

INTERNATIONAL TRAINING ON TOPONYMY MANUAL GUIDES

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BALI, INDONESIA



United Nations
Group of Experts on
Geographical Names



BADAN INFORMASI
GEOSPASIAL

MANUAL GUIDE

Gazetteer Creation

4.1 Introduction

This module will explain the tools for creating a Gazetteer directly from spatial data. The tool created is a plugin for the QGIS software, and as an alternative there is also a standalone “.exe” program.

1. Gazetteer Creator (QGIS Plugin)

This plugin was built using the “Plugin Builder” plugin in QGIS, for the user interface uses the Qt designer. The programming language used is Python 3, the libraries used in this plugin include: geopandas, pandas, FPDF, datetime, os, and math. Geopandas is used to manage spatial data, pandas is used to manage the attribute table of spatial data, FPDF is used in the function to print gazetteer to a pdf file, datetime is used to calculate dates, os is used to get file addresses/directories, and math is used to calculate numbers.

In principle, the Gazetteer Creator plugin converts spatial data on QGIS layers into a gazetteer pdf file. Inside the code there are settings for the display of the gazetteer pdf, such as cover image input, title input, header, footer, and table style.

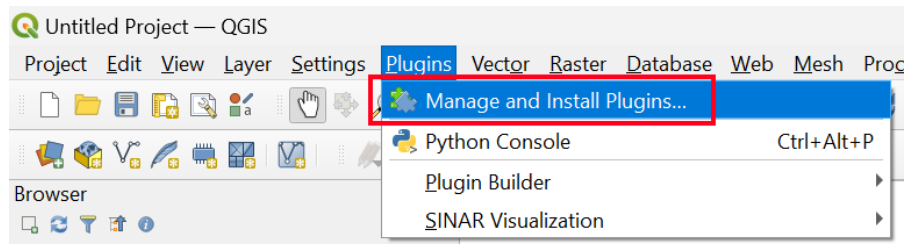
2. Gazetteer Creator (.exe)

As an alternative, a standalone “.exe” program is also built for creating gazetteers. Just like the Gazetteer Creator of the QGIS plugin, the programming language used is python 3, the libraries used are almost the same, namely geopandas, pandas, FPDF, datetime, os, and math, but the difference is that the PySimpleGUI library is also used. PySimpleGUI is used in making the user interface.

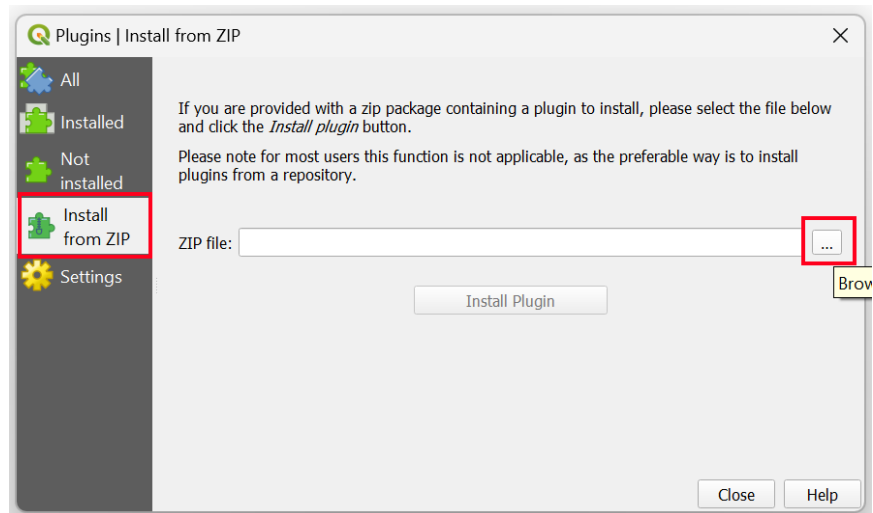
If the QGIS version inputs data from layers, in this “.exe” program we can directly select the input spatial file in .shp format to become a gazetteer pdf file. The code also contains settings for the display of the gazetteer pdf, such as cover image input, title input, header, footer, and table style. In this program there is an additional menu to display all the columns contained in the input data, and select which columns we want to print, and there is an option to change the column names if necessary.

