

IMPORT SHAPEFILE

After completing this exercise you'll know how to

- Add a custom polygon provider to your Viya installation
- Reduce the granularity of the shapes to improve performance (or even make it show up in VA for large shapefiles)
- Use the custom polygon provider to visualize data on a map
- Identify the projection of a shapefile

1. Investigating the content of a shapefile

1. A shape file is a format for storing geometric location and associate attribute information. The format of a shape file is a number of detailed files stored in the same folder or zip-file. The minimum requirements to make up a shape file is a .shp, a .shx and a.dbf file. The shp file stores the actual shapes, the shx holds an index and the dbf file holds attributes for each shape. You can read more about shapefiles here: <https://en.wikipedia.org/wiki/Shapefile>
2. A shapefile can be obtained in various ways. It can be that your organization has a department that produces shapefiles, or you can buy them from various vendors and finally there are online sites where you can download shapefiles under specific usage terms.
3. The shape file used in this exercise is downloaded from the AdminVector Administrative Maps of Belgium.

<http://www.ngi.be/NL/NL1-5-2.shtm> for Municipalities in both 2015 and 2019 (latest version).

De administratieve kaart van België, vectorversie (Adminvector)

▪ Korte beschrijving

AdminVector is een vectordataset die de meest geometrisch nauwkeurige en semantisch gedetailleerde administratieve vectordata van het NGI bevat. De gegevens zijn afkomstig van de topografische inventaris van het Belgische grondgebied die door het Nationaal Geografisch Instituut wordt opgebouwd en bijgehouden. De dataset bevat 12 objectklassen met betrekking tot statistische sectoren, deelgemeenten, gemeenten, arrondissementen, provincies, gewesten en de lands- en zeegrenzen van België. De geometrie van de gegevens van al deze thema's wordt beschreven door x,y- of x,y,z-coördinaten.

| Gratis downloaden

AdminVector 2019 Lambert 72 : [Shapefiles](#)
AdminVector 2019 Lambert 2008 : [Shapefiles](#)
AdminVector 2019 WGS84 : [Shapefiles](#)

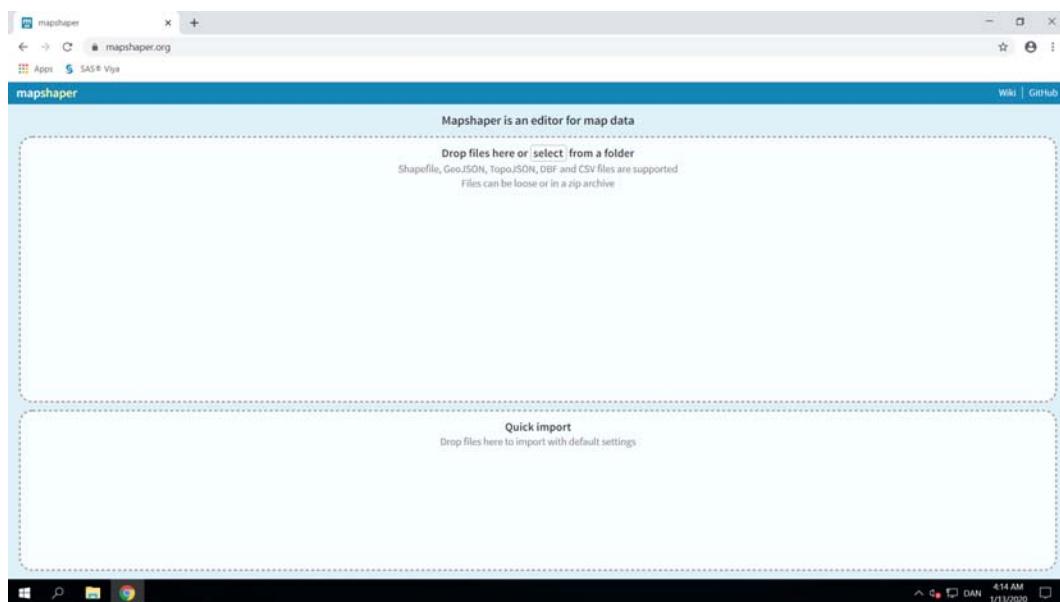
The default projection in Belgium is Lambert 2008. But SAS Visual Analytics uses WGS84 by default.

The Belgmap2019New files can be downloaded from my dropbox folder using this URL:

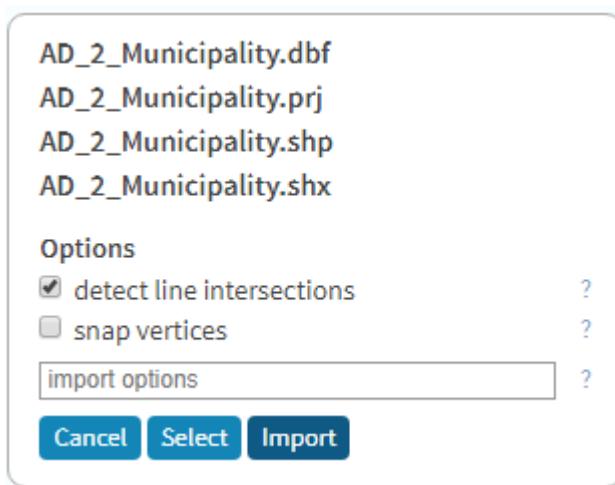
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<https://tinyurl.com/yx9ojsmb> do a direct download and then move the files to your d:\workshop folder.

4. To investigate a shapefile you can use an online shapeviewer, here we are going to use mapshaper.org.
5. Login to the SAS Visual Analytics RACE environment as described in the general login instructions.
6. Open a browser and type in the URL mapshaper.org.

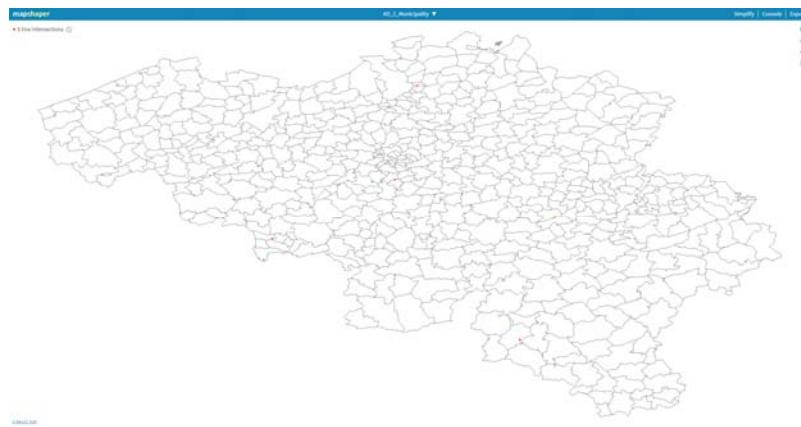


7. Press the select button and browse to D:\Workshop\belgmap\AdminVector_2015_WGS84_shp, here you'll find 4-6 files for each Administrative Level. Select all of them and press Open.
8. In the next pop-up, press Import

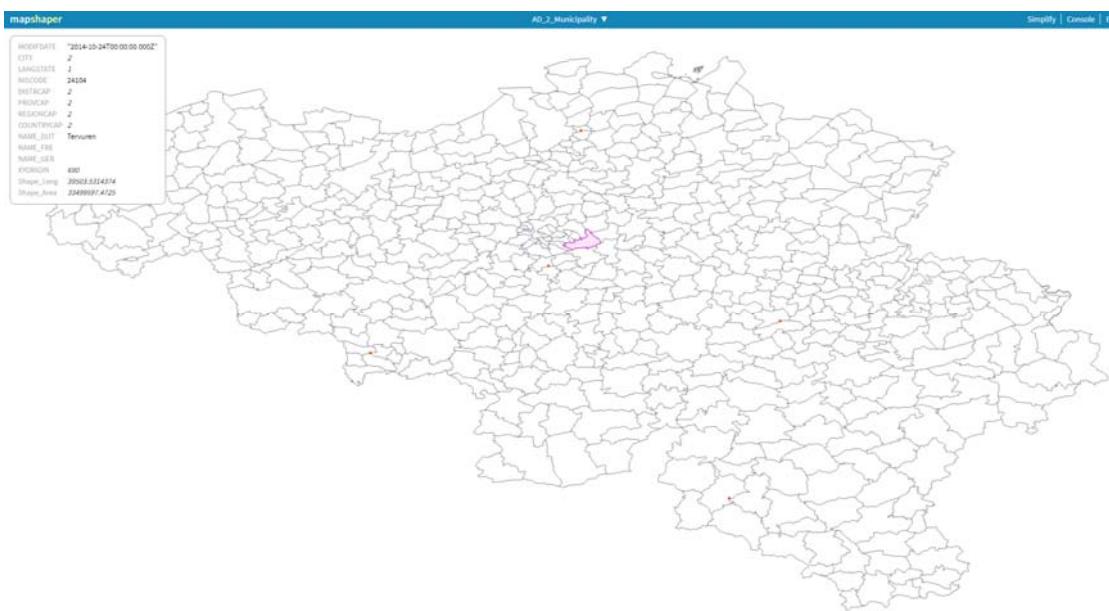


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9. You should now see something like this, which is the borders of the different municipalities in Denmark.



