

## Geocoding

Get the latitude and the longitude of a location in IBM SPSS Modeler.



Product: IBM® SPSS® Modeler

Extension type: Process



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## Description

This SPSS Modeler node allows you to get the latitude and the longitude of an address.

## Requirements

- SPSS Modeler v16.0 or later
- SPSS Modeler 'R Essentials' plugin
- R 2.15 or R 3.1

## Installation

Close SPSS Modeler. Save the `.cfe` file in the CDB folder of the IBM SPSS Modeler installation directory for Windows and Linux. The copy should reside in that same folder and not in a sub-folder.

For example, for Windows 7 the default location is "*C:\ProgramData\IBM\SPSS\Modeler\16\CDB*".

Restart SPSS Modeler: the node will now appear in the Field Ops palette.

## R Packages used

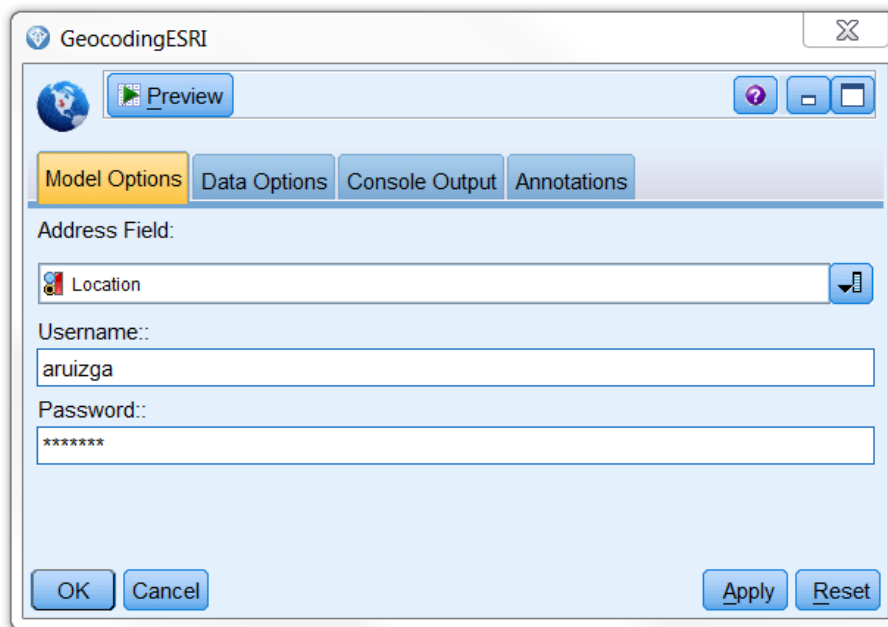
The R packages will be installed the first time the node is used as long as an Internet connection is available.

- 'plyr' author : Hadley Wickham <http://cran.r-project.org/web/packages/plyr/plyr.pdf>
- 'RCurl' author : Duncan Temple Lang <http://cran.r-project.org/web/packages/RCurl/RCurl.pdf>
- 'RJSONIO' author : Duncan Temple Lang <http://cran.r-project.org/web/packages/RJSONIO/RJSONIO.pdf>



## User interface

Double click on the 'Geocoding' node.



Now select the field containing the addresses you would like to get the latitude and the longitude.

Add an output node after the 'Geocoding' node in order to visualize the latitude and the longitude that match each address.



## Result example

Import the data CrimeDataChicago.csv in SPSS using the 'Var. File' source node.

You can then connect it to the 'Geocoding' node and select the field "Location".



After running this stream, the table provides the latitude and the longitude of each address in the last two columns.