4.2 Installments

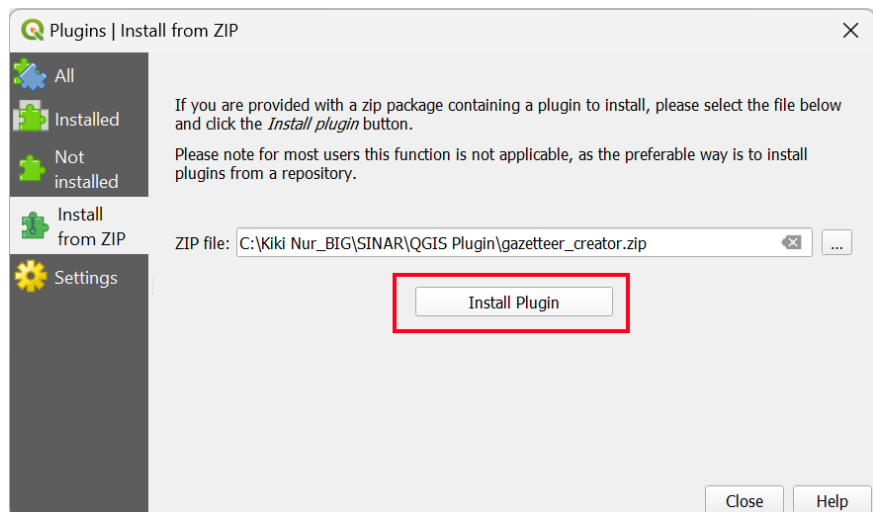
- **Installments: Gazetteer Creator (QGIS Plugin)**
 1. Download gazetteer creator plugin folder.
 2. Open QGIS, click on the Plugins menu and select Manage and Install Plugins.



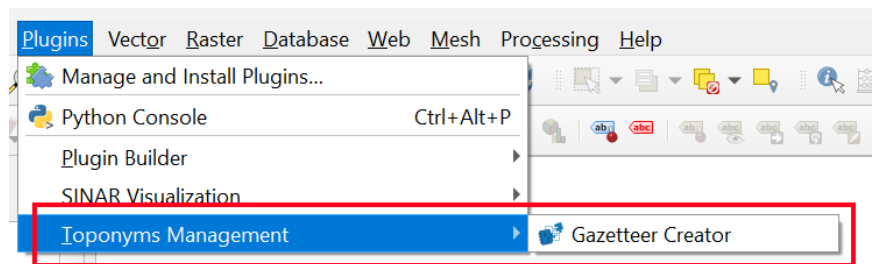
3. Select Install from ZIP, then browse the plugin folder “.zip”.



4. Click on Install Plugin.



5. The plugin will appear in the Plugins menu if it is successfully installed.



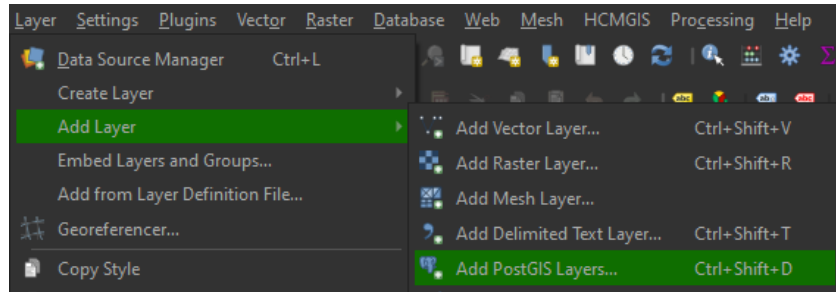
- **Installments: Gazetteer Creator (.exe)**
Gazetteer_Creator.exe does not require an installation process, just download the “.exe” file and execute it on a computer with a Windows operating system (recommended Windows 10 or later).