10. Press the icon on the right-hand side to have information about each shape presented when selecting a shape.



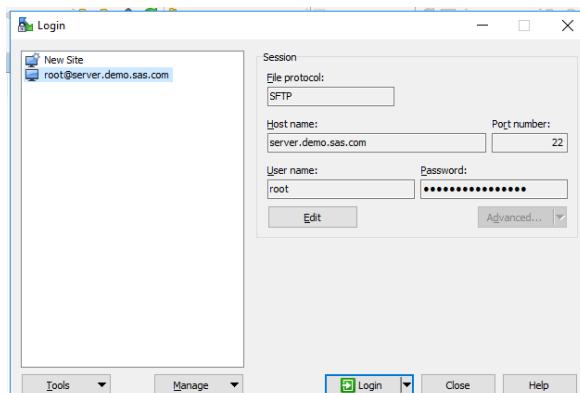
11. In this file the NisCode and the NAME_DUT, FRE, GER are the interesting attributes that we can use to match a real-life municipality to the shapes in the file.

12. Try to open another browser tab and only import the dbf or the shp file in the [mapshaper.org webpage](http://mapshaper.org) and inspect the result. Here you'll clearly see the types of information stored in the

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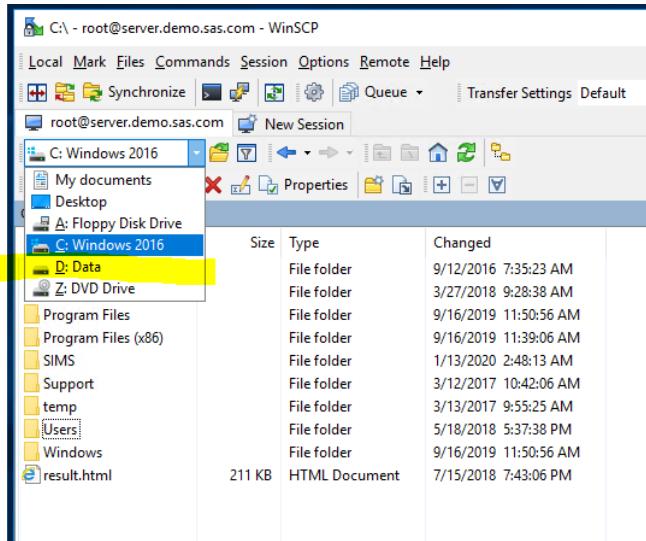
two files. You'll see that the dbf file does not contain any shape information, whereas the shp files does not contain any information besides the shapes.

13. Each shape is made up of several points, which the application that visualize the shape file, connects with lines to make up the shape. The order the coordinates should be connected is the order they are found in the shape file.
14. To make these shapes available in VA we must import the shape information into a dataset in cas and then tell cas how to interpret the shape data. That is which coordinate make up the shape and in which order they should be connected. This process is known as defining a custom polygon provider.
15. As described in the Administration Guide
<https://support.sas.com/documentation/onlinedoc/viya/3.4/AdminDoc34.pdf> on page 161, SAS institute two SAS macros available for investigating and importing a shape file.
 - %SHPCNTNT displays the contents of the specified shapefile.
 - %SHPIMPRT converts a shapefile into a SAS data set and loads it into CAS.
16. The macros can be run in any SAS Client. We will be using the SAS Studio web application available in the Viya environment. To do this we have to move the shapefiles to the Viya server.
17. In this environment we will be using WinSCP. Open WinSCP and press Login to login as root



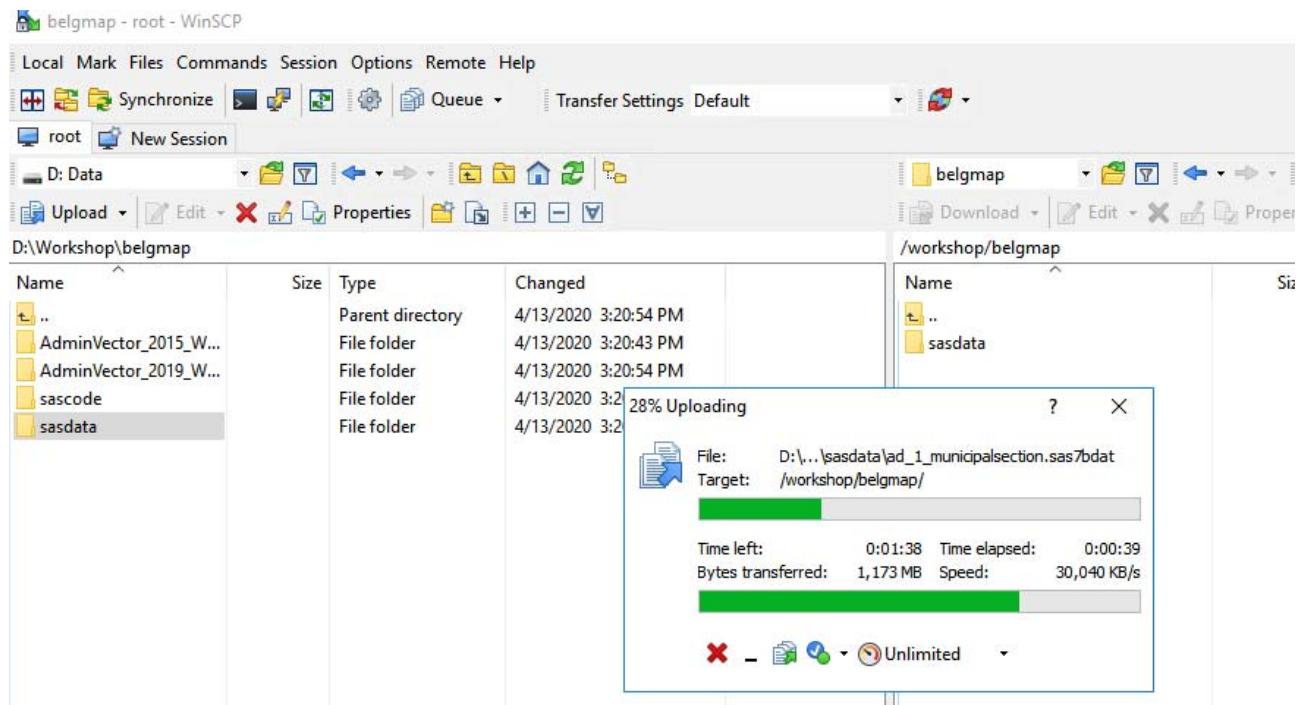
18. In the left side navigate to D-drive by pressing the drive drop down

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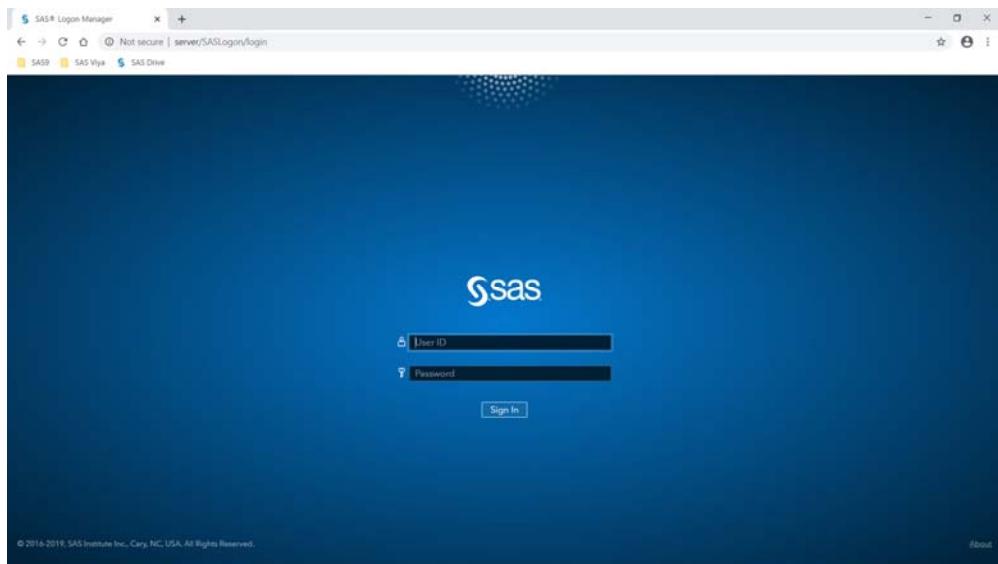
19. Then navigate to the shapefile folder and down into the dkmunicipality folder to see all the extracted shapefiles. At the right hand side, navigate to the **/workshop/belgmap/AdminVector_2015_WGS84_shp** folder, this is a temporary folder created to store the shapefiles at the server. It can be any folder where you have the permission to write to.

