Network Analysis at Clemson University

Due to licensing restrictions, network analysis at Clemson University is performed differently depending on your area of interest. Follow the instructions below based on the geographic location of your interest.

Contents

1. Network Analysis in North America

Our current StreetMap Premium license allows you to perform network analysis without consuming your **credits** within the following countries in North America: American Samoa, Canada, Guam, Mexico, Northern Mariana Islands, Puerto Rico, Saint Pierre and Miquelon, the United States, and the U.S. Virgin Islands region.
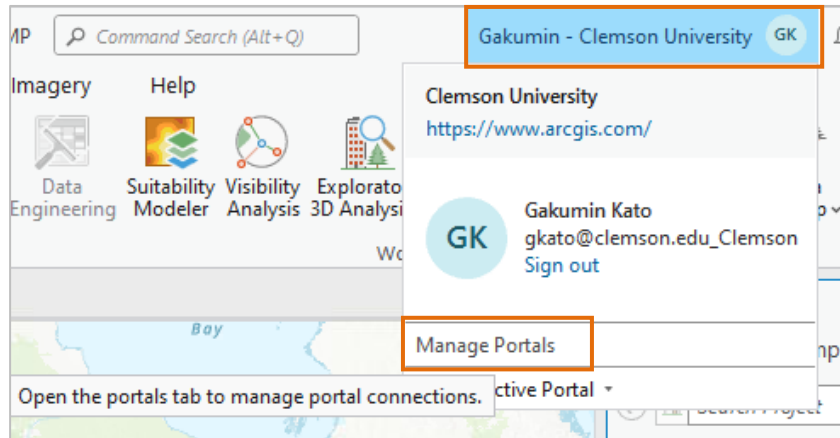
You will do this by connecting to our network location for StreetMap Premium. Below are instructions on how to achieve this, depending on your preference: using ArcGIS Pro on your machine or a local Clemson-owned computer.

Please note that through ArcGIS Online Map Viewer, we can only use the routing service available on ArcGIS Online, which consumes **credits**.
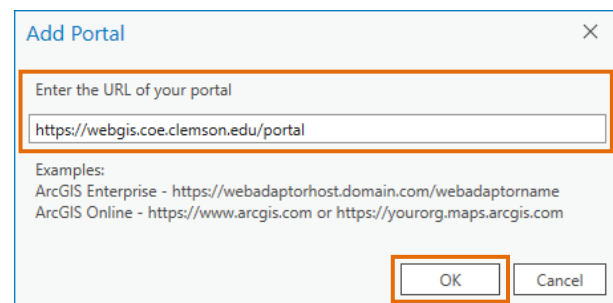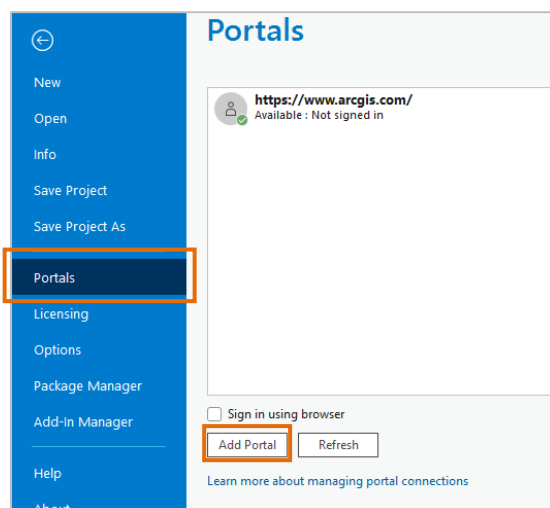
1.1. Using ArcGIS Pro

You need to use the network data hosted on the portal site of Clemson Center for Geospatial Technologies (CCGT). See below how to connect to the network data.