4.3 How To Create A Gazetteer

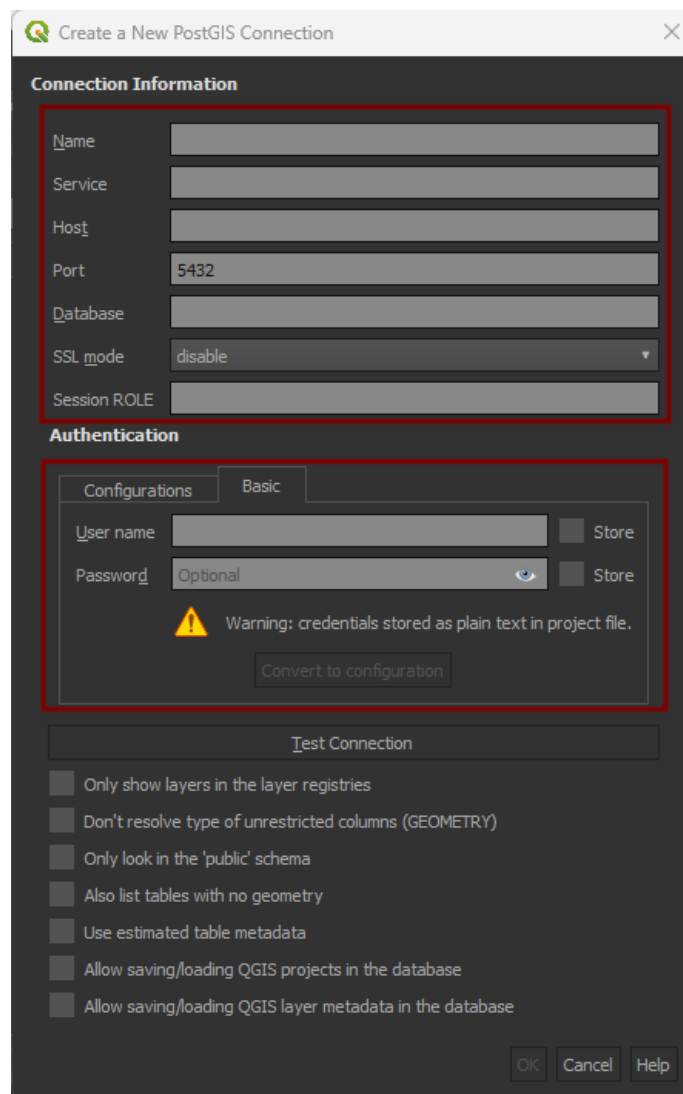
- **Create Gazetteer Using Gazetteer Creator (QGIS Plugin)**

1. Add the data from PostGIS

- a. Layer → Add Layer → Add PostGIS Layers...

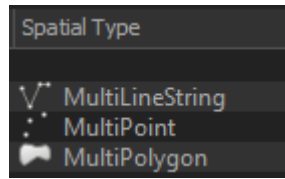


- b. If you have not connected the database, click New then fill the red box form that refers to PostGIS credential.

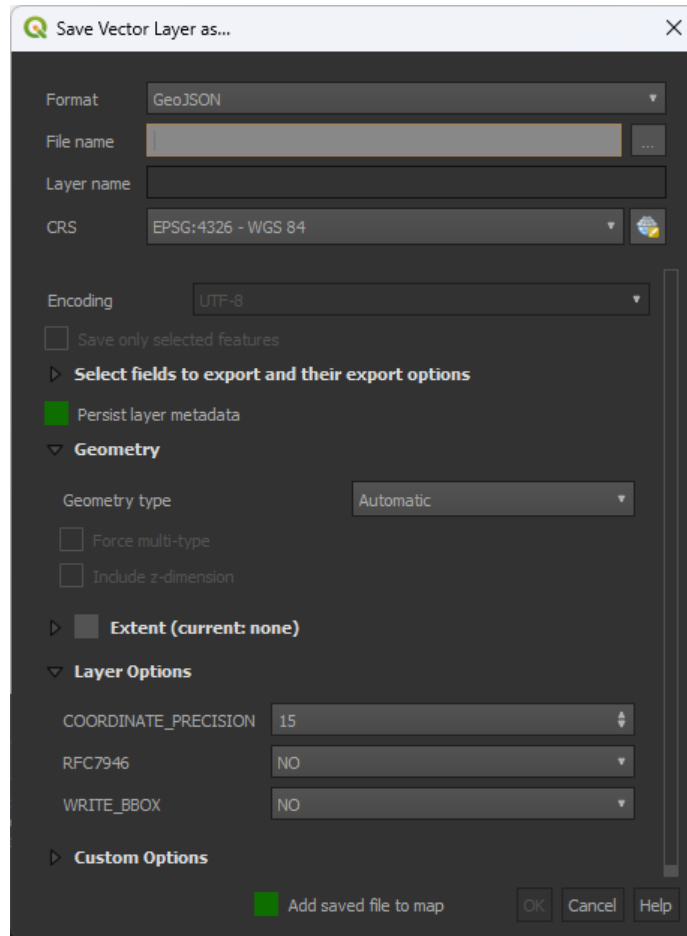


You can skip for Service, SSL mode, and Session ROLE columns. For Name columns you can fill them as custom text. After filling the form click Ok → Connect.