20. Drag and drop the content of the belgmap folder from the left side to the right side of WinSCP



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21. Open a new browser window and press the SAS Drive bookmark. We need a user that can run SASStudio and are a member of SAS Administrators (as they have access to defining custom polygon providers).
22. Login using the credentials of Christine.

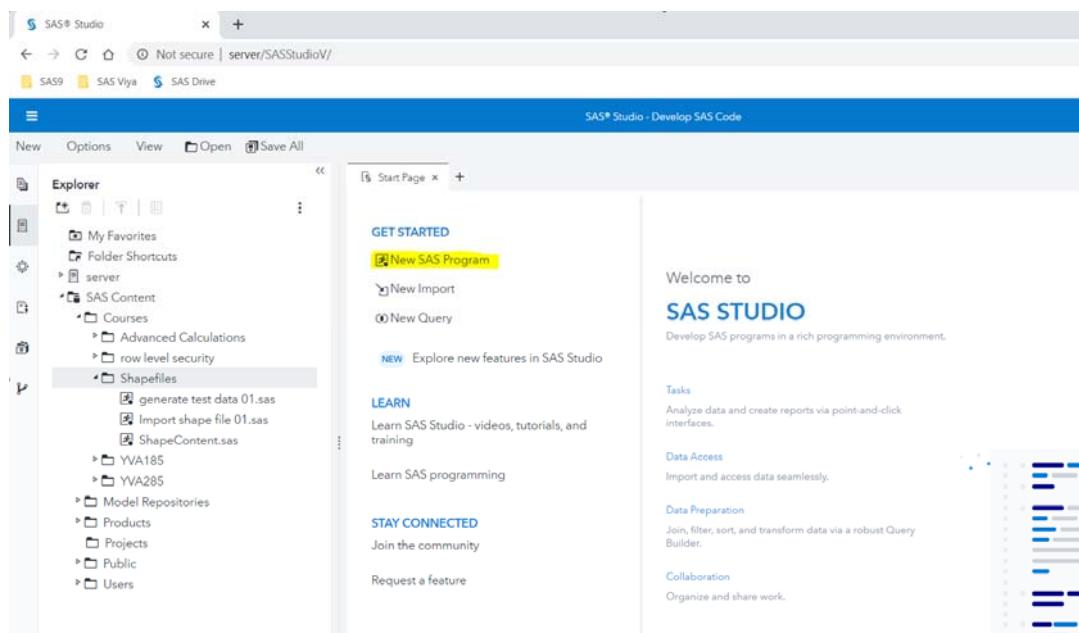


23. Press yes when prompted to assume the administrator role. This is needed as we need to create a caslib to store the shape data in and it is also needed to be able to create the Custom Polygon Provider with-in SAS Visual Analytics.
24. Open SAS Studio by clicking the burger menu in the upper left corner and select Develop SAS Code option.



25. Press the New Program

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26. In the program window type in the command to run the shape content macro

```
%SHPCNTNT(SHAPEFILEPATH=/workshop/belgmap/AdminVector_2015_WGS84_shp/AD_2_Municipality.shp);
```

27. Run the program by pressing F3 (make sure your cursor is positioned in the code part of the screen) or the Run button.

28. The log should contain no errors

A screenshot of the SAS Studio code editor and log viewer. The code editor at the top shows the command: %SHPCNTNT(SHAPEFILEPATH=/workshop/belgmap/AdminVector_2015_WGS84_shp/AD_2_Municipality.shp);. The log viewer below shows the execution results:

```
Apr 13, 2020, 3:51:20 PM :  
Log Output Data  
Errors (0) Warnings (0) Notes (2)  
NOTE: The data set WORK.TEMP has 1415507 observations and 17 variables.  
NOTE: PROCEDURE MAPIMPORT used (Total process time):  
  
1 %studio_hide_wrapper;  
82 %SHPCNTNT(SHAPEFILEPATH=/workshop/belgmap/AdminVector_2015_WGS84_shp/AD_2_Municipality.shp  
Content of the Input file  
Input filename: /workshop/belgmap/AdminVector_2015_WGS84_shp/AD_2_Municipality.shp  
List of Fields and Attributes  
# Field Type Width Decimals  
1 MODIDATE NUM 8 0  
2 CITY NUM 9 0  
3 LANGSTATE NUM 9 0  
4 NISCODE CHAR 254 0  
5 DISTRCAP NUM 9 0  
6 PROVCAP NUM 9 0  
7 REGIONCAP NUM 9 0  
8 COUNTRYCAP NUM 9 0  
9 NAME_DUT CHAR 50 0  
10 NAME_FRE CHAR 50 0  
11 NAME_GER CHAR 50 0  
12 XYORIGIN NUM 9 0  
13 Shape_Leng NUM 19 11  
14 Shape_Area NUM 19 11  
Number of Fields: 14  
Number of Records: 589  
NOTE: The data set WORK.TEMP has 1415507 observations and 17 variables.  
NOTE: PROCEDURE MAPIMPORT used (Total process time):  
real time 0.51 seconds  
cpu time 0.52 seconds
```

29. Note that a temp dataset has been created in work. It contains 1.563.783 observations, indicating that the shapes all together are made up of 1.563.783 coordinates.

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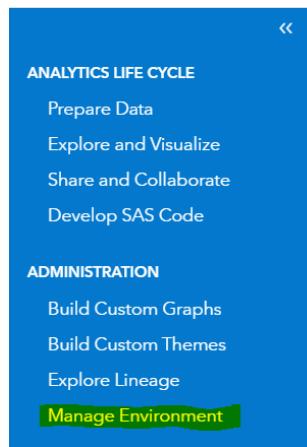
30. Select the libraries tab and navigate to the work library in the left part of the screen. Double-click the temp dataset to open it, it has all the shapes as x/y coordinates for each id. The order of the rows indicates the order the x/y coordinates should be connected to from the desired shapes. A shape can consist of multiple segments within a given ID. Segments are not connected with lines.

The screenshot shows the SAS Studio interface. On the left, the 'Libraries' panel is open, showing various datasets like MAPS, MAPSGFK, MAPSSAS, SASHHELP, SASUSER, and WORK. The 'WORKTEMP' dataset is selected and highlighted with a yellow border. In the main workspace, there is a data grid titled 'WORKTEMP'. The columns are labeled X, Y, SEG..., AREAL, DAGL..., DQ_DESCR, and DQ_POSACLV. The data grid contains 11 rows of data, with the first few rows shown below:

	X	Y	SEG...	AREAL	DAGL...	DQ_DESCR	DQ_POSACLV
1	577407.39	6301408.56	1	72424.36	389202	Manuelt Indtegnat pba. FOT/matriklen	
2	577408.35	6301417.8	1	72424.36	389202	Manuelt Indtegnat pba. FOT/matriklen	
3	577409.5	6301419.11	1	72424.36	389202	Manuelt Indtegnat pba. FOT/matriklen	
4	577416.66	6301419.91	1	72424.36	389202	Manuelt Indtegnat pba. FOT/matriklen	
5	577420.04	6301419.1	1	72424.36	389202	Manuelt Indtegnat pba. FOT/matriklen	
6	577420.8	6301418.19	1	72424.36	389202	Manuelt Indtegnat pba. FOT/matriklen	
7	577419.91	6301412.04	1	72424.36	389202	Manuelt Indtegnat pba. FOT/matriklen	
8	577419.56	6301407.98	1	72424.36	389202	Manuelt Indtegnat pba. FOT/matriklen	
9	577420.57	6301404.11	1	72424.36	389202	Manuelt Indtegnat pba. FOT/matriklen	
10	577417.79	6301401.97	1	72424.36	389202	Manuelt Indtegnat pba. FOT/matriklen	
11	577412.91	6301400.24	1	72424.36	389202	Manuelt Indtegnat pba. FOT/matriklen	

