

QGIS: Geocoding

Yale Center for Geospatial Solutions

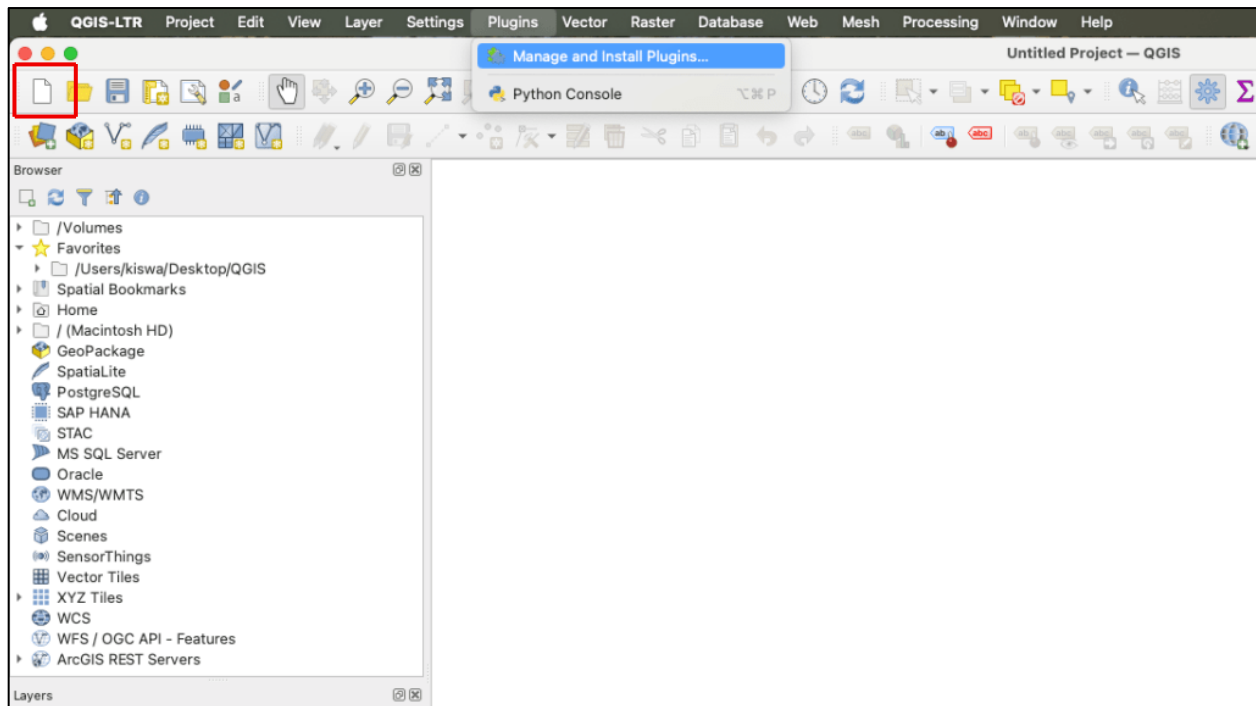
MATERIALS NEEDED: nh_businesses.csv

In this lab, you will convert a text file containing the addresses of New Haven businesses to a point feature class for mapping. All businesses in this dataset were recently established (2017-2025).

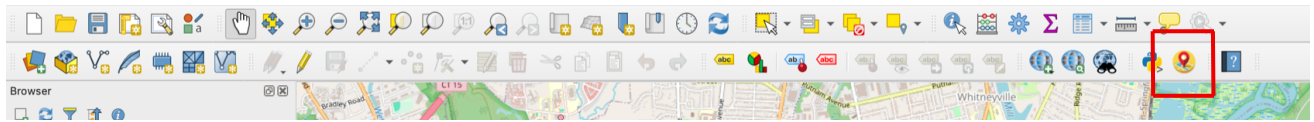
Set Up and Install Plugins

After downloading the csv file, open a new project in QGIS by clicking the white paper icon on the top left of the toolbar. To add a map, look at your Browser pane and scroll down to XYZ tiles. Choose a basemap.

To geocode, you will need to install the All Geocoders at Once plugin. Navigate to Plugins in the top menu and go to Manage and Install Plugins.



You will then search for All Geocoders at Once and click Install Plugin. The icon will appear on the top right of your toolbar.



Drag nh_businesses.csv from your files to your Layers panel. Right-click on the csv and open the attribute table. Take a moment to inspect the field (column) names and the values beneath them. You will see 325 businesses in New Haven, with fields for the address, number of employees, sales volume in dollars, and year of establishment.