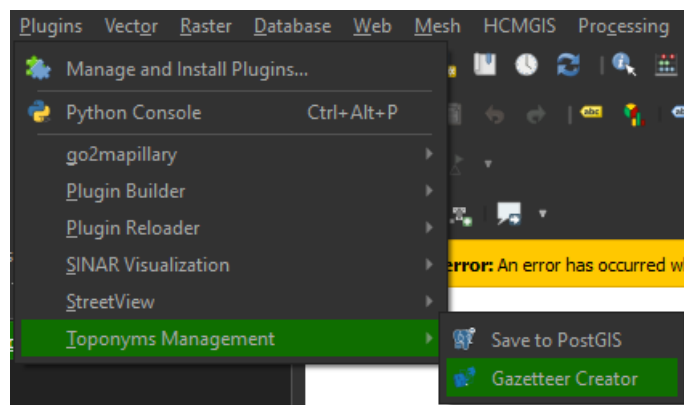
- c. There are 3 columns based on spatial type. Choose them according to the gazetteer content that will be generated on the plugin.



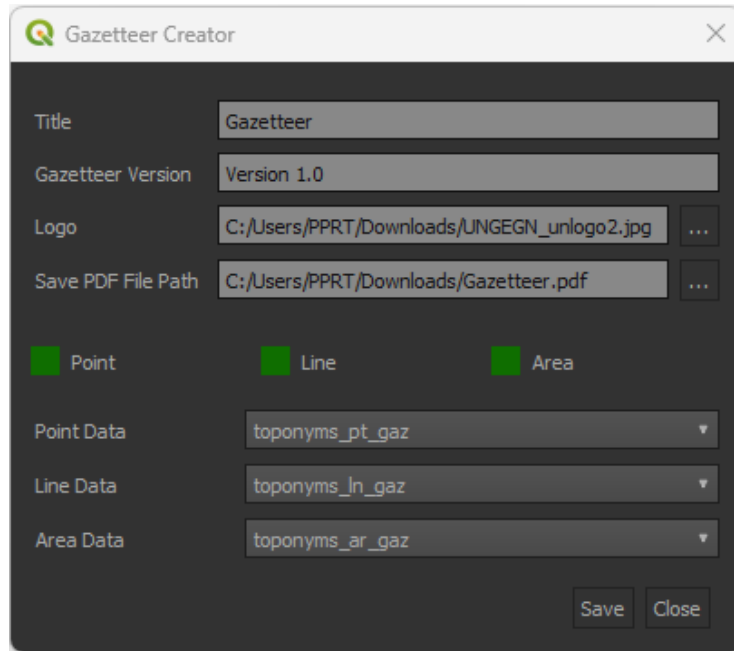
2. Export it locally as vector data to avoid disturbing the data in the database if there are editing activities by right clicking on layer → Export → Save Feature As → choose the folder location → Ok.



3. Open the Gazetteer Creator plugin from Plugins → Toponyms Management → Gazetteer → Gazetteer Creator.



4. Fill the form in the Gazetteer Creator plugin dialog :



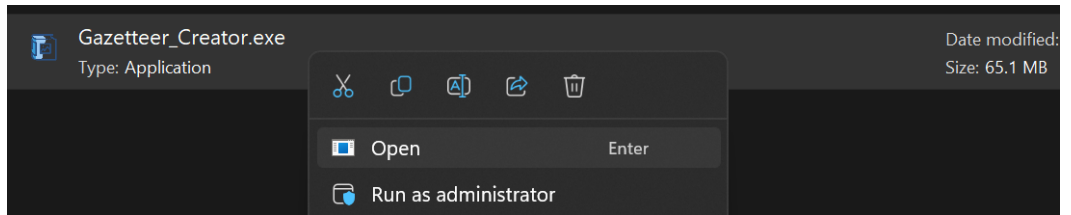
- a. Title : The title of the gazetteer is custom text will print on the cover page.
- b. Gazetteer Version : The gazetteer version is custom text will print in the center footer in gazetteer data pages.
- c. Logo : Logo is an input file of images printed on the cover page above the title of gazetteer.
- d. Save PDF File Path : This box will direct you to select output path of gazetteer pdf.
- e. Point Data : These columns will detect the vector layer for point geometry type. You can inactive these columns by unchecking the point checkbox.
- f. Line Data : These columns will detect the vector layer for line geometry type. You can inactive these columns by unchecking the line checkbox.
- g. Area Data : These columns will detect the vector layer for line geometry type. You can inactive these columns by unchecking the line checkbox.

After you fill the form and click Save, they will show a success notification and you can open the gazetteer based on Save PDF File Path.