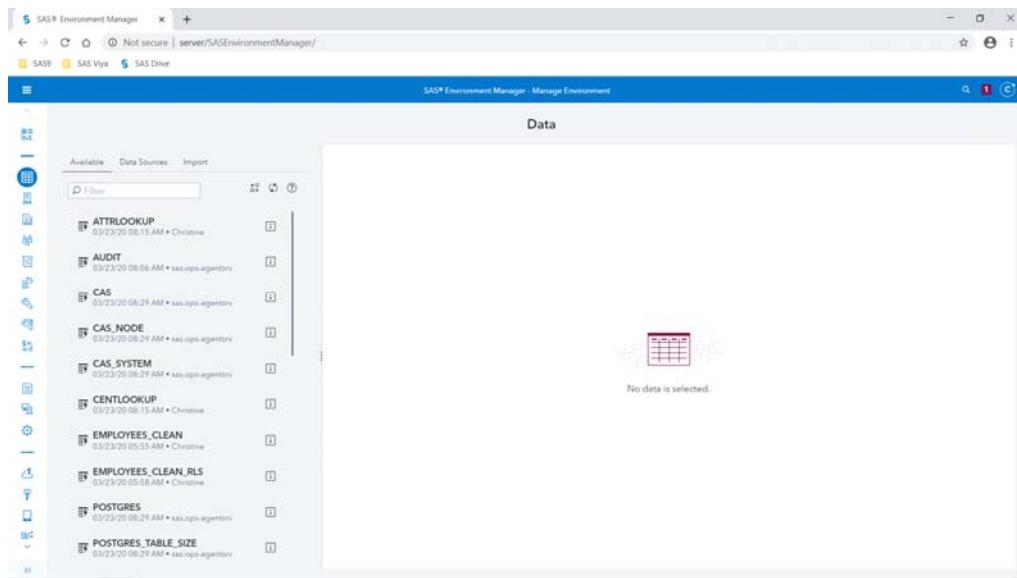
2. Import the content of a shapefile

31. When importing the shapedata we need a cas library to store the data. Open the environment Manager in the browser by clicking the burgermenu and select Manage Environment



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32. Select the data menu option

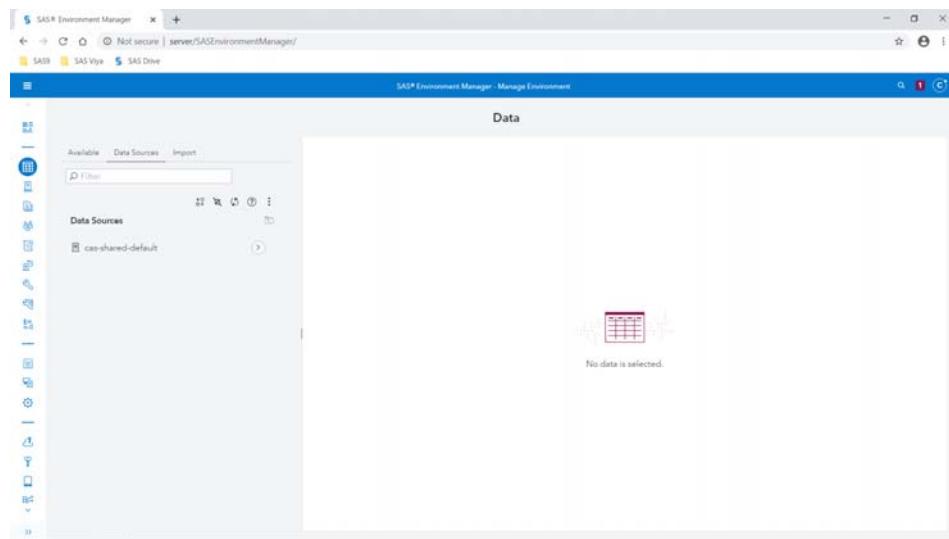


The screenshot shows the SAS Environment Manager interface. On the left, there is a sidebar with various icons. In the center, there is a main panel titled "Data". At the top of the main panel, there are tabs for "Available", "Data Sources", and "Import". Below these tabs, there is a search bar labeled "Filter" and a "No data is selected." message. A legend icon is also present. On the left side of the main panel, there is a list of data sources, each with a small icon, a name, a timestamp, and a delete icon. The data sources listed are:

- ATTRLOOKUP 03/23/20 08:15 AM • Christine
- AUDIT 03/23/20 08:08 AM • sas.ops-agentenv
- CAS 03/23/20 08:29 AM • sas.ops-agentenv
- CAS.NODE 03/23/20 08:29 AM • sas.ops-agentenv
- CAS.SYSTEM 03/23/20 08:29 AM • sas.ops-agentenv
- CENTLOOKUP 03/23/20 08:15 AM • Christine
- EMPLOYEES_CLEAN 03/23/20 05:35 AM • Christine
- EMPLOYEES_CLEAN.RLS 03/23/20 05:38 AM • Christine
- POSTGRES 03/23/20 08:29 AM • sas.ops-agentenv
- POSTGRES.TABLE_SIZE 03/23/20 08:29 AM • sas.ops-agentenv

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33. Click on Data Sources and select the connect icon



34. Fill out the window as indicated, and press SAVE.

Connection Settings

Name: *	Server:
MAPSCSTM	cas-shared-default
Type:	Source type:
File system	PATH
<input checked="" type="checkbox"/> Persist this connection beyond the current session	
<hr/>	
Settings	Advanced
Specify the PATH connection information.	
Path: *	
/workshop/belgmap/sasdata	
Description:	
<input type="checkbox"/> Include subdirectories	
<hr/>	
<input type="button" value="Test Connection"/> <input type="button" value="Save"/> <input type="button" value="Cancel"/>	

35. You can choose any name for the caslib and any path which is fit for your environment.

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36. The caslib is shown in the list of caslibs if you drill into the cas-shared-default server.

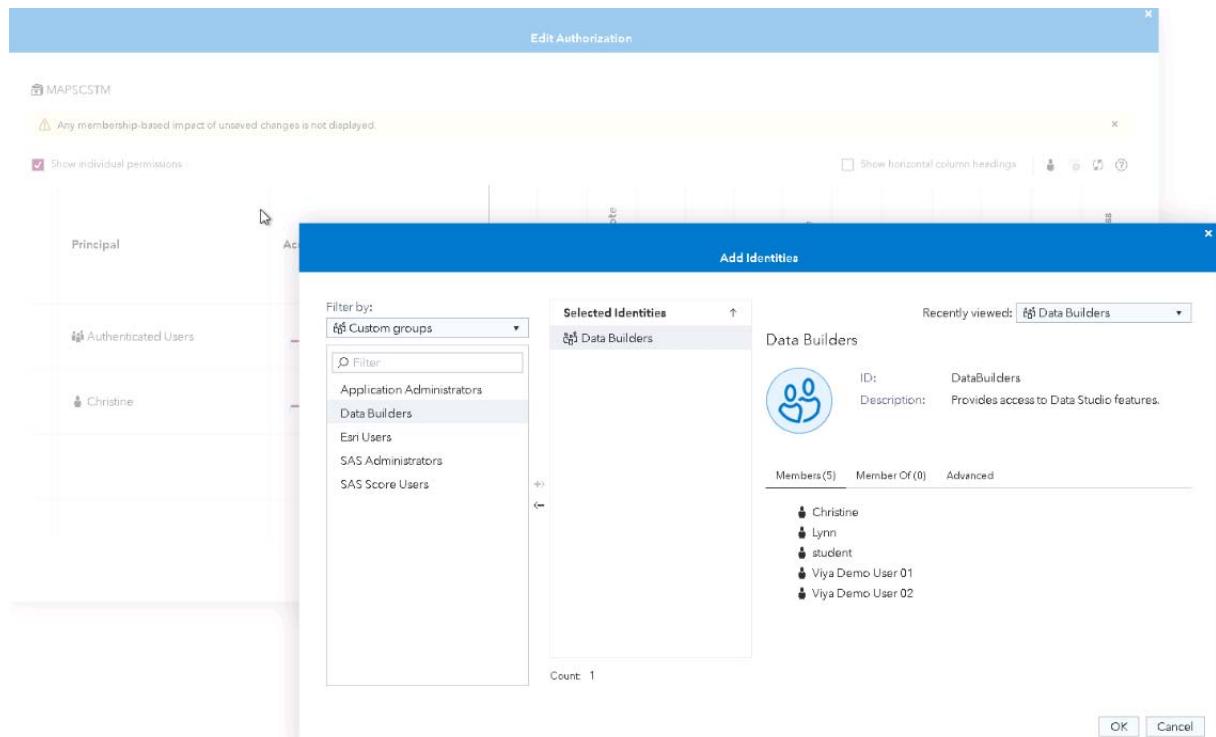
37. Usually this cas library is already created by the administrator, likewise it will have the appropriate authorization settings.

38. We will give Authenticated Users read access to this cas library to allow for them to read the imported shape data. We also need to add the Data Builders Group, to give them Write access and the SAS Administrators to grant Full Control.

Use Right Mouse Click on the CASlibrary MAPSCSTM: Edit Authorizations



Add the Group Data Builders and SAS Administrators:



Make the following changes to the Edit Authorizations:

- Authenticated Users: Grant ReadInfo and Select Permissions (or use the slider and grant Read)
- Data Builders: Grant Write (use the slider to select Write)

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- SAS Administrators: Grant Full Control (use the slider to grant Full Control)
- In a real environment, you would remove the permissions for Christine to avoid person specific permissions.

Select Save to save the permission settings:

The screenshot shows the 'Edit Authorization' dialog box for the MAPSCSTM dataset. It lists four principals: Authenticated Users, Christine, Data Builders, and SAS Administrators. Each principal has a slider indicating their access level: Read, Full Control, Write, and Full Control respectively. The table below shows the detailed permissions for each principal across various actions: ReadWrite, Select, LimitedPromote, Promote, CreateTable, DropTable, DeleteSource, Insert, Update, Delete, AlterTable, AlterColumn, and ManageAccess. Most permissions are granted (green checkmarks) except for some specific restrictions like LimitedPromote and DropTable.