1.1.1 In ArcGIS Pro, open a profile drop-down menu on the top-right corner. Click on Manage Portals.

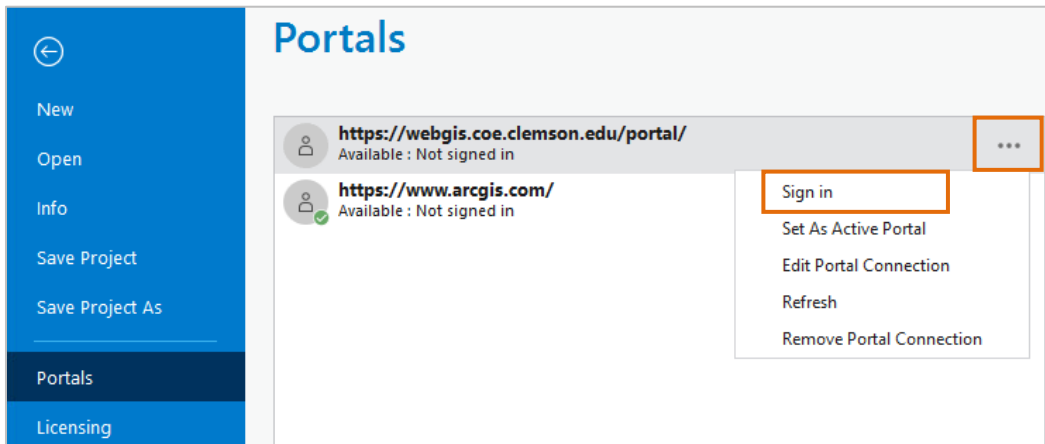1.1.2 On the Portals window, click on Add Portal. In the Add Portal window, enter the URL of CCGT's portal: https//webgis.coe.clemson.edu/portal. Click OK.
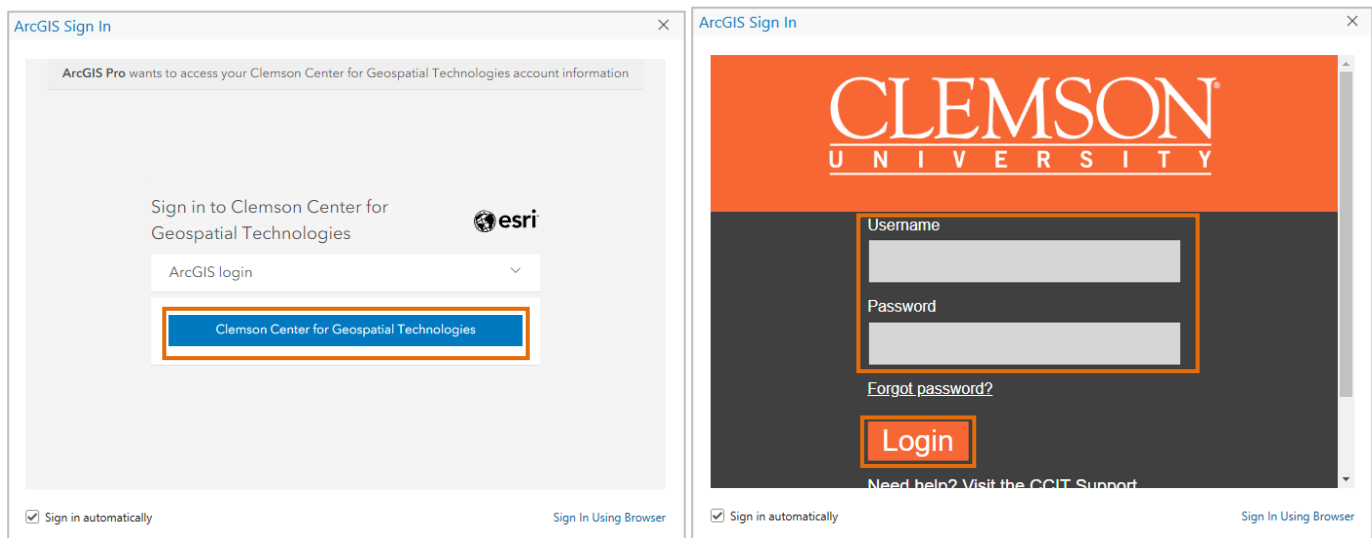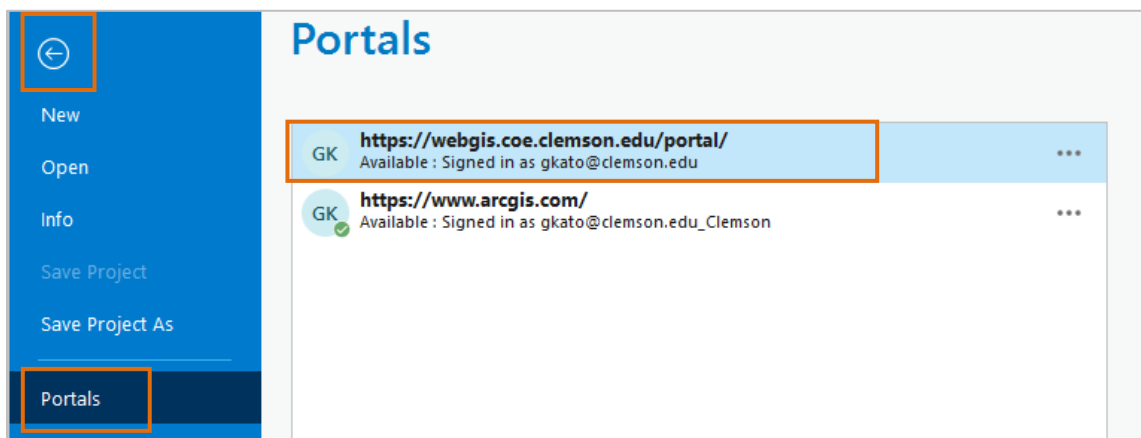
- https://webgis.coe.clemson.edu/portal

