMap (with relief)—World Hillshade
  - OpenStreetMap (Esri Street with Relief style)—World Hillshade
  - OpenStreetMap (Esri Hybrid Reference style)—World Imagery
- If you have a tile layer (style) in the map, move it to the basemap.



- Move the Hybrid Reference layer to the basemap and set as the reference layer over the World Imagery layer.



- Move the OpenStreetMap Dark Gray or Light Gray Canvas Reference layers to the basemap and set them as the reference layer over the Canvas Base layer.


# Customize OSM Vector Basemap styles

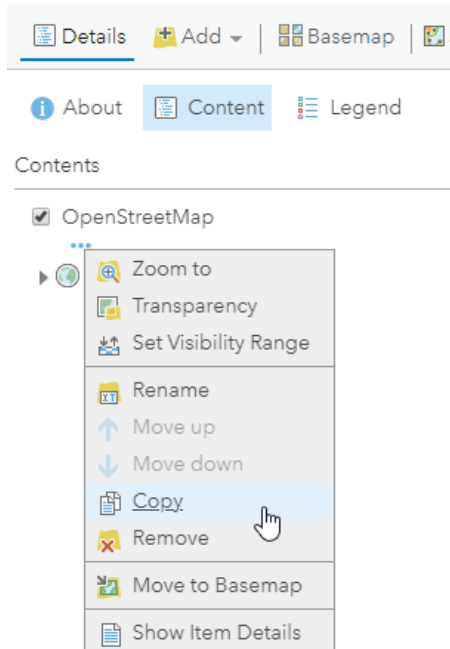
With ArcGIS Data Appliance: OpenStreetMap Vector Basemaps, you can modify and customize the map style. You can customize the map by changing the hex color codes of map features or labels, removing feature classes, changing fonts (face, size, and color), or making other edits. For more information, see the [vector basemap blog article](#) on the ArcGIS Blog website.

Customization requires changes to the map style's `resources\styles\root.json` file. There are two main ways to customize your maps: add a style to the map in Map Viewer Classic or copy a `root.json` style from the USB flash drive. You can use the ArcGIS Vector Tile Style Editor. Then you can edit the custom style map item to include a new thumbnail and update the item's information for your custom style.

## Add a style to the map in Map Viewer Classic and rename the style

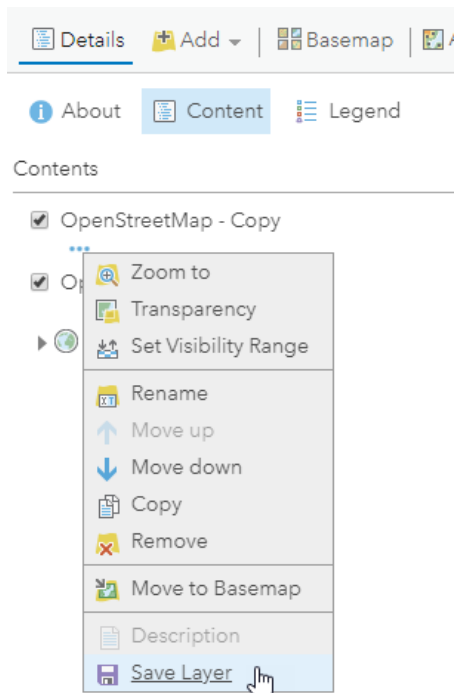
To add a style using Map Viewer Classic, complete the following steps:

1. In your Enterprise portal, open the style you want to customize in Map Viewer Classic, for example, OpenStreetMap.
2. Click **More Options**  and select **Copy**.

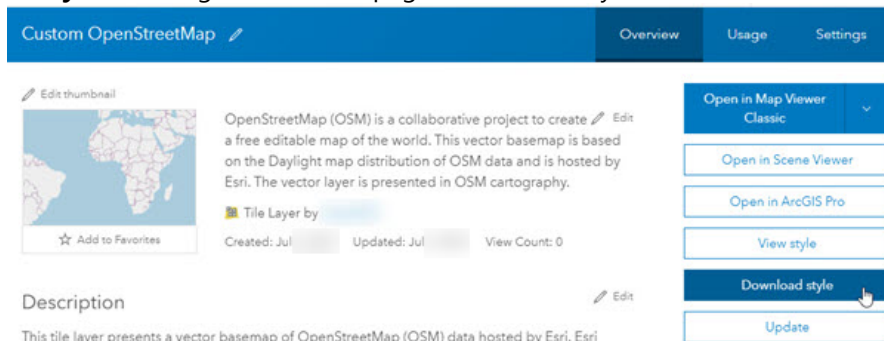


A new OpenStreetMap - Copy layer is added to the top of the **Contents** pane.