Principal	Access Level	ReadWrite	Select	LimitedPromote	Promote	CreateTable	DropTable	DeleteSource	Insert	Update	Delete	AlterTable	AlterColumn	ManageAccess
Authenticated Users	Read	✓ +	✓ +	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
Christine	Full Control	✓ +	✓ +	✓ +	✓ +	✓ +	✓ +	✓ +	✓ +	✓ +	✓ +	✓ +	✓ +	✓ +
Data Builders	Write	✓ +	✓ +	✓ +	✓ +	✓ +	✓ +	✓ +	✓ +	✓ +	✓ +	✓ +	✗	✗
SAS Administrators	Full Control	✓ +	✓ +	✓ +	✓ +	✓ +	✓ +	✓ +	✓ +	✓ +	✓ +	✓ +	✓ +	✓ +

39. Now go back to the SAS Studio by clicking the burger menu and select **Develop SAS Code** once more.

40. Add an additional program in SAS studio by pressing the New Option in menu line, and open the program in SAS Content -> Courses -> Shape files -> Import shape file 01

The screenshot shows the SAS Studio code editor with the following program:

```
1 cas;
2 libname mapscstm cas caslib=mapscstm;
3 proc sql;
4 drop table mapscstm.munty2015; quit;
5
6
7 %shpimport(shapefilepath=/workshop/belgmap/AdminVector_2015_WGS84_shp/AD_2_Municipality.shp,
8 id=niscode, outtable=munty2015, cashost=server, casport=5570, caslib='mapscstm');
```

41. The first 3 lines are included if there should be a need to run the program multiple times. It will delete and imported shape file dataset before importing again.

42. Run the program. The result should resemble this.

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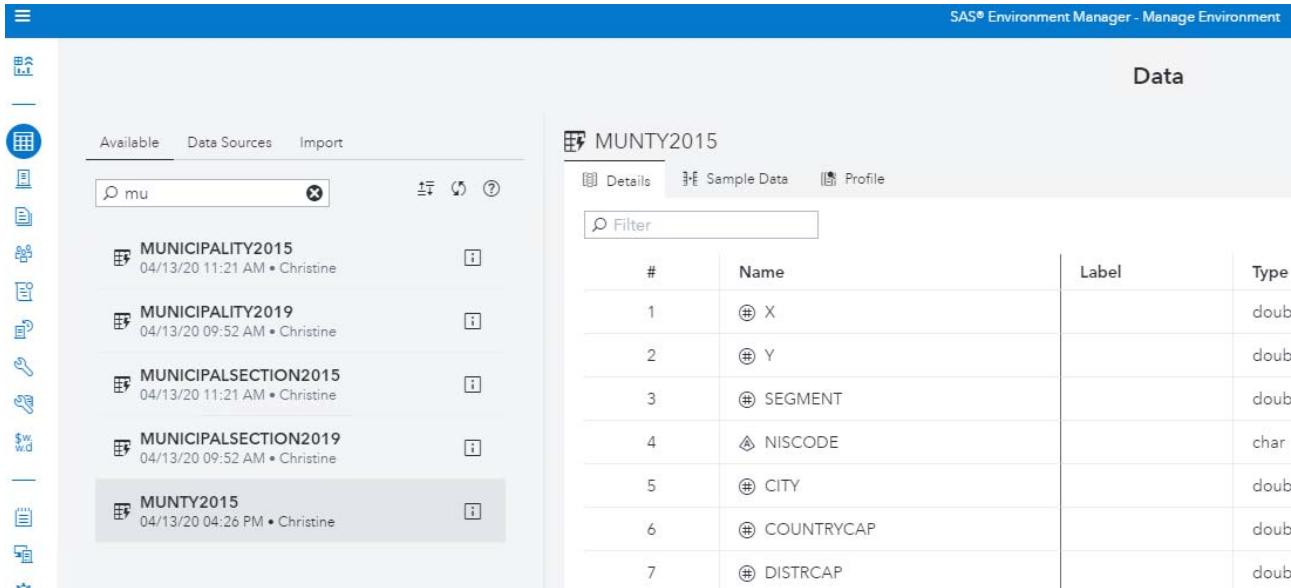
The screenshot shows the SAS Visual Analytics on Viya interface. On the left, there is a code editor window titled 'Code' containing SAS code. The code includes a CAS library assignment, a PROC SQL block, a drop table statement for 'munty2015', and an IMPORTSHAPEFILE statement. The right side of the interface displays the 'Log' tab, which shows the execution of the CASUTIL Procedure. It includes sections for 'Table Information for Caslib MAPSC...' and 'Column Information for MUNTY2015'. Below these are tables for 'Table Information for Ca' and 'Detail Information for munty2015 in Caslib MAPSC...'. The 'Table Information for Ca' table lists 'MUNTY2015' with 1415507 rows and 18 columns. The 'Detail Information for munty2015 in Caslib MAPSC...' table provides detailed statistics for all nodes, showing 1416 active blocks and 1416 data size. The 'Column Information for MUNTY2015 in Caslib MAPSC...' table lists 21 columns with their respective types, lengths, and formats.

Column	Type	Length	Formatted Length	Format Width	Format Decimal
X	double	8	12	0	0
Y	double	8	12	0	0
SEGMENT	double	8	12	0	0
NISCODE	char	254	254	0	0
CITY	double	8	12	0	0
COUNTRYCAP	double	8	12	0	0
DISTRICAP	double	8	12	0	0
LANGSTATE	double	8	12	0	0
MODIFDATE	double	8	12	0	0
NAME_DUT	char	50	50	0	0
NAME_FRE	char	50	50	0	0
NAME_GER	char	50	50	0	0
PROVCAP	double	8	12	0	0
REGIONCAP	double	8	12	0	0
Shape_Area	double	8	12	0	0
Shape_Leng	double	8	12	0	0
XYORIGIN	double	8	12	0	0
seq	double	8	12	0	0

43. Verify that there are no errors in the Log. This first time this program is submitted there will be a warning from the drop table statement indicating that the dataset does not exist. This is OK.

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44. Using the burger menu go back to the Environment Manager and verify that the Munty2015 has been loaded to the MAPSCSTM caslib. If you do not see both datasets press the refresh button 



The screenshot shows the SAS Environment Manager interface. On the left, there's a sidebar with various icons and a search bar containing 'mu'. Below it, a list of datasets is shown, with 'MUNTY2015' highlighted. On the right, the 'Data' tab is selected, displaying the 'MUNTY2015' dataset. The dataset details show 7 columns: #, Name, Label, and Type. The columns are:

#	Name	Label	Type
1	⊕ X		doub
2	⊕ Y		doub
3	⊕ SEGMENT		doub
4	△ NISCODE		char
5	⊕ CITY		doub
6	⊕ COUNTRYCAP		doub
7	⊕ DISTRCAP		doub

45. We are now done importing the shapefile.

Remarks:

- 1) Visual Analytics can only show maps with less than 250.000 data points. The map we have here has 1.4 milj data points.
- 2) The name of the Municipalities is either in Dutch, French or German. Depending on the langstate, we should select the proper name or create a bilingual combination.
- 3) The encoding of the shape files should be UTF-8 so that special characters are treated correctly.
- 4) The imported shape file contains too many columns, flags that indicate if a municipality is capital of country, district or province, if it is a city, ... these are attributes of the municipality that are not required in the map dataset.

To address these issues, I have created a special program that handles all these problems:

Select the Server>SAS Content>Shapefiles:

Choose the Upload Files button and upload the 2 programs, I have create:

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Explorer

My Favorites

Folder Shortcuts

server

Home

sasuser.viya

Belgmap_polygonload.sas

Belgmap_polygonload2015.sas

SAS Content

Courses

Advanced Calculations

Shapefiles

generate test data 01.sas

Import shape file 01.sas

Import Shape file BE.sas

Import Shape file BE.sas

ShapeContent.sas

WGS84_Belgmap_2015.sas

WGS84_Belgmap_2019.sas

Select: WGS84_Belgmap_2015.sas and WGS84_Belgmap_2019.sas:

Upload Files

Size limit for each selected file is 100 MB.

Upload to:/Courses/Shapefiles

Attachments (2)

+

 [WGS84_Belgmap_2019.sas](#)
12.7 KB



 [WGS84_Belgmap_2015.sas](#)
10.5 KB



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The code will import the Shape files for

StatisticSector, MunicipalSection, Municipality, District, Province and Region.