1.1.4 In the Portals window, confirm that the CCGT's Portal URL is added. Click on the three dots of the Portal URL and click on Sign in.

1.1.5 In the ArcGIS Sign in window, click on Clemson Center for Geospatial Technologies. This will take you to a new window where you will be using your standard Clemson login. Enter your Clemson username and password and click on Login.
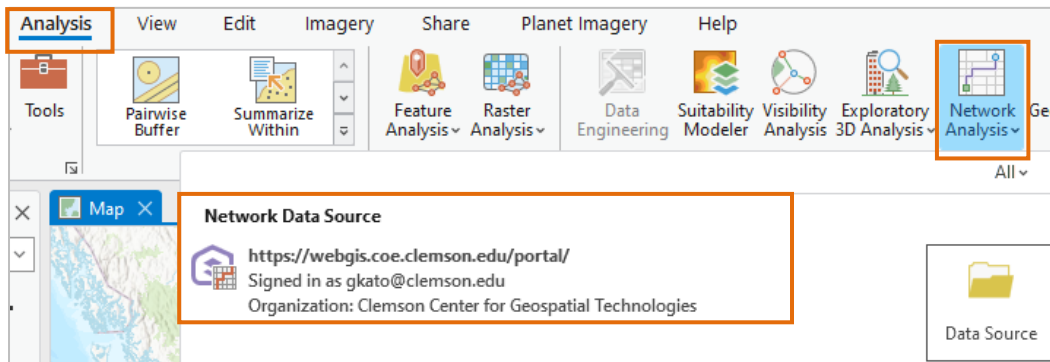