Index	Race	Name	Cause	Story url	Location	field13	Latitude	Longitude
1	Black	David Garrett	Gunshot	http://www.chicagobreakingnews.com/2009/03/murder-charges-new-years-day-chicago-near-west-side.html	100 N. Green St. Chicago	IL	41.883	-87.649
2	Black	Josuan Miller	Gunshot	http://www.chicagobreakingnews.com/2009/01/man-shot-in-vehicle-on-far-south-side.html	11300 S. Racine Ave. Chicago	IL	41.688	-87.652
3	Black	Famous Ware	Gunshot	http://www.chicagobreakingnews.com/2009/01/man-found-shot-to-death-in-vehicle.html	2100 E. 68th St. Chicago	IL	41.772	-87.574
4	Black	Xavier Lawrence	Gunshot	http://www.chicagobreakingnews.com/2009/01/man-shot-dead-south-side.html	9200 S. Dobson Ave. Chicago	IL	41.727	-87.599
5	White	David Hresi	Gunshot	http://www.chicagobreakingnews.com/2009/01/man-shot-dead-on-south-side-1.html	5900 S. Springfield Ave. Chicago	IL	41.786	-87.721
6	Black	Aaron Blanton	Gunshot	http://www.chicagobreakingnews.com/2009/01/shooting-south-side-homicide-bronzville.html	5000 S. Wabash Ave. Chicago	IL	41.804	-87.624
7	Black	Tracy Barnard Hughes	Gunshot	http://www.chicagobreakingnews.com/2009/01/man-found-fatally-shot-in-trunk-of-vehicle.html	8900 S. Halsted St. Chicago	IL	41.732	-87.644
8	Black	Ronnie L. Gibbs	Gunshot	http://www.chicagobreakingnews.com/2009/01/south-side-shooting-homicide.html	6500 S. Western Ave. Chicago	IL	41.775	-87.684
9	Black	Greg Bryant	Stabbing	http://www.chicagobreakingnews.com/2009/01/rodney-bryant-greg-stabbed-sacramento.html	6200 S. Sacramento Ave. Chic...	IL	41.781	-87.699
10	White	Bree Gregory	Strangling	http://www.chicagobreakingnews.com/2009/01/womans-body-found-on-southwest-side.html	4600 S. Drake Ave. Chicago	IL	41.810	-87.712
11	Black	Luke Delaney	Stabbing	http://www.chicagobreakingnews.com/2009/01/man-fatally-stabbed-in-west-parfield-park.html	3700 W. Lexington St. Chicago	IL	41.872	-87.718
12	Black	Nova Henry	Gunshot	http://www.chicagobreakingnews.com/2009/01/woman-infant-found-slain-on-south-side.html	0 W. 15th St. Chicago	IL	41.862	-87.627
13	Black	Ava Henry	Gunshot	http://www.chicagobreakingnews.com/2009/01/woman-infant-found-slain-on-south-side.html	0 W. 15th St. Chicago	IL	41.862	-87.627
14	Black	Romon Finch	Gunshot	http://www.chicagobreakingnews.com/2009/03/police-alerts-ask-for-public-help.html	1100 W. 122nd St. Chicago	IL	41.672	-87.649
15	Black	Charles Binder	Stabbing	http://www.chicagobreakingnews.com/2009/01/man-charged-in-brothers-killing.html	2000 W. 70th Pl. Chicago	IL	41.766	-87.674
16	White	Michael Enriquez	Gunshot	http://www.chicagobreakingnews.com/2009/01/man-found-fatally-shot-in-pilsen-alley.html	1600 S. Loomis St. Chicago	IL	41.860	-87.662
17	Black		Gunshot		8100 S. Houston Ave. Chicago	IL	41.748	-87.551
18	Black	Ronald Hampton	Gunshot	http://www.chicagobreakingnews.com/2009/01/2-found-slain-in-south-side-apartment.html	6800 S. Indiana Ave. Chicago	IL	41.771	-87.621
19	Black	James Smith	Gunshot	http://www.chicagobreakingnews.com/2009/01/2-found-slain-in-south-side-apartment.html	6800 S. Indiana Ave. Chicago	IL	41.771	-87.621
20	Black	Darcell Frazier	Stabbing	http://www.chicagobreakingnews.com/2009/02/1m-bail-in-west-pullman-slaying.html	12200 S. State St. Chicago	IL	41.672	-87.623



## Important links

### Learn

- Learn more about [SPSS software](#).
- Visit [developerWorks Business analytics](#) for more technical analytics resources for developers.
- [The Comprehensive R Archive Network](#) is the main site for the R project and each R package. The help pages and manuals that are associated with `optimx`, `nlmrt`, and `Rcgmin` are detailed. Numerous references are provided.
- Read "[Do I need to learn R?](#)" (Catherine Dalzell, developerWorks, September 2013) to learn why R is a valuable tool for data analytics that was expressly designed to reflect the way that statisticians think and work.
- "[Calling R from SPSS](#)" describes how to use R code inside IBM SPSS Modeler 16.
- Explore [ArcGIS Online](#) mapping to discover how to visualize and geospatially analyze your IBM SPSS data, set up an account, and explore Esri's global map, demographic, and business library.
- Read "[Create new nodes for IBM SPSS Modeler 16 using R](#)" to learn how to create new extensions easily.

### Get products and technologies

- Download the [R plug-in for SPSS](#) plugin.
- Obtain a [free Esri ArcGIS Online](#) trial subscription

### Discuss

- Visit the [IBM SPSS Community](#) to share tips and experiences with other IBM SPSS developers.
- Follow [developerWorks on Twitter](#) to be among the first to hear about new resources.
- For creative ways to display and tell stories about your IBM SPSS map data, visit [Storymaps.arcgis.com](#)