3. Click **More Options**  and select **Save Layer**.



4. Rename the style—for example, Custom OpenStreetMap—and select the folder where you want to save the new style.
5. In **My Content**, go to the item page for the new style and click the **Download style** button.



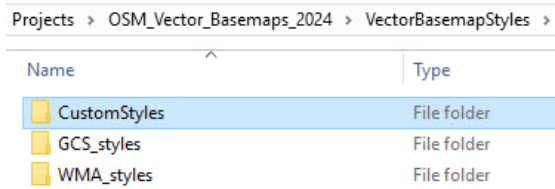
The style (root.json file) is saved to your computer.

6. Open the root.json file in a text editor such as Adobe Brackets or Notepad++, and edit and save the file. Edits to the root.json file can be color value, line width, font size, and so on.
7. Validate the JSON using [JSONLint](#) or a similar JSON validation tool. You can also use this website to parse the JSON into a more user-friendly format before editing.
8. On the item page for the new style, click the **Update** button to update the item and load the modified root.json file from your computer to your portal.

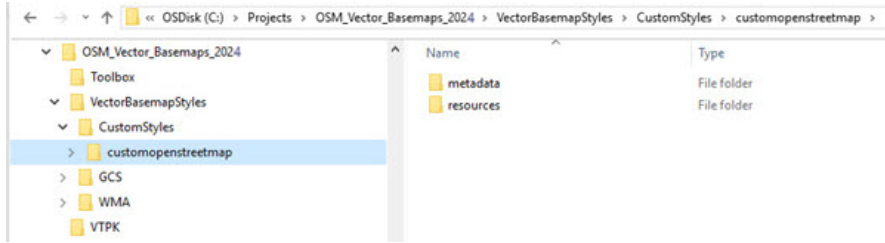
## Copy a style from the USB flash drive and rename the map style directory

To copy a root.json style from the USB flash drive, complete the following steps:

1. On your local computer, create a directory called CustomStyles at the same directory level as the GCS and WMA directories.



2. Copy a style from the USB flash drive and rename the map style directory; for example, copy the openstreetmap directory into a new directory and change the name to customopenstreetmap.

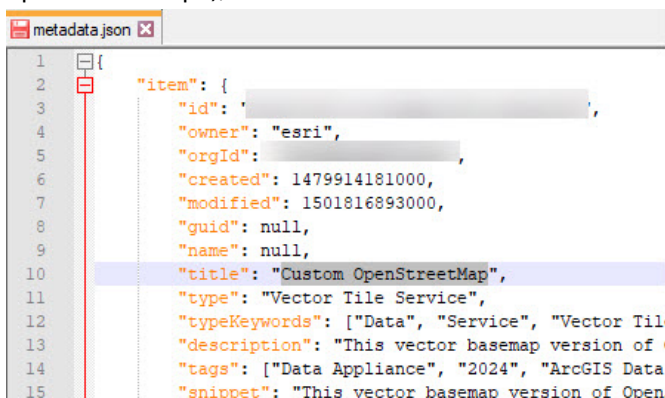


3. In the new customopenstreetmap directory, open the resources\styles\root.json file (for example, CustomStyles\customopenstreetmap\resources\styles\root.json) in a text editor such as Adobe Brackets or Notepad++, edit the map code, and save the file.

An example of a style edit in the root.json file is changing the country boundary in purple (#AC46AC) to red (#FF0000).



4. In the new customopenstreetmap directory, open the metadata\metadata.json file (for example, CustomStyles\customopenstreetmap\metadata\metadata.json) in a text editor such as Adobe Brackets or Notepad++; edit "title":, replacing "OpenStreetMap" with a new map title (for example, "Custom OpenStreetMap"); and then save the file.