1.1.6 Confirm that you are signed in to CCGT portal. Go back to ArcGIS Pro's interface by clicking on the back arrow on the top left corner.
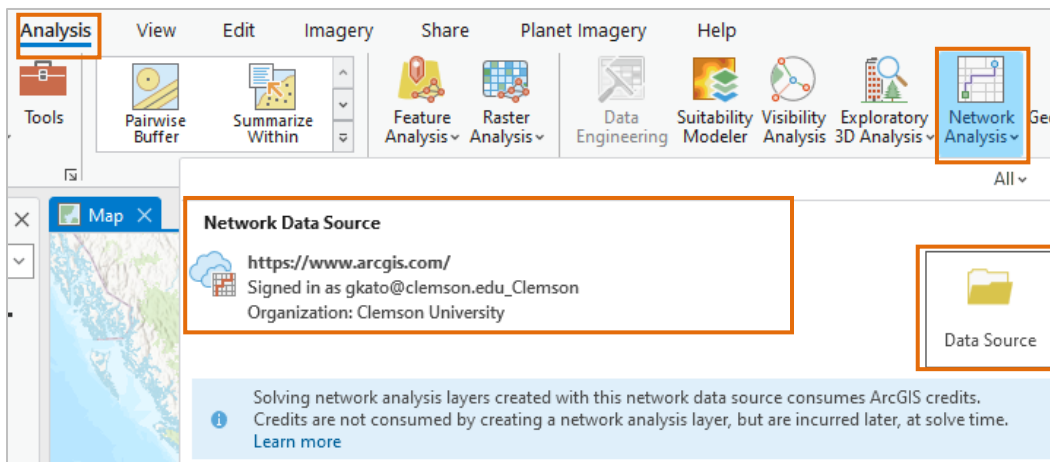
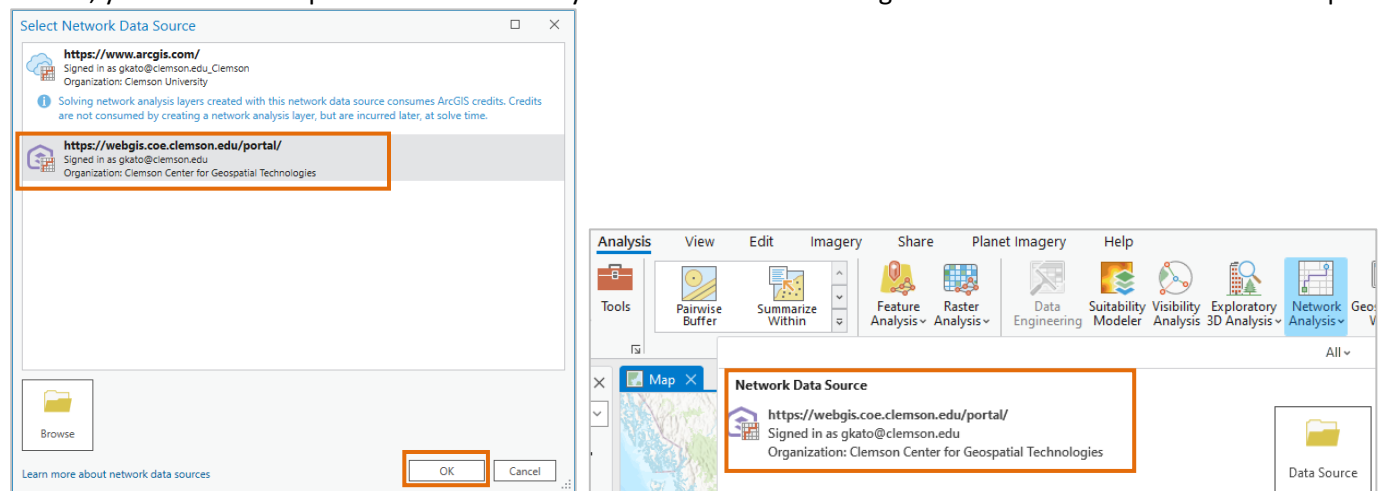1.1.7 Go to the Analysis tab and open the Network Analysis drop-down menu.

If you see the hosted network dataset of CCGT's portal (https://webgis.coe.clemson.edu/portal) at Network Data Source, you are all set to perform network analysis in North America using the hosted network data on CCGT's portal.

If you see ArcGIS Online (https://www.arcgis.com/) at Network Data Source, you need to change its data source to use CCGT's portal to save credits. To do so, click on Data Source.

On Select Network Data Source window, select CCGT's portal: https://webgis.coe.clemson.edu/portal. Click on OK. If you see the hosted network dataset of CCGT's portal (https://webgis.coe.clemson.edu/portal) at Network Data Source, you are all set to perform network analysis in North America using the hosted network data on CCGT's portal.