The screenshot shows the SAS Studio interface with the following elements:

- Toolbar: Start Page, * Program.sas, WORK.TEMP, Import Shape file BE.sas, WGS84_Belg
- Buttons: Run, Cancel, Copy to My Snippets, Undo, Redo, Find, Debug
- Code tab: Selected
- Code content (highlighted in blue):

```
1 %let path=/workshop/belgmap;
2 /*%let shapeversion=AdminVector_2019_WGS84_shp; */
3 %let shapeversion=AdminVector_2015_WGS84_shp;
4 %let version=%scan(&shapeversion,2,_);
5 %put &version;
6 cas mysession;
7
8 proc casutil ;
9 droptable casdata="StatisticSector&version" incaslib='mapscstm' quiet;
10 droptable casdata="StatisticSector&version" incaslib='casuser' quiet;
11 quit;
12
13 cas mysession terminate ;
14
15 %shpcntnt(shapefilepath=&path/&shapeversion/AD_0_StatisticSector.shp)
16
17 %include "/opt/sas/spre/home/SASFoundation/sasautos/shprduce.sas";
18
19 %shpimprt(shapefilepath=&path/&shapeversion/AD_0_StatisticSector.shp,
20           ID=NISCODE,
21           outtable=StatisticSector&version,
22           cashost=server,
23           casport=5570,
24           caslib='casuser',
25           reduce=1)
26 ****
27 /* Create a default CAS session and create SAS librefs for existing caslibs *
28 /* so that they are visible in the SAS Studio Libraries tree. *
29 ****
30
31 cas mysession;
32 caslib _all_ assign;
33
34 data mapscstm.StatisticSector&version (promote=yes replace=yes);
35 length niscode $ 9;
36 set casuser.StatisticSector&version;
37 IDNAME=NISCODE;
38
39 drop
40   modifdate shape_Area shape_leng;
41 run;
```

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3. Import Some Test Data

46. To insert some relevant data, you can download Accidents data for 2018:

https://data.gov.be/en/search/site/accidents?f%5B0%5D=ss_language%3Anl

The screenshot shows the Data.gov.be search interface. On the left, there are four filter panels: 'Dataset language' (Dutch, French, English, German), 'Geo coverage' (Belgium), 'Category' (Transport), and 'File type' (CSV). In the center, a search bar contains 'accidents'. A blue header bar says 'Not found what you're looking for?'. Below the search bar, the results for 'Verkeersongevallen 2018' are shown, including a description, metadata, and download buttons for CSV, XLSX, and Belgium.

Select the most recent data from 2018:

<https://data.gov.be/en/node/85531>

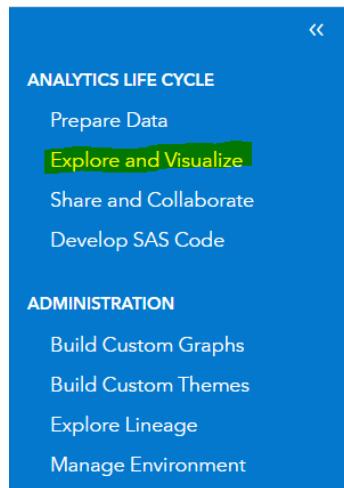
The screenshot shows the detailed view for 'Verkeersongevallen 2018'. It includes a summary box with last modified date (08/04/2020), category (Transport), file type (CSV, XLSX), and download links for 'From / till' (2018-01-01 / 2018-12-31) and 'Geo Coverage' (Belgium). Below this is a 'Publisher' section with details like Organization (FPS Economy), Author (Statbel), E-mail (statbel@economie.fgov.be), License (Statbel Open License), and Conditions (links to https://statbel.fgov.be/sites/default/files/files/opendata/Licence%20open%20data... and https://statbel.fgov.be/sites/default/files/files/opendata/Licence%20open%20data...).

Download the XLSX version of the Road accidents in Belgium:

TF_Accidents_2018.xlsx.

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47. Using the main menu, open Visual Analytics (Explore and Visualize).



Select in the Hamburger menu: Explore and Visualize:

Select the Data panel, and select Select Import Local Files>Local File

The dialog box has a blue header bar with the text 'Add to Import - Microsoft Excel File' and a close button. The main area contains the following fields and options:

- Select the worksheets to import:
 - Select all
 - TF_ACCIDENTS_2018
- Default import settings
- Target location: *
cas-shared-default/Public
- If the table already exists in the specified location:
 - Cancel import
 - Replace file
- Buttons at the bottom: Add (blue), Cancel, and a small info icon.

Finish by selecting Import Item. Then select OK.

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Import Item

TF_ACCIDENTS_2018.xlsx

Target table name: * TF_ACCIDENTS_2018

Target location: * cas-shared-default/Public

Save as an in-memory table only

If target table name exists:

Cancel import

Replace file

Label: Enter label

Format: sashdat

File Specifications Advanced

Specify a worksheet to import: TF_ACCIDENTS_2018

First row contains column names

Limit the range of imported rows and columns

4. Defining the custom polygon provider

48. Select the “Start with data” and select the test dataset TF_ACCIDENTS_2018 from the public cas library.

49. Notice there are 586 distinct values of CD_MUNTY_REFNIS and TX_MUNTY_DESCR_NL/FR.

The screenshot shows the SAS Visual Analytics Data pane. The top bar has a blue header with the title 'Editing'. Below it, the main area is titled 'Data' with a dropdown menu showing 'TF_ACCIDENTS_2018'. A search bar labeled 'Filter' is present. On the left, there's a sidebar with 'New data item' and 'Category' options. The main list under 'Data' shows the following items:

- CD_DSTR_REFNIS - 43
- CD_MUNTY_REFNIS - 586
- CD_PROV_REFNIS - 11
- CD_RGN_REFNIS - 3
- DT_DAY - 365
- TX ADM DSTR DESCRIPTOR FR - 43
- TX ADM DSTR DESCRIPTOR NL - 43
- TX BUILD UP AREA DESCRIPTOR FR - 3
- TX BUILD UP AREA DESCRIPTOR NL - 3
- TX COLL TYPE DESCRIPTOR FR - 9
- TX COLL TYPE DESCRIPTOR NL - 9
- TX DAY OF WEEK DESCRIPTOR FR - 7
- TX DAY OF WEEK DESCRIPTOR NL - 7
- TX LIGHT COND DESCRIPTOR FR - 5
- TX LIGHT COND DESCRIPTOR NL - 5
- TX MUNTY DESCRIPTOR FR - 586
- TX MUNTY DESCRIPTOR NL - 586

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50. We will use the CD_MUNTY_REFNIS variable as base for the geocoded variable.

Right click the CD_MUNTY_REFNIS variable and change the Classification from Category to Geography

Data

TF_ACCIDENTS_2018_TF_ACCIDEN... ▾

Filter

+ New data item

▼ Category

CD_DSTR_REFNIS - 43

CD_MUNTY_REFNIS - 586 ▾

Name:
CD_MUNTY_REFNIS

Classification:

Category ▾

Category FNIS - 11

Geography

NIS - 3

51. In the window: Edit Geography Item:

In the Geography Data: Select Geographic data provider

Geographic Data provider: select New

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Edit Geography Item

Name: CD_MUNTY_REFNIS

Based on: CD_MUNTY_REFNIS

Geography data:

Geographic data provider:*

Choose provider : New

Region ID:*

Choose column

Latitude (y):

Choose column

Longitude (x):

Choose column

Coordinate Space:

World Geodetic System (WGS84)

52. In the window: New Geographic Data Provider:

Enter following information:

- Name: BE_Municipality_REFNIS
- Label: BE Municipality REFNIS 2015
- Library: MAPSCSTM
- Table: Municipality2015

New Geographic Data Provider

Name:^{*}

BE_Municipality_Refnis2015

Label:^{*}

BE Municipality Refnis 2015

Type:

CAS Table

Server:

cas-shared-default

Library:

MAPSCSTM

Table:

MUNICIPALITY2015

OK

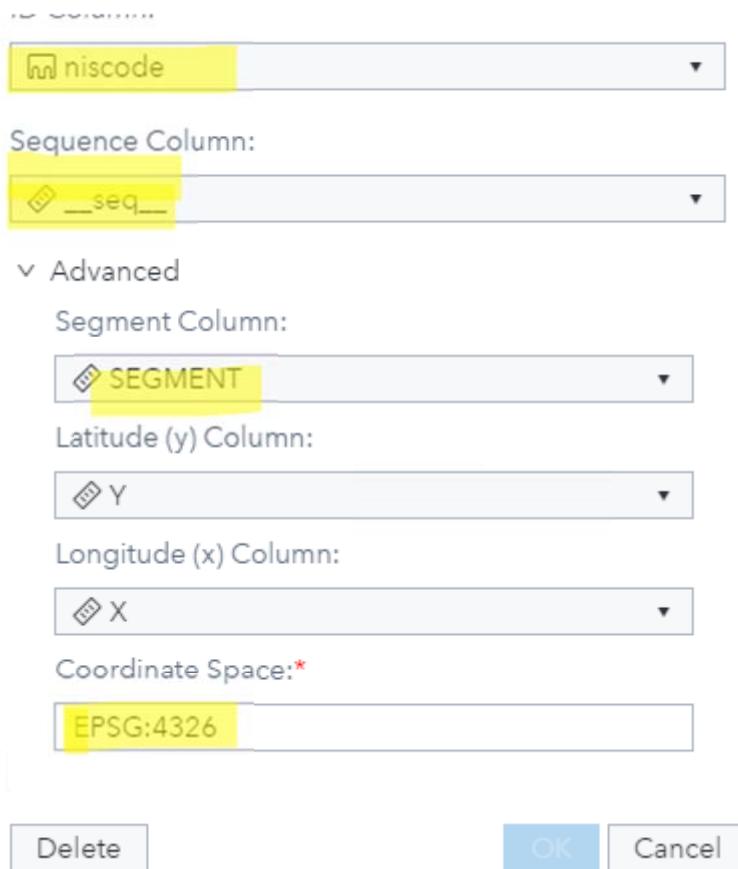
Cancel

53. Fill in additional columns:

The __seq__ column was created as part of the import process.