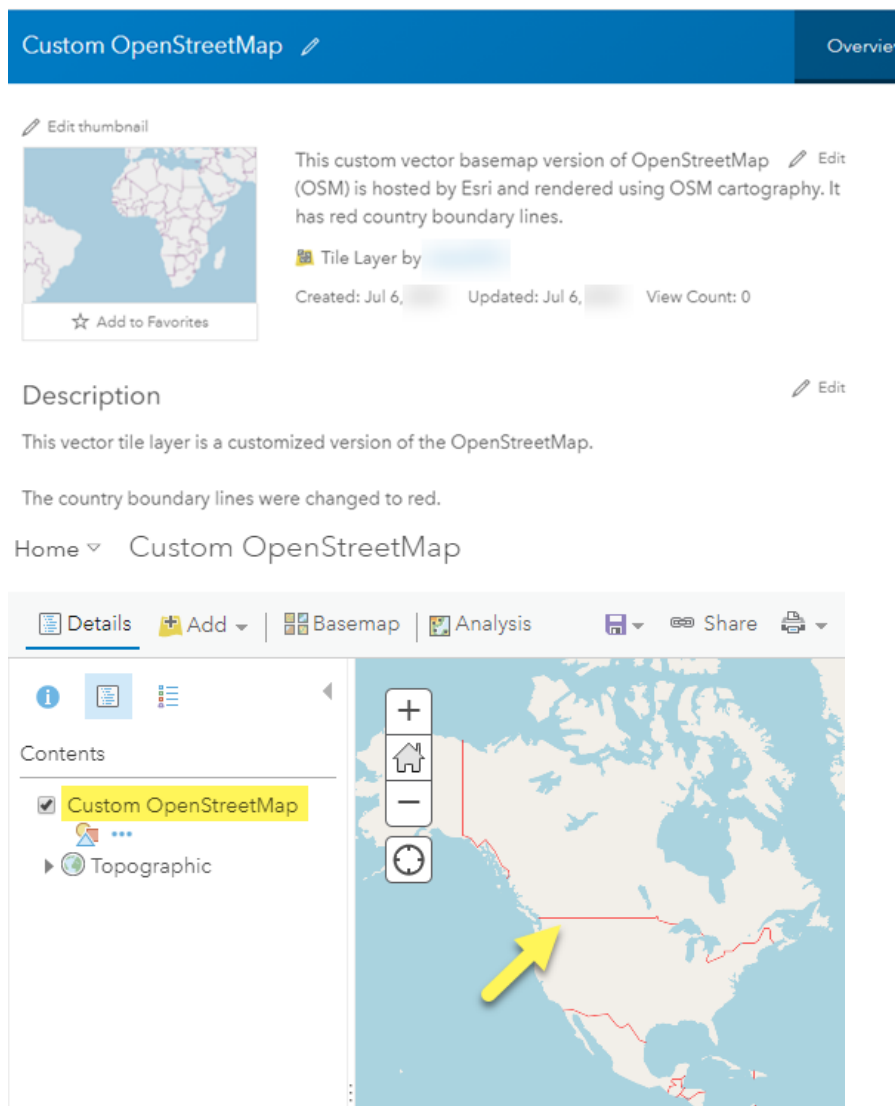
5. Validate the JSON using [JSONLint](#) or a similar JSON validation tool.
6. Perform the [publish tile layers \(map styles\)](#) steps, this time pointing to the new directory containing your custom style.

The new style is created in your Enterprise portal under **My Content**. Following the naming conventions in steps 1–4 produces a new item in your portal named Custom OpenStreetMap.

## Edit the custom style map item in your portal

On the map item page of your custom map style, you can update the summary, description, tags, and thumbnail to better describe the new map you styled.

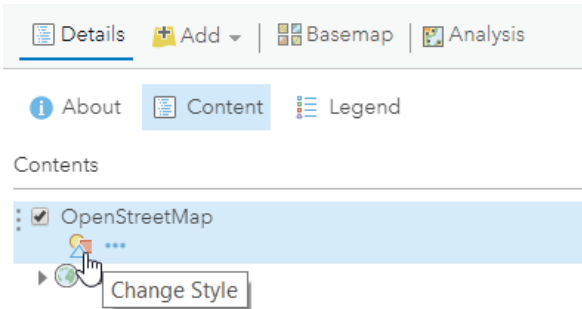
It is recommended that you apply **Delete Protection** to your custom style map item on the item's **Settings** tab.