If you wish to learn about Network Analyst, please refer to Esri's **tutorial**.
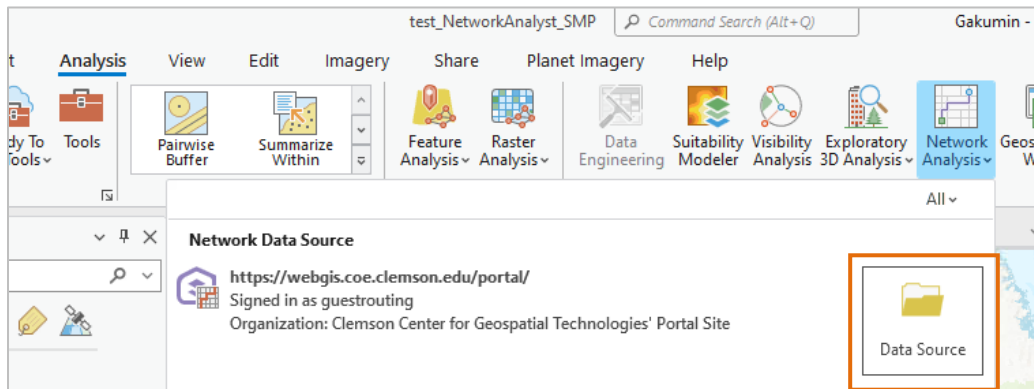
1.2. Using a local lab computer (HIPPA-compliant tasks)

The GIS labs have dedicated machines where [ArcGIS StreetMap Premium](#) data are locally installed. These computers would be ideal for [HIPPA](#)-compliant tasks in that network analysis can be done locally, not over the Internet. In addition, performing network analysis through these local machines would provide a better performance when you need to work with large datasets.
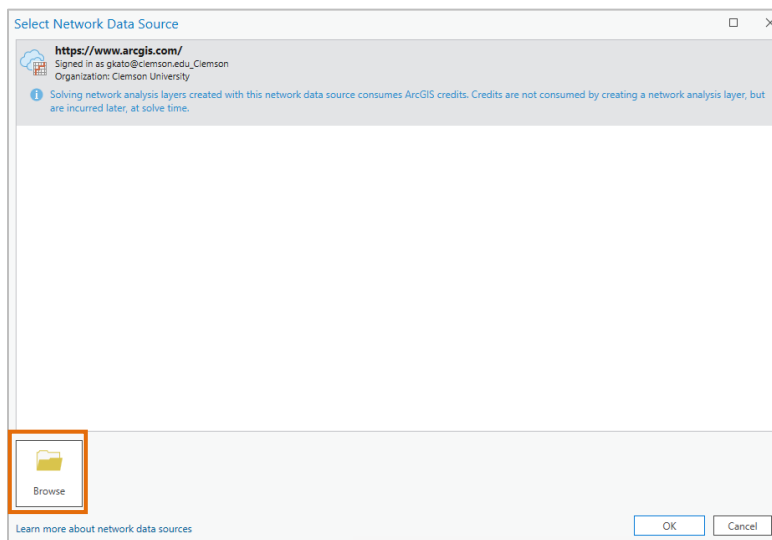
- Barre Hall, Room 109 (Workstation ID: barrb109-01)
- Cooper Library, Room 412 (Workstation ID: coop412-02)
- Lee Hall, Room 212 (Workstation ID: lee212-05)
- Lehotskey Hall, Room 231 (Workstation ID: leho231-01)

Please follow the steps below to perform Network Analysis in ArcGIS Pro using the local StreetMap Premium data.

1.2.1 In ArcGIS Pro, click on Analysis tab, and on the tool ribbon, click on the Network Analysis drop-down menu. Click on Data Source
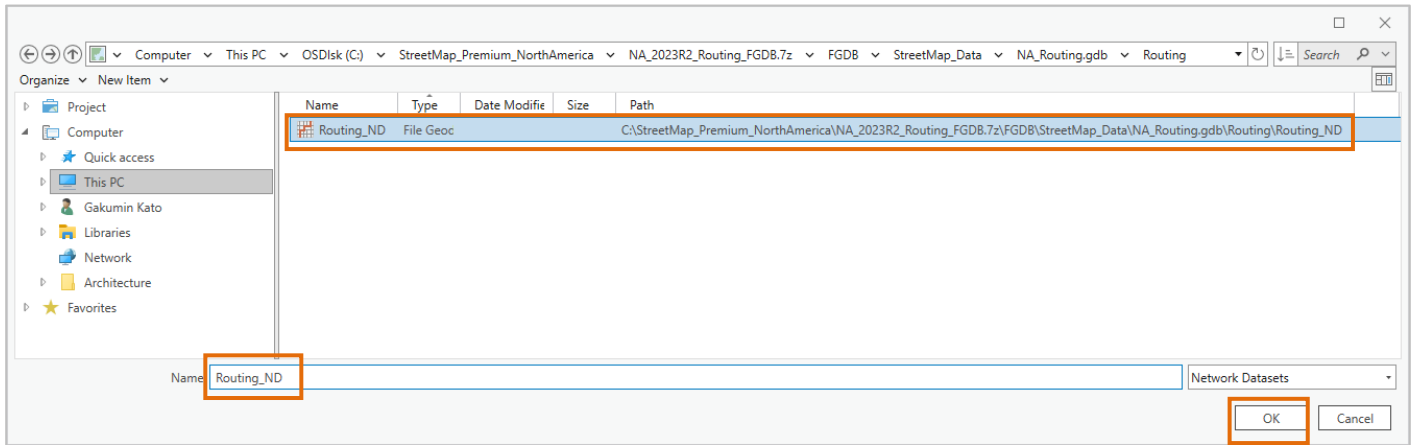