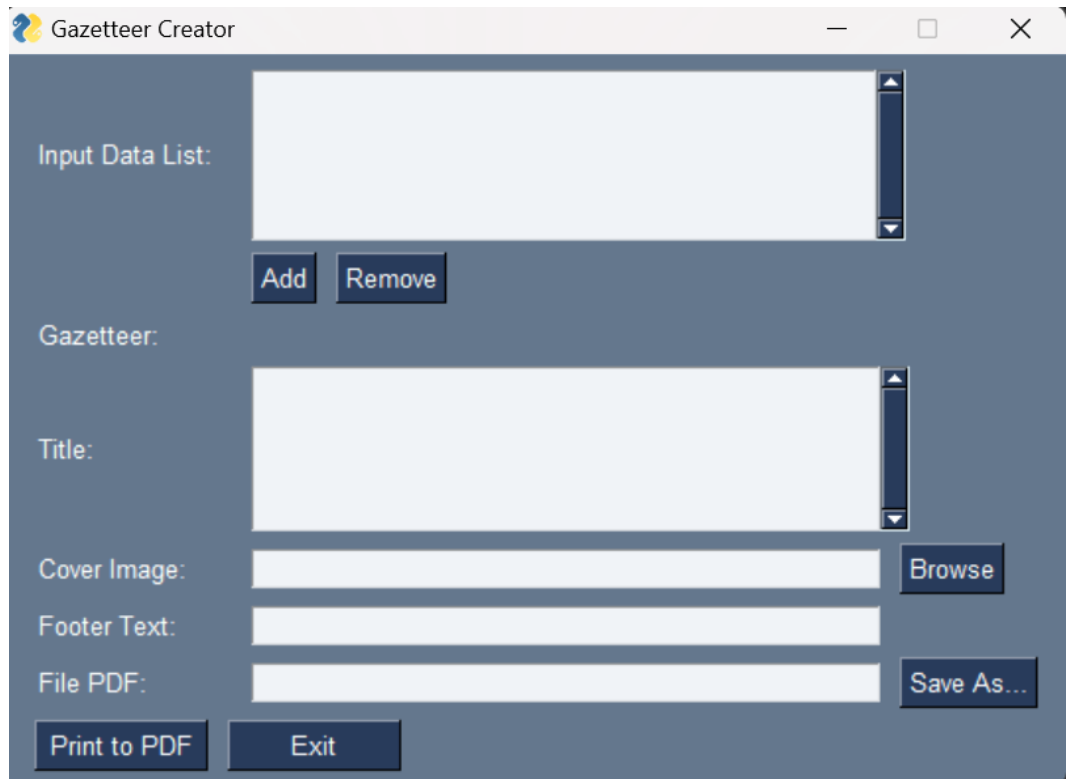
2023-06-07T13:51:37 SUCCESS Success : Output file written at C:/Users/PPRT/Downloads/Gazetteer.pdf

- **Create Gazetteer Using Gazetteer Creator (.exe)**

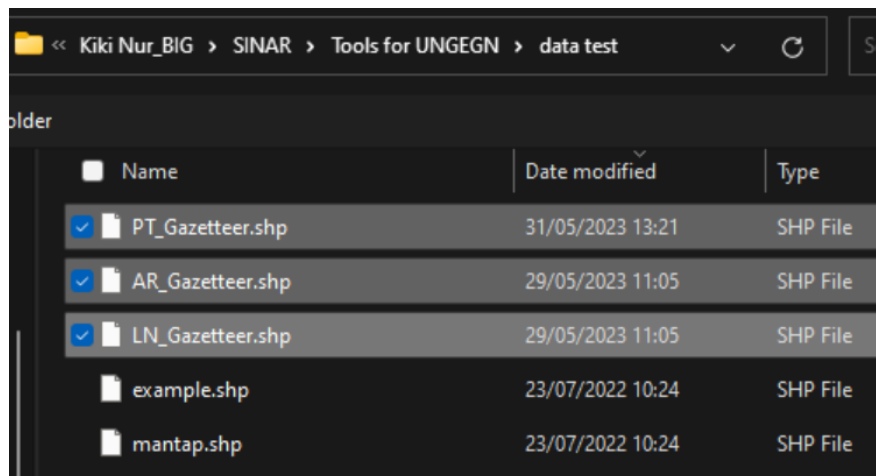
1. Open the program.