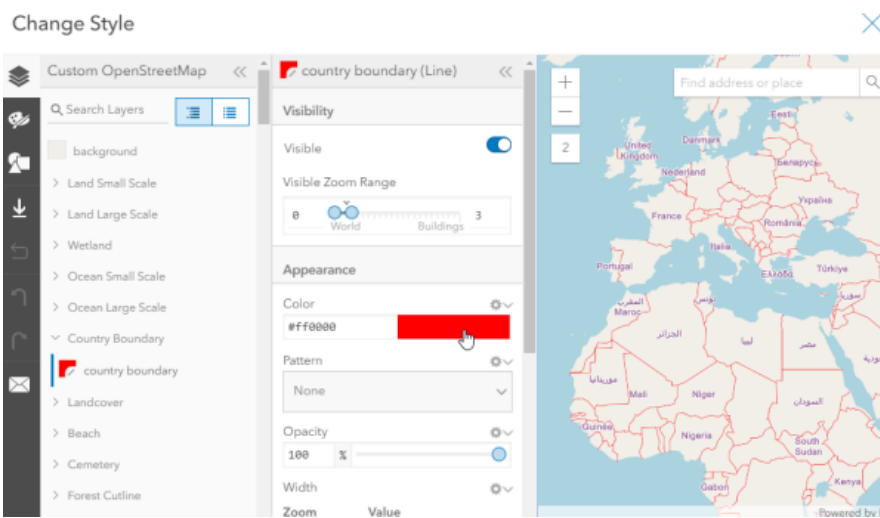
## Esri Vector Tile Style Editor

You can customize vector map styles through an app in Map Viewer Classic. Access the Style Editor from the **Change Style** button under any OSM vector basemap tile layer. Save the new style to your portal.





Styling options include the **Quick Edit** tool, in which layers are customized across groups of features, and the **Layer Style Editor** list for individual feature style controls. Colors, line weights, font faces, and sprite symbology are examples of the style changes that can be applied to your custom map item.



Information about using the ArcGIS Vector Tile Style Editor to [create a custom basemap style](#) is available on the ArcGIS Developer website.

# Localize OSM Vector Basemap styles

ArcGIS Data Appliance: OpenStreetMap Vector Basemaps supports localizing select map labels into the languages listed below. The default map displays a localized view of the world (local language in each country). Localization is another form of basemap customization. As with other customization, there are two main ways to create a style for customization: add a style to the map in Map Viewer Classic or copy a `root.json` style from the USB flash drive.

Review the information in the previous section on how to [customize OSM Vector Basemap styles](#).

Localization changes the labels on the map for a few small-scale features when the data supports it. Localize the map by changing the `"text-field"` value of the map style's `resources\styles\root.json` file. Use the corresponding codes for the language you want to display. It is also recommended that you change all `"text-font"` to an Arial Unicode font (`"Arial Unicode MS Regular"` or `"Arial Unicode MS Bold"`) to allow all glyphs to display on the map or apply the Unicode font as part of a fallback font stack. After the localization changes are applied to your JSON, validate the JSON using [JSONLint](#) or a similar tool, and [update or upload the new localized map style](#) as previously detailed in this help document. The edits can also be applied on the JSON through the [Vector Tile Style Editor](#).

As noted above, the default map views labels in the local language as supported by the data. If you want to have an English-label map, follow the instructions below and assign the appropriate layers to use the `"en"` code.

## Languages and codes supported in Data Appliance 2024

The following language codes are supported in Data Appliance 2024 OSM Vector Basemaps:

### Note:

The codes for Chinese and Portuguese are different from [Esri Vector Basemaps](#).

| Language             | Code    |
|----------------------|---------|
| Arabic               | ar      |
| Bosnian              | bs      |
| Bulgarian            | bg      |
| Catalan              | ca      |
| Chinese (Hong Kong)  | zh_hant |
| Chinese (Simplified) | zh_hans |
| Chinese (Taiwan)     | zh_hant |
| Croatian             | hr      |
| Czech                | cs      |
| Danish               | da      |
| Dutch                | nl      |
| English              | en      |
| Estonian             | et      |
| Finnish              | fi      |
| French               | fr      |

| Language              | Code  |
|-----------------------|-------|
| German                | de    |
| Greek                 | el    |
| Hebrew                | he    |
| Hungarian             | hu    |
| Indonesian            | id    |
| Italian               | it    |
| Japanese              | ja    |
| Korean                | ko    |
| Latvian               | lv    |
| Lithuanian            | lt    |
| Norwegian             | no    |
| Polish                | pl    |
| Portuguese (Brazil)   | pt_br |
| Portuguese (Portugal) | pt_pt |
| Romanian              | ro    |
| Russian               | ru    |
| Serbian               | sr    |
| Slovak                | sk    |
| Slovenian             | sl    |
| Spanish               | es    |
| Swedish               | sv    |
| Thai                  | th    |
| Turkish               | tr    |
| Ukrainian             | uk    |
| Vietnamese            | vi    |

## Features supported for localization

The following features can have their "text-field" values changed to support these languages. The map labels that can be localized are primarily features displayed at small scale. At large scale, the default JSON labels the map in local language supported by the data "{\_name}". Using a text editor, find each "id" name and change its "text-field" value accordingly.

## Small scale features

The default JSON for these features is "text-field": "{\_name}". Listed below are the six "id" fields in the worldtopomap style JSON available for localization when the data supports it at primarily small scales. Other Esri OSM styles may have all or fewer of these features.