1.2.2. The Select Network Data Source dialog box appears. Click on the Browse button to browse to Routing_ND network dataset installed in local lab computers.

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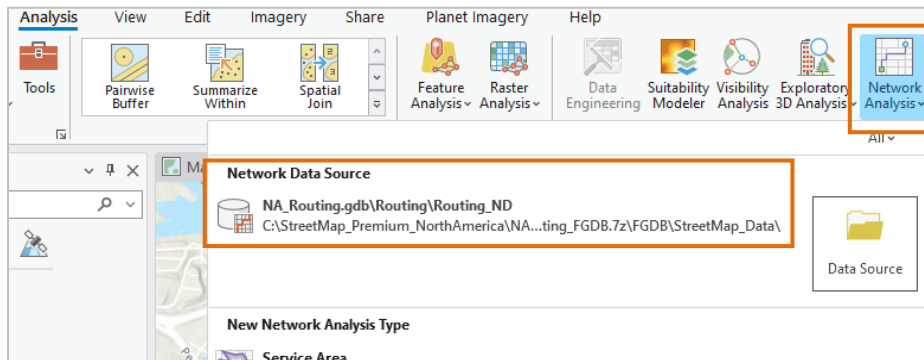CENTER FOR GEOSPATIAL TECHNOLOGIES

1.2.3. You can find the network dataset in the following directory. The example below shows the latest network dataset published in Q2, 2023. Select Routing_ND, and click on OK.

- C:\StreetMap_Premium_NorthAmerica\NA_2023R2_Routing_FGDB.7z\FGDB\StreetMap_Data\NA_ Routing.gdb\Routing\Routing_ND

1.2.3 Confirm that the selected network dataset is set as the default in the Network Analysis drop-down menu.

You are all set to perform network analysis using the locally installed ArcGIS StreetMap Premium data – North America.

If you wish to learn about Network Analyst, please refer to Esri's **tutorial**.

2. Network Analysis outside of North America

If you need to perform network analysis in countries not included in the previous list, you will need to use the routing service available on ArcGIS Online. This service consumes **credits**. For example, it consumes 0.005 credits per simple route on ArcGIS Online. Each Clemson user account has a total of 3,000 credits.

For more information on credit consumption through the network analysis, please visit Esri's ArcGIS Online Resources page and ArcGIS Pro Resources page.
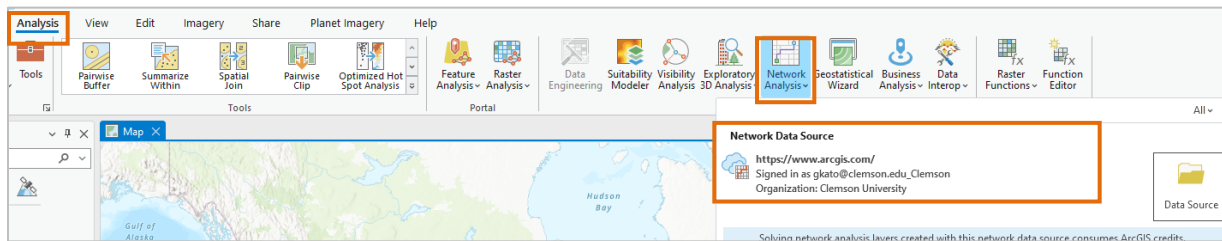
To confirm geographical coverage of the routing service on ArcGIS Online, please visit at Esri's website.