- ID Column: niscode
- Sequence Column: __seq__
- Advanced: Segment Column: Segment

Edit Geographic Data Provider



54. The coordinate space of your shape file can be seen in the *.prj file. Open a Windows Explorer and open the AD_2_Municipality.prj file.

A screenshot of Notepad++ showing the content of the AD_2_Municipality.prj file. The file contains a single line of text: '1 GEOGCS["GCS_WGS_1984",DATUM["D_WGS_1984",SPHEROID["WGS_1984",6378137,298.257223563]],PRIMEM["Greenwich",0],UNIT["Degree",0.017453292519943295]]'.

55. Google the GCS_WGS_1984 projection

spatialreference.org › ref › epsg › wgs-84 ▾

WGS 84: EPSG Projection -- Spatial Reference

Aug 27, 2007 - WGS84 Bounds: -180.0000, -90.0000, 180.0000, 90.0000; Projected Bounds: -180.0000, -90.0000, 180.0000, 90.0000; Scope: Horizontal ...

People also search for

X

wgs84 vs epsg:4326 wgs 84

epsg:3857 epsg:4978

epsg 4979 epsg meaning

56. This reveals that the WGS84 projection has the coordinate space EPSG:4326

The screenshot shows a web browser window with the URL spatialreference.org/ref/epsg/wgs-84/. The page title is "epsg projection 4326 - wgs 84". The main content area displays the heading "EPSG:4326" in large blue letters. Below it, there is a list of key details about the projection:

- **WGS84 Bounds:** -180.0000, -90.0000, 180.0000, 90.0000
- **Projected Bounds:** -180.0000, -90.0000, 180.0000, 90.0000
- **Scope:** Horizontal component of 3D system. Used by the GPS satellite navigation system and for NATO military geodetic surveying.
- **Last Revised:** Aug. 27, 2007
- **Area:** World

On the right side of the page, there is a sidebar containing a list of links for "Well Known Text as HTML" in various formats:

- [Well Known Text as HTML](#)
- [Human-Readable OGC WKT](#)
- [Proj4](#)
- [OGC WKT](#)
- [JSON](#)
- [GML](#)
- [ESRI WKT](#)
- [.PRJ File](#)
- [USGS](#)
- [MapServer Mapfile | Python](#)
- [Mapnik XML | Python](#)
- [GeoServer](#)
- [PostGIS spatial_ref_sys INSERT statement](#)
- [Proj4js format](#)

57. Change the coordinate space only if your Shapefiles were not stored in WGS84 or ESPG4326 projection.

Belgian Shape files can also be in Lambert 2008 projection

5. EPSG:3812

ETRS89 / Belgian Lambert 2008 ([Google it](#))

- **WGS84 Bounds:** 2.5400, 49.5100, 6.4000, 51.5000
- **Projected Bounds:** 517579.6608, 523633.8376, 797118.5854, 745328.5980
- **Scope:** Large and medium scale topographic mapping and engineering survey.
- **Last Revised:** Aug. 5, 2008
- **Area:** Belgium - onshore

58. And press OK. Now we have to select the ID variable on our validate dataset that corresponds to the ID variable in the custom polygon provider. Obviously, this is CD_MUNTY_REFNIS
Once the Geographic Data Provider is created, fill in the Region ID: to the CD_MUNTY_REFNIS.

Edit Geography Item

Name: CD_MUNTY_REFNIS

Based on: CD_MUNTY_REFNIS

Geography data: Geographic data provider

Geographic data provider:*

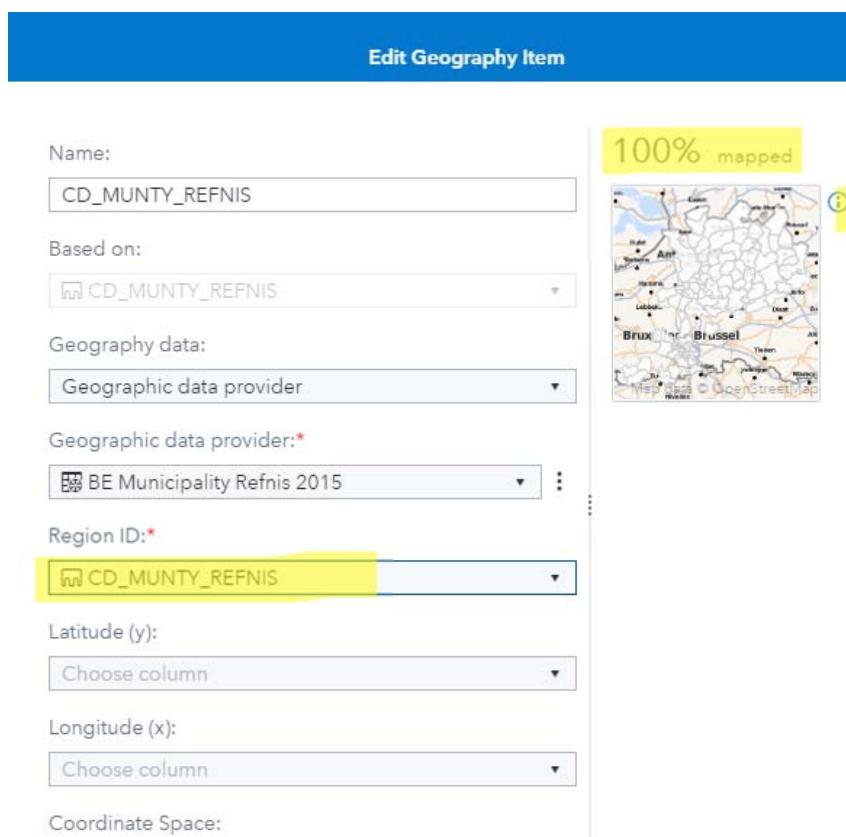
Region ID:*

Latitude (y): Choose column

Longitude (x): Choose column

Coordinate Space:

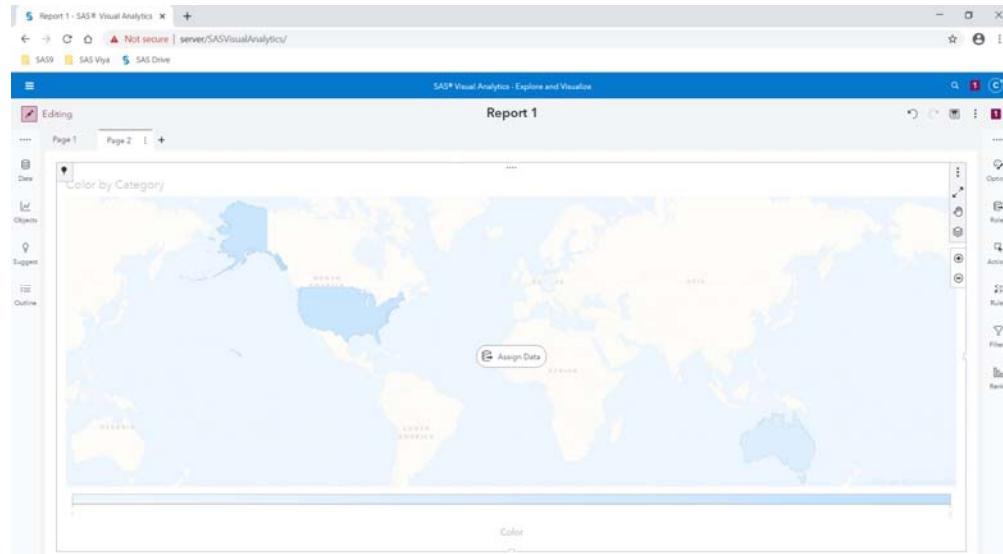
100% mapped



Visual Analytics reports that 100% values are mapped, but no shapes are drawn, this indicates a problem. Let's try to visualize the new geographic data item. Press OK.