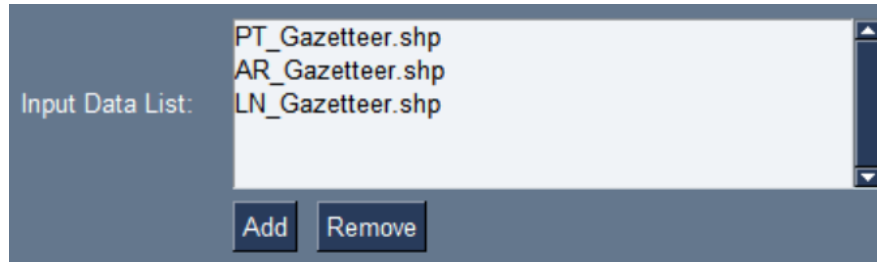
2. This is the UI. There are input data list, input gazetteer title, input cover image, input footer text, and file name for gazetteer output.



3. Click "Add" to add ".shp" input data, then select data.



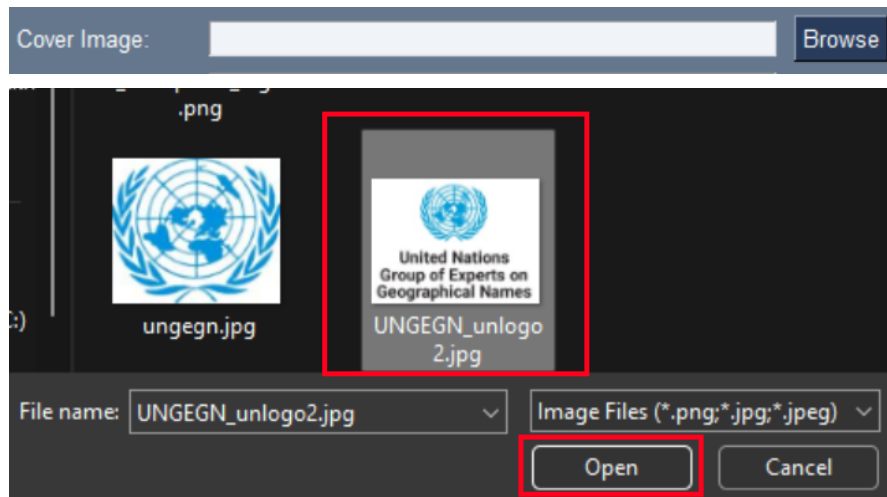
4. The selected data will appear in the input data list box.



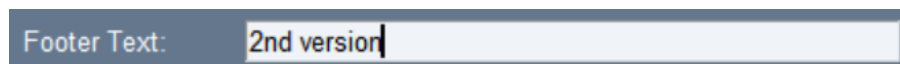
5. Input the title of the gazetteer.



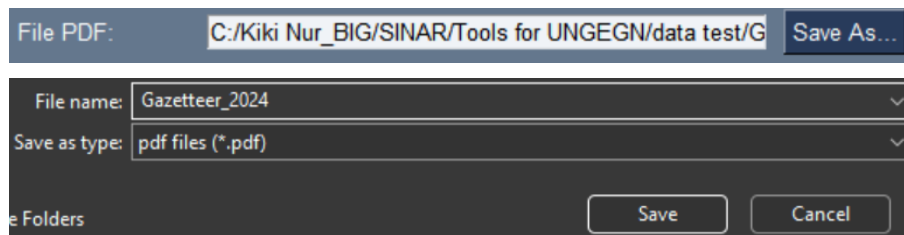
6. Browse cover image.