Below are the instructions on how to use the routing service available on ArcGIS Online.

2.1. Using ArcGIS Pro

You need to connect to the routing service available on ArcGIS Online through ArcGIS Pro.

2.1.1 In ArcGIS Pro, go to Analysis tab and open drop-down menu of Network Analysis. Confirm that the routing service on ArcGIS Online is set as Data Source.
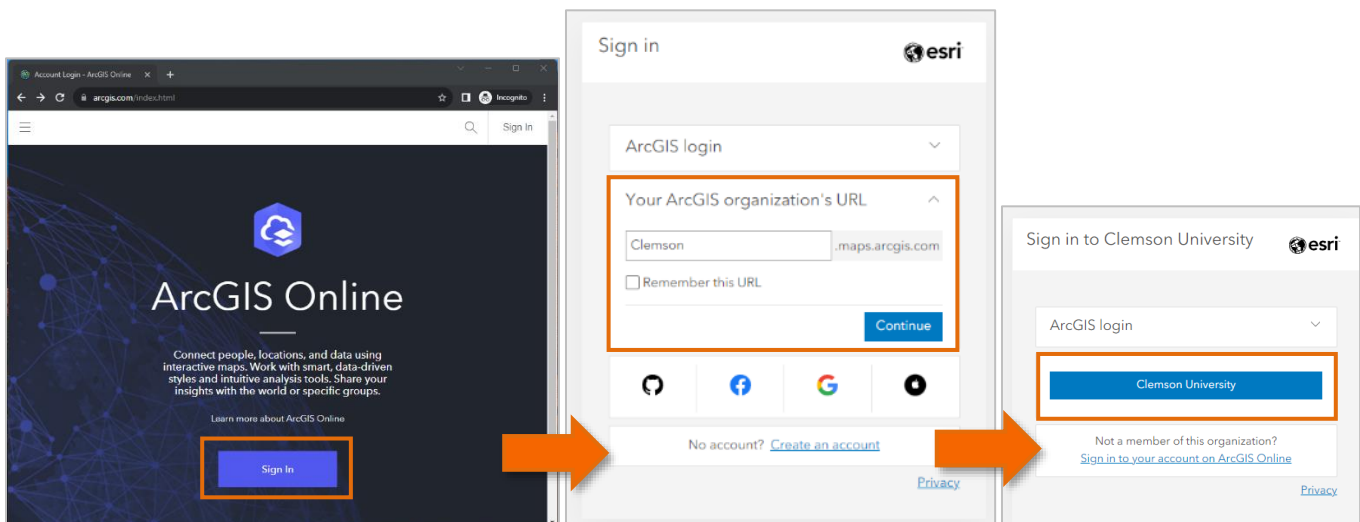

You are all set to perform network analysis outside of North America using the routing service on ArcGIS Online.

If you wish to learn about Network Analyst, please refer to Esri's **tutorial**.
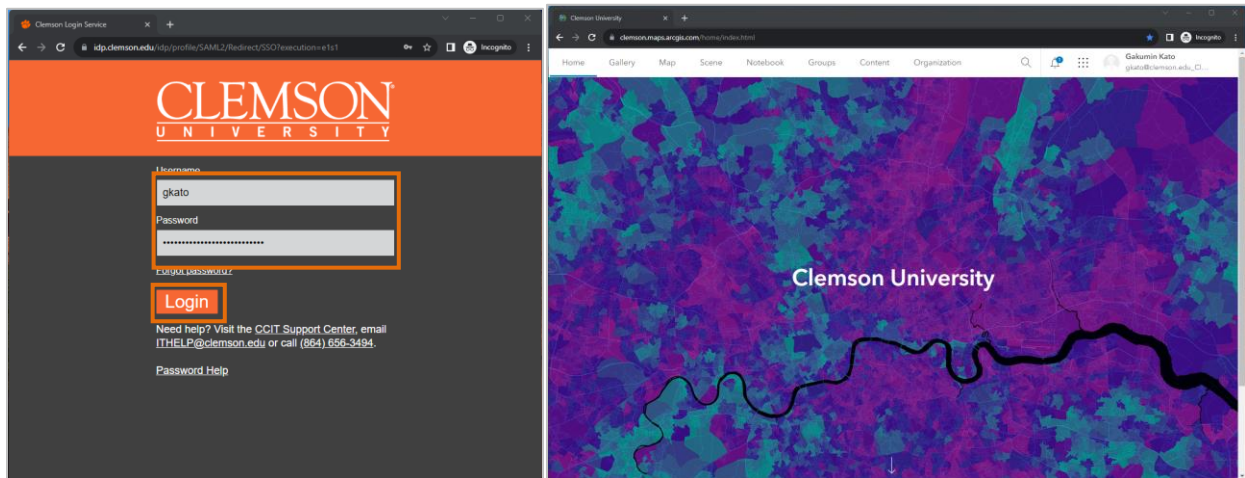
2.2. Using ArcGIS Online