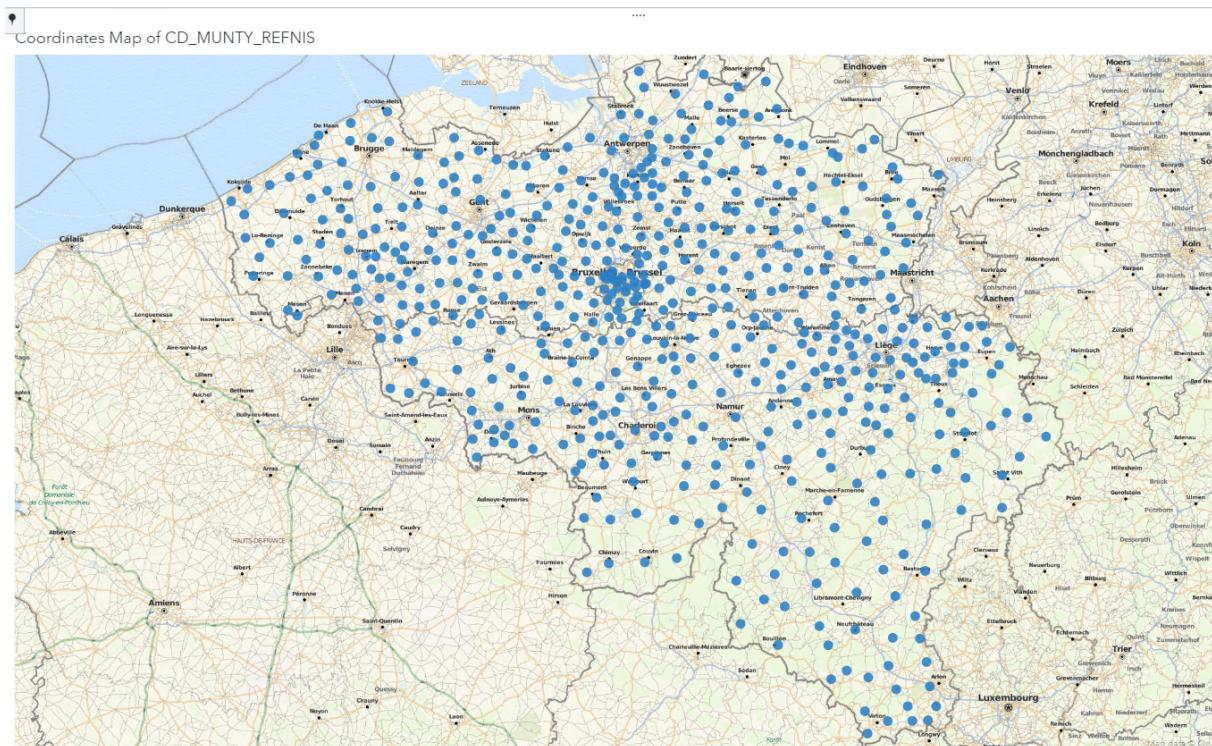
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1. Add a new page to the report by pressing + right next to Page 1.
2. Drag a Geo region object to the canvas



3. Assign the CD_MUNTY_REFNIS data item as Geography

Add the CD_MUNTY_REFNIS to the Report: Using AutoChart, the default Visualization is a Geographic Coordinate Map using Frequency as Measure.

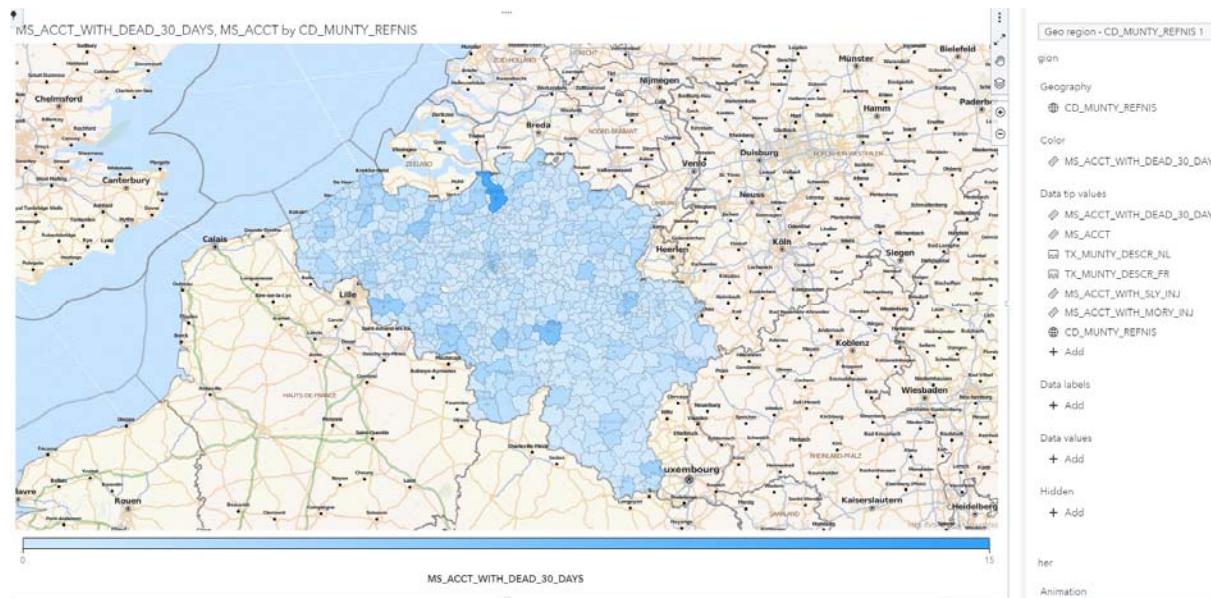


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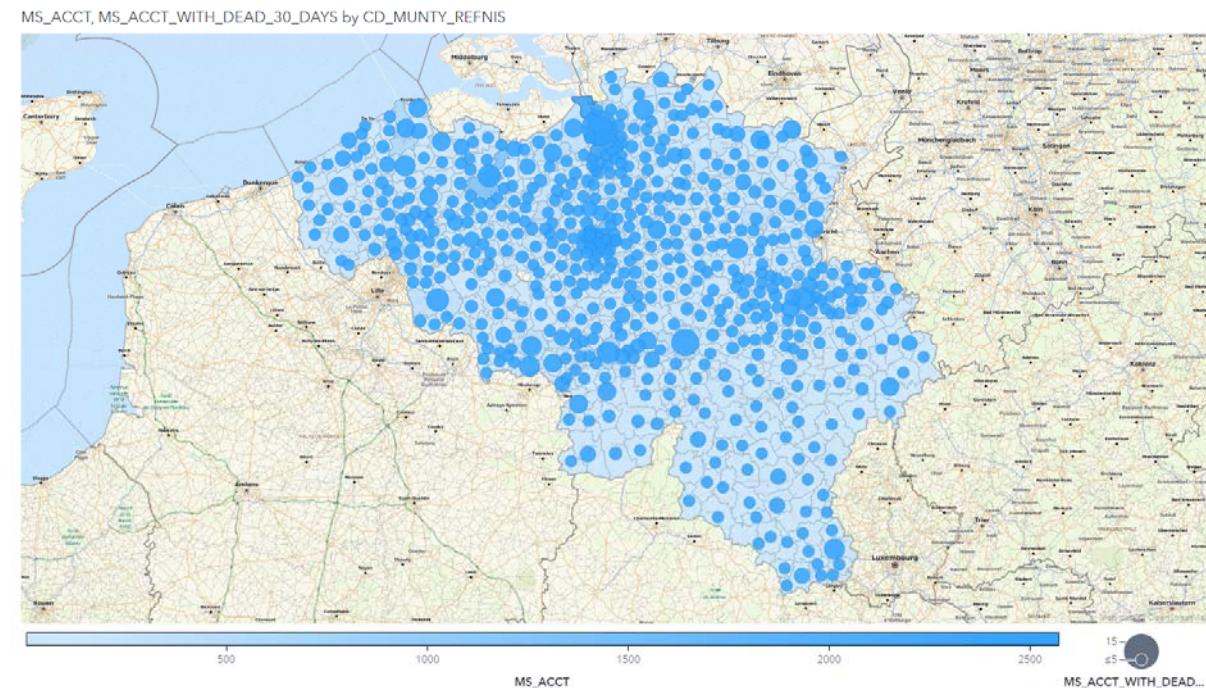
You can change the Coordinates map to a Region Map:

Select the snowman menu of the Visualisation and change it to Region Map.

And add the Measure MS_ACCT or MS_ACCT_With_DEAD_30_Days:



Finally it is also possible to use the combination of a Region and Coordinate map:



Save your report in the Public >Belgium Geo Maps

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Save your data settings as a Data View:

Save Data View

No data views

Name:
TF_ACCIDENTS_2018_RefNIS_2015

Description:
TF_Accidents_2018 with RefNis 2015 Geography Data Items

Default data view
 Shared data view

Save Cancel