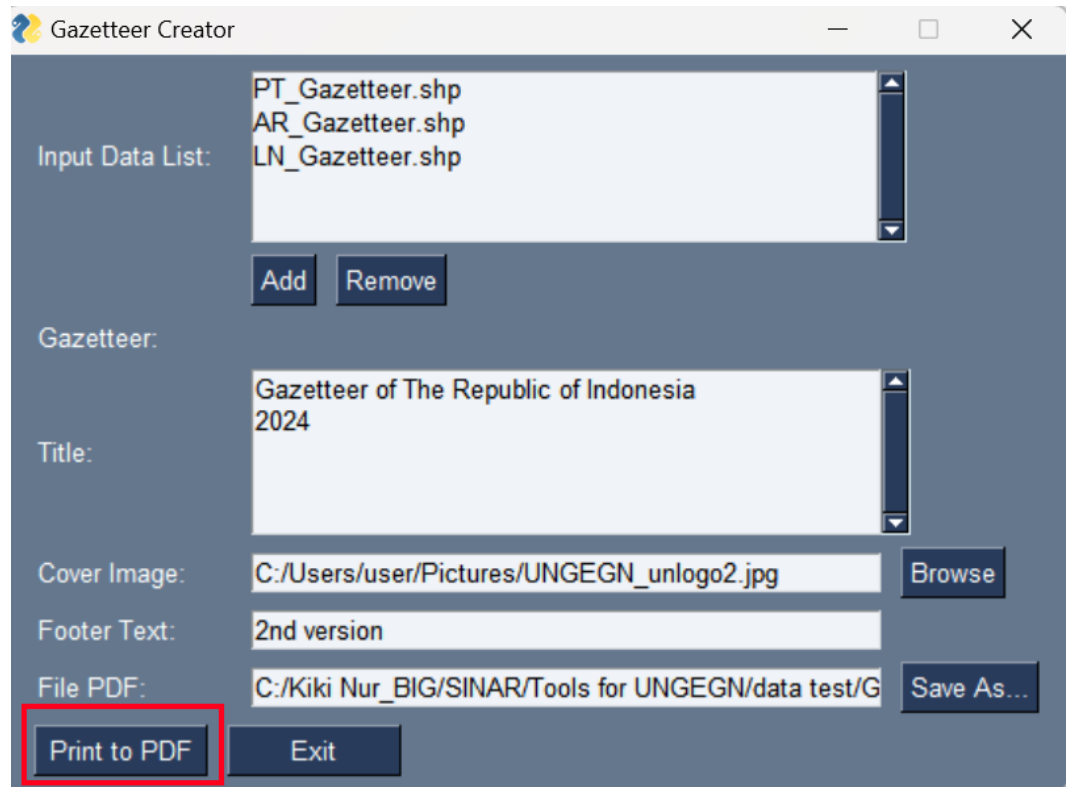
7. Input footer text.



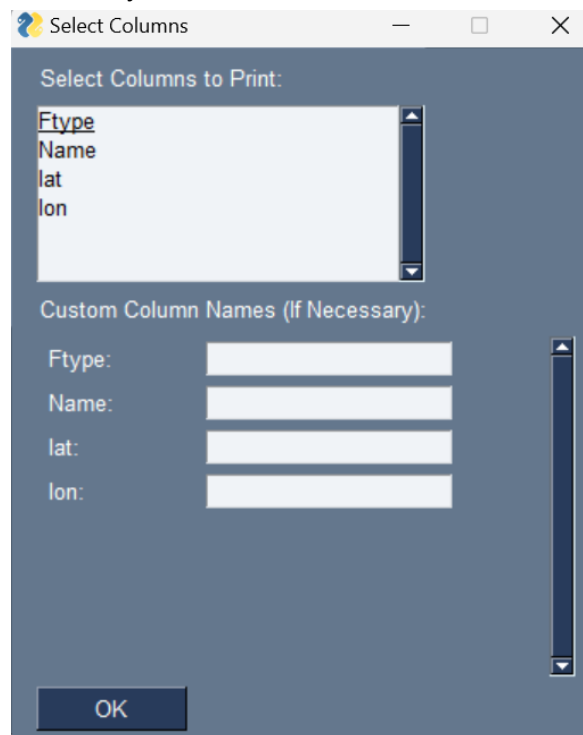
8. Click "Save As" and input the gazetteer file name.



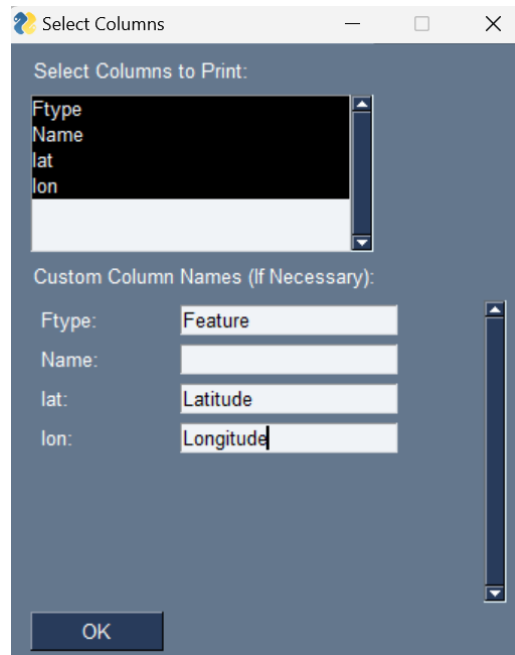
9. Click “Print to PDF”.



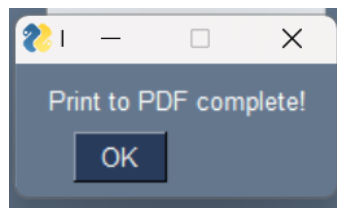
10. A window for column setting will pop up. At the “Select Columns to Print” section there is a list of columns contained in the input data. At the Custom “Column Names” section there are options to customize column names if it is necessary.