2.2.1 Go to **arcgis.com** and click Sign in. Then, click on "Your ArcGIS organization's URL" at the next window.

2.2.2 You will be asked to enter Your ArcGIS organization's URL. In the box that appears, type *Clemson* and click Continue. Click on "Clemson University".
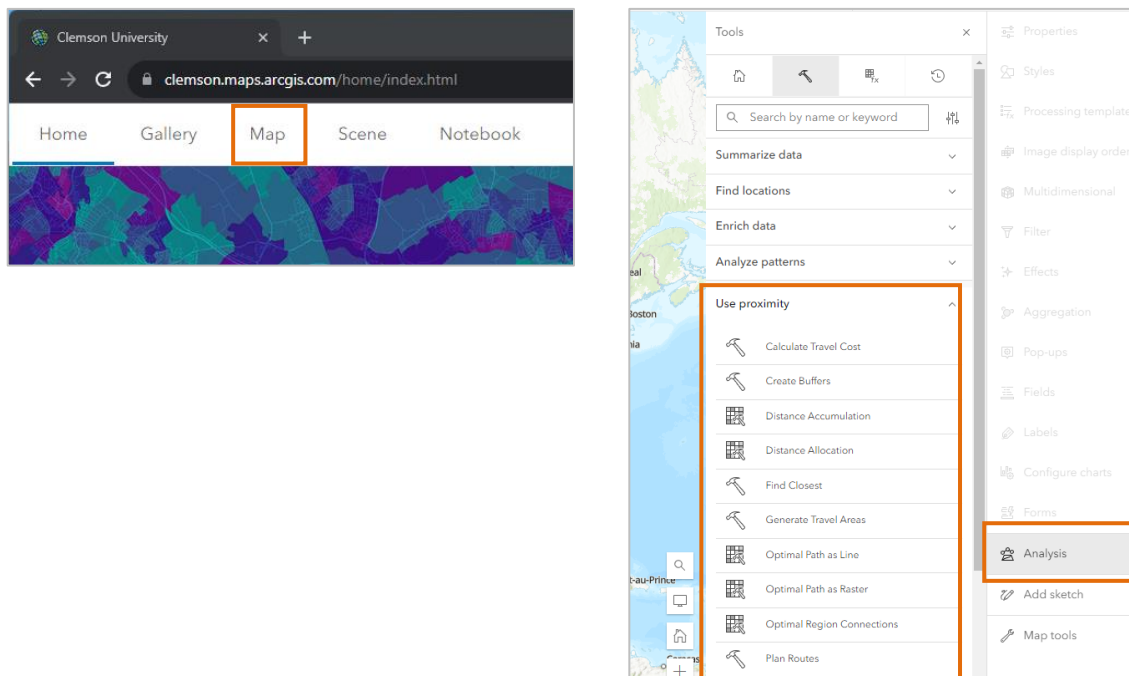
2.2.3 This will take you to a new window where you will be using your standard Clemson login. Enter your Clemson username and password and click on Login.

2.2.4 If you see the window below, that means you have successfully signed in your ArcGIS Online account.

2.2.5 Click on Map tab to open Map Viewer. You will find network analysis tools under Use proximity category in Analysis.

You are all set to perform network analysis outside of North America using the routing service on ArcGIS Online through Map Viewer.

If you wish to learn about Network Analysis tools of ArcGIS Online, please visit at Esri's Resources page.