For example, to display the map in Japanese, the JSON for each of these features changes "text-field": "{\_name}" to "text-field": "{name\_ja}", for French, "text-field": "{name\_fr}", and so on. The leading underscore is removed when applying a localized language code to Esri OSM map styles.

- "capital"
- "place (high importance)"
- "administrative label/country"
- "administrative label/state"
- "administrative label/county level 5"
- "administrative label/county level 6"

## Other features

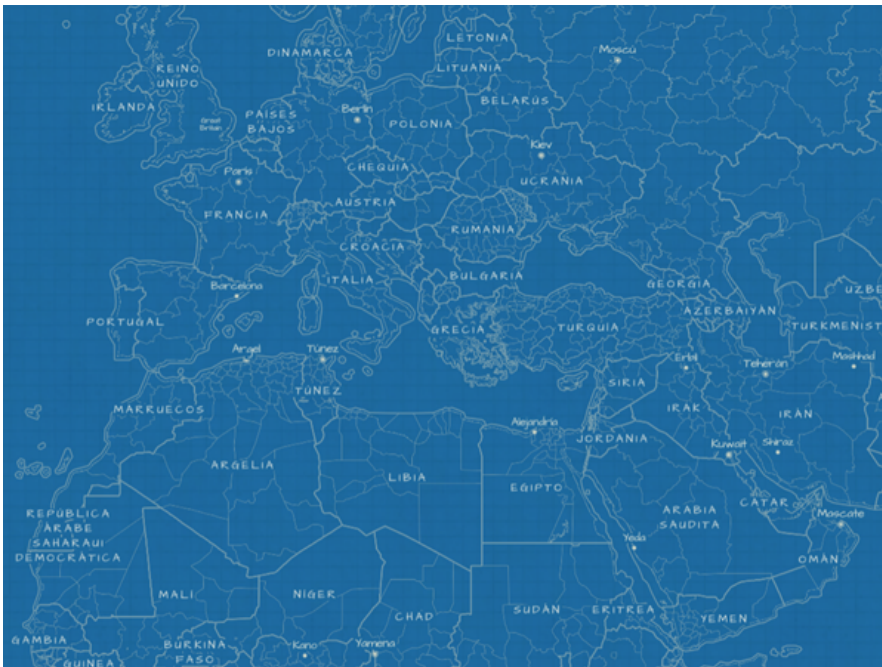
There are other features on the map with "text-field": "{\_name}" in the JSON file. These features do not support localization; do not change their JSON code. Only those in the list above are supported.

## Changing the font

It is recommended that you change the fonts to Arial Unicode MS (bold or regular), especially for languages like Chinese, Cyrillic, Japanese, or Arabic. Esri OpenStreetMap styles can have different default fonts. For example, the default font for Blueprint style is Architect's Daughter. For the light gray canvas style, the default fonts are in the Noto Sans family. Refer to the font list in the ArcGIS Data Appliance: Esri Vector Basemap Reference Document (v2) PDF in the [Additional resources](#) topic for complete details. Change the fonts to "text-font" : ["Arial Unicode MS Regular"]. Fonts that are bold by default can be changed to "text-font" : ["Arial Unicode MS Bold"]. There is no italic font in the Arial Unicode family.



An example of the OSM style is shown in Japanese.



An example of the OSM Blueprint style is shown in French.

## Additional JSON edits for Arabic language maps

To ensure that Arabic glyphs appear correctly on the map, either set the text-spacing setting to 0 (zero) or completely remove the "text-letter-spacing" style attribute from the root .json file. JSON styles may display this attribute as follows:

```
"text-letter-spacing" : 0.05,
```

Or the style may have more complex syntax such as the following:

```
"text-letter-spacing" : { "stops" : [[4, 0.1], [8, 0.18]] }
```

Either change these to "text-letter-spacing" : 0, or remove the lines completely. Be sure to validate any root.json before updating the file on your portal.

# Terms of use

# Terms of use for ArcGIS Data Appliance: OpenStreetMap Vector Basemaps

ArcGIS Data Appliance: OpenStreetMap Vector Basemaps should only be served up from ArcGIS Server and Portal for ArcGIS (10.9.1, or 11.0 or later). ArcGIS Data Appliance: OpenStreetMap Vector Basemaps cannot be transferred to or used with non-Esri technology.

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# Support for ArcGIS Data Appliance 2024: OSM Vector Basemaps

Support for ArcGIS Data Appliance: OpenStreetMap Vector Basemaps is provided by the Esri Support team.

Use one of the following contact options:

- United States users—Contact Esri Support using one of the following options. Hours are Monday through Friday, 5:00 a.m. to 5:00 p.m. (Pacific time), excluding Esri holidays:
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