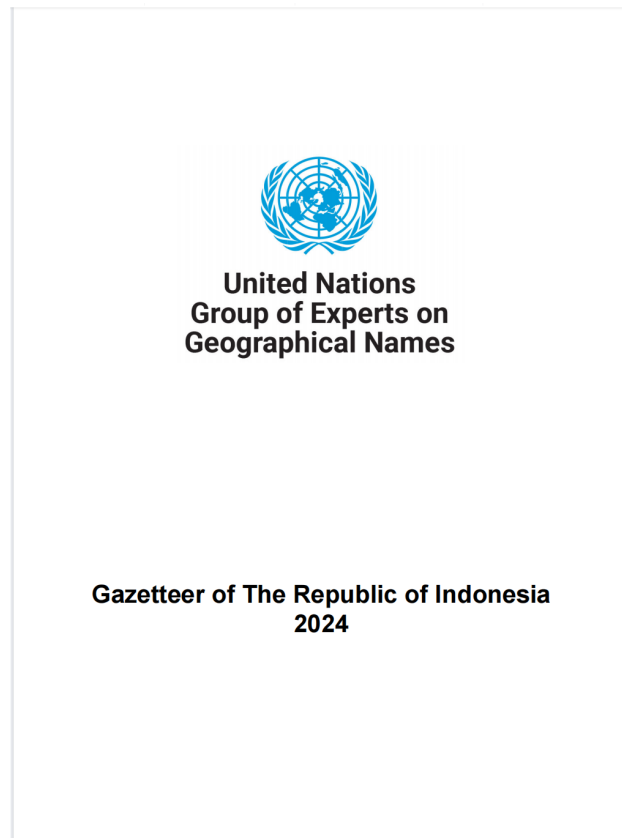
11. In the example, I selected all the columns to print, and adjusted the column name "Ftype" to "Feature", "lat" to "Latitude", and "lon" to "Longitude". If the column settings are complete, then click OK.



12. A notification pop up will appear if the gazetteer creation process is successful.



13. The following is an example of how the gazetteer will look like.



Feature	Name	Latitude	Longitude
Building	Ar-Rahman Mosque	-6.49071	106.84788
Building	Ar-Rahman Mosque	-6.49023	106.84845
Building	Ar-Rahman Mosque	-6.48966	106.84719
Building	Ar-Rahman Mosque	-6.49036	106.84839
Building	Ar-Rahman Mosque	-6.48919	106.84819
Building	Ar-Rahman Mosque	-6.48953	106.84787
Building	Ar-Rahman Mosque	-6.49084	106.84833
Building	Ar-Rahman Mosque	-6.49039	106.84707
Building	Ar-Rahman Mosque	-6.49071	106.84905
Building	Ar-Rahman Mosque	-6.48966	106.84781
Building	Ar-Rahman Mosque	-6.48969	106.84995
Building	Ar-Rahman Mosque	-6.48966	106.85002
Building	Ar-Rahman Mosque	-6.49071	106.84839
Building	Ar-Rahman Mosque	-6.48979	106.84713
Building	Ar-Rahman Mosque	-6.49007	106.84772
Building	Ar-Rahman Mosque	-6.49026	106.84713
Building	Ar-Rahman Mosque	-6.49019	106.84786
Building	Ar-Rahman Mosque	-6.48932	106.84813
Building	Ar-Rahman Mosque	-6.48946	106.84923
Building	Ar-Rahman Mosque	-6.49037	106.84963
Building	Ar-Rahman Mosque	-6.49058	106.84775
Building	Ar-Rahman Mosque	-6.49058	106.84912
Building	Ar-Rahman Mosque	-6.4905	106.84957
Building	Ar-Rahman Mosque	-6.48933	106.84929
Building	Cbinong Village Office	-6.49086	106.84932
Building	Cbinong Village Office	-6.49097	106.84879
Building	Cbinong Village Office	-6.48947	106.84839
Building	Cbinong Village Office	-6.49099	106.84859
Building	Cbinong Village Office	-6.49084	106.84815
Building	Cbinong Village Office	-6.49032	106.84813
Building	Cbinong Village Office	-6.49035	106.84792
Building	Cbinong Village Office	-6.49065	106.84983
Building	Cbinong Village Office	-6.49063	106.85003
Building	Cbinong Village Office	-6.48994	106.84739
Building	Cbinong Village Office	-6.49084	106.84952

2023-06-12

2nd version

Page 1 of 3

*The coordinates for the Line feature are the starting point