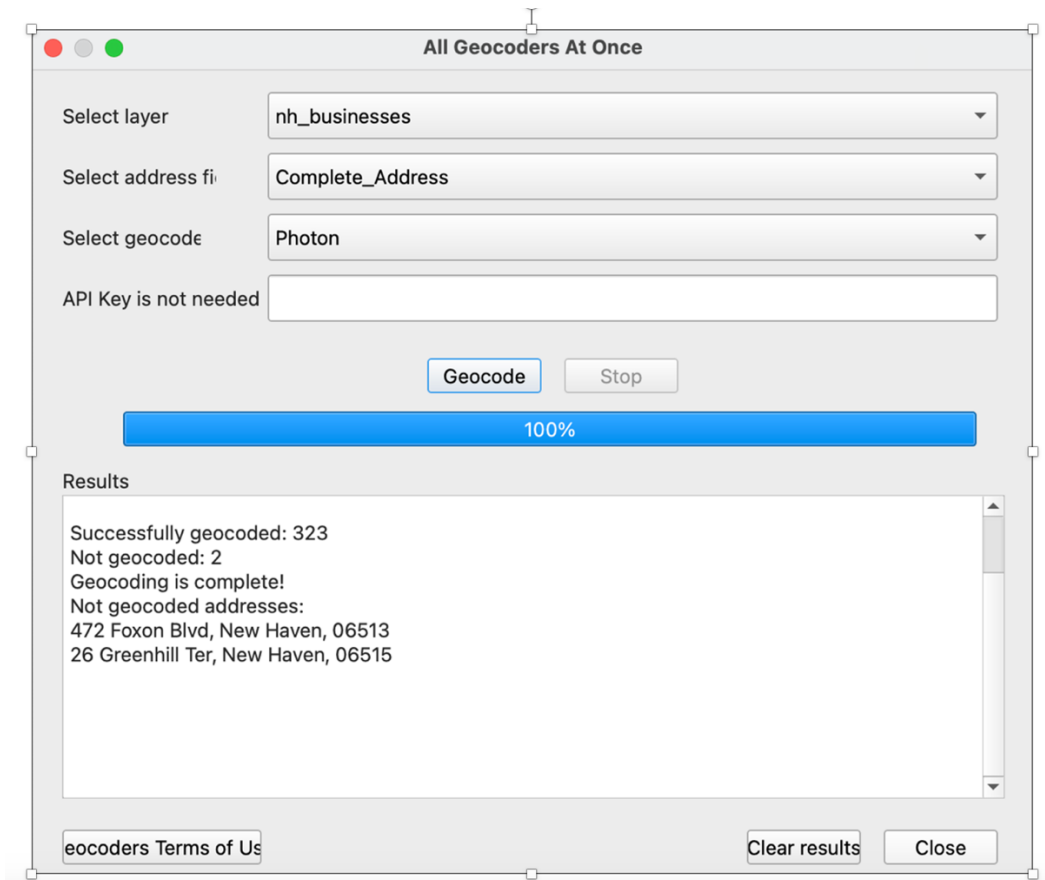
There is also a column for SIC Code, which is a 4-number government code used to identify industries by their businesses type. The most common business types within this dataset are Restaurants, Attorneys, and Beauty Salons.

Pay particular attention to the addresses. There is a column containing the full address (Complete_Address), as well as separate columns for street, city, and state.

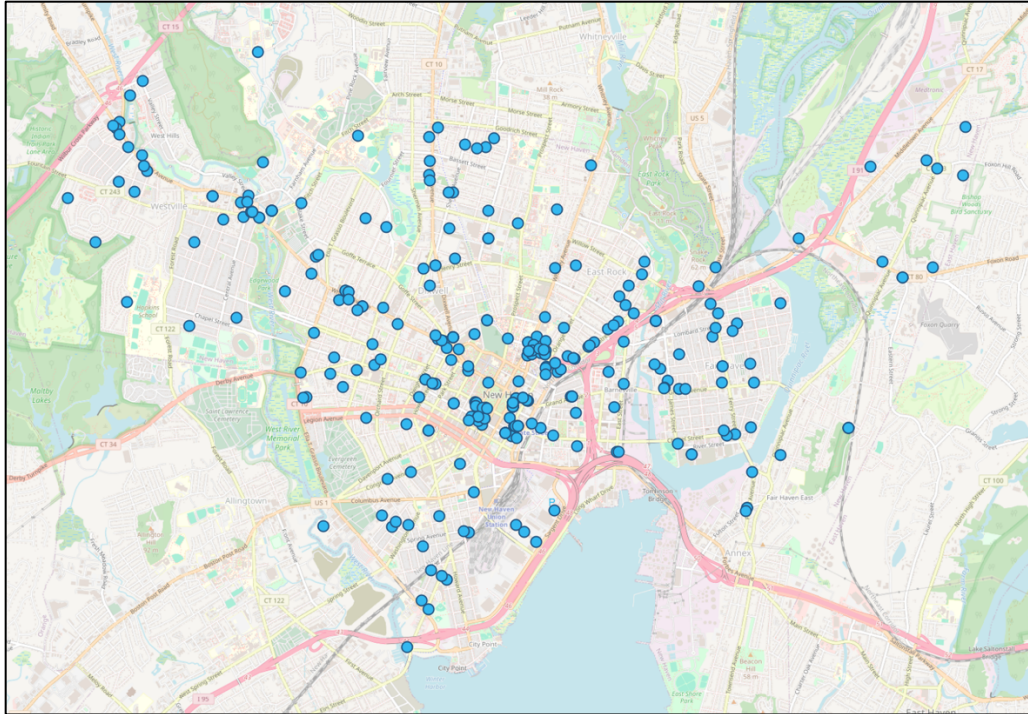
Close the table when you are finished. You are now going to add the points from the addresses to your map.

Geocode Addresses

Open the All Geocoders at Once plugin. In the popup screen, choose the nh_businesses.csv for Select Layer. Next, choose the Complete_Address column. Then, pick from the drop-down menu which Web Geocoding Service you want to utilize. Each will have their own general volume limits and terms; for this example, the Photon option will work. The API Key is required for paid services, so it's okay to leave it blank.



After you click geocode, you might have to wait a while as the more points there are the longer it will take to run. Once it is done, the pop-up will have a message at the bottom stating how many records were successfully geocoded. Here, only two addresses failed.



You should now be able to see our records visualized as points on the map. To alter the appearance of the points, right-click on your new geocoded layer and select Properties. From the left side of the pop-up menu, choose Symbology. For a quicker fix, you can also right-click on your geocoded layer and choose Styles, then Edit Symbol.

Mara Klein, adapted from Jill Kelly's ArcGIS Lab for QGIS-LTR 3.44.8 "Solothurn" – March 2026

The New Haven business data used in this lab is taken from Data Axle, 2026. Two fictional locations were added to this dataset (Elm City Hiking Gear and Connecticut Brushworks).

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