Center for Geographic Analysis
Harvard University

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KNIME

Build Python Geospatial tools In KNIME

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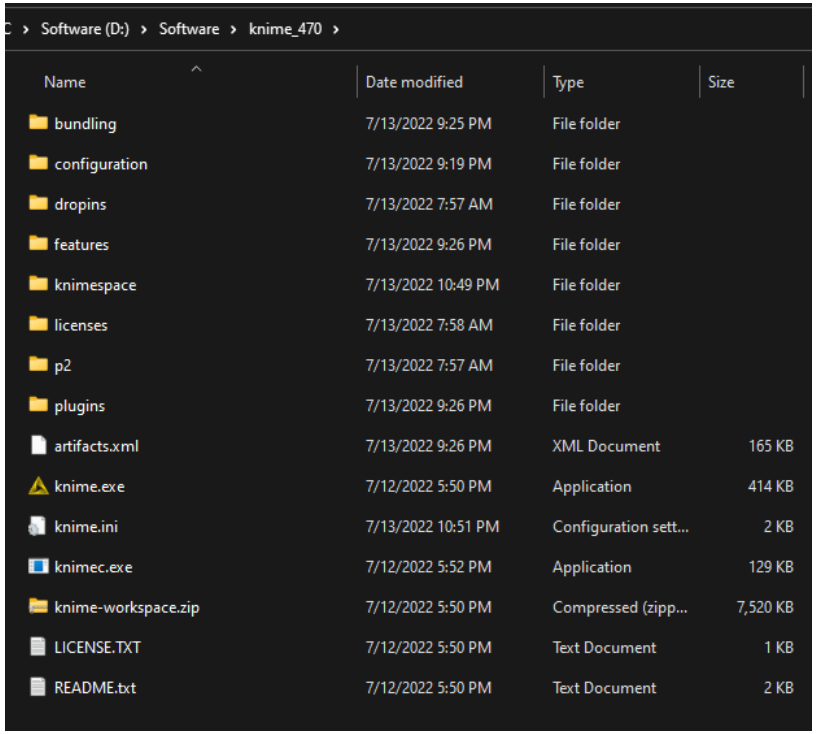
Download KNIME Analytics Platform 4.7 Nightly Build

Download the latest nightly build:
https://www.knime.com/nightly-build-downloads

KNIME Analytics Platform

See the full list of changes in the changelog.

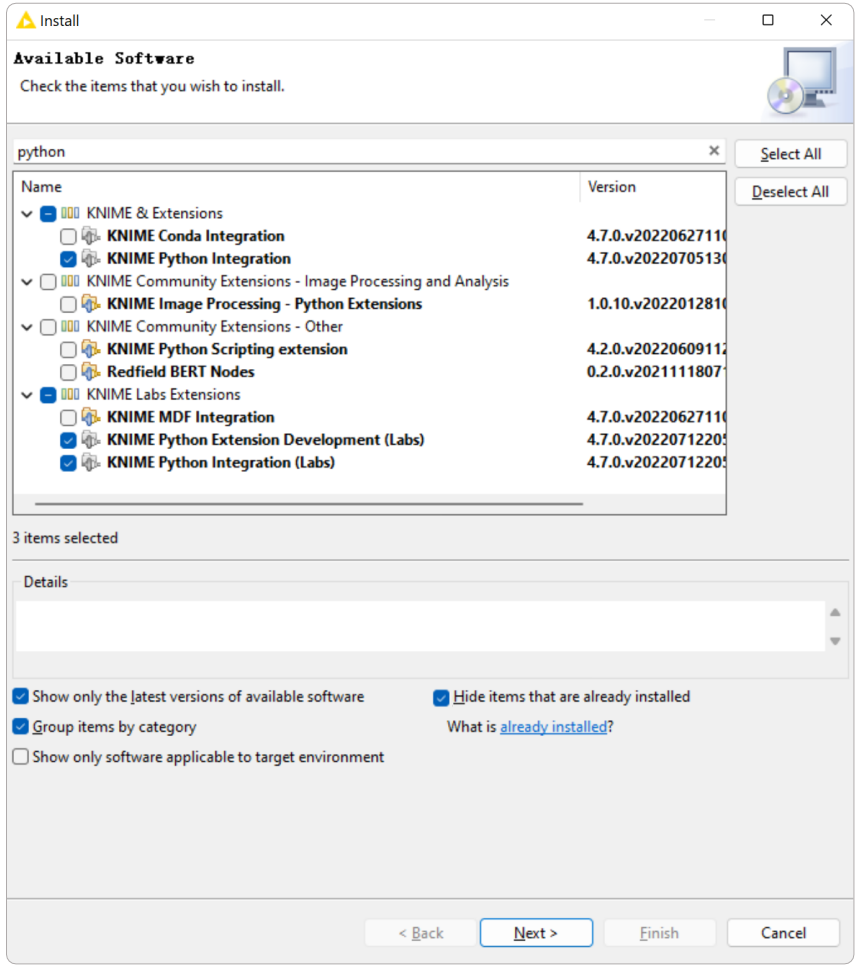
Windows	
KNIME Analytics Platform Nightly build for Windows (installer)	64bit
KNIME Analytics Platform Nightly build for Windows (self extracting archive)	64bit
KNIME Analytics Platform Nightly build for Windows (zip archive)	64bit (SHA-256)
Linux	
KNIME Analytics Platform Nightly build for Linux	64bit (SHA-256)
Mac OS X	
KNIME Analytics Platform Nightly build for Mac OS X (dmg)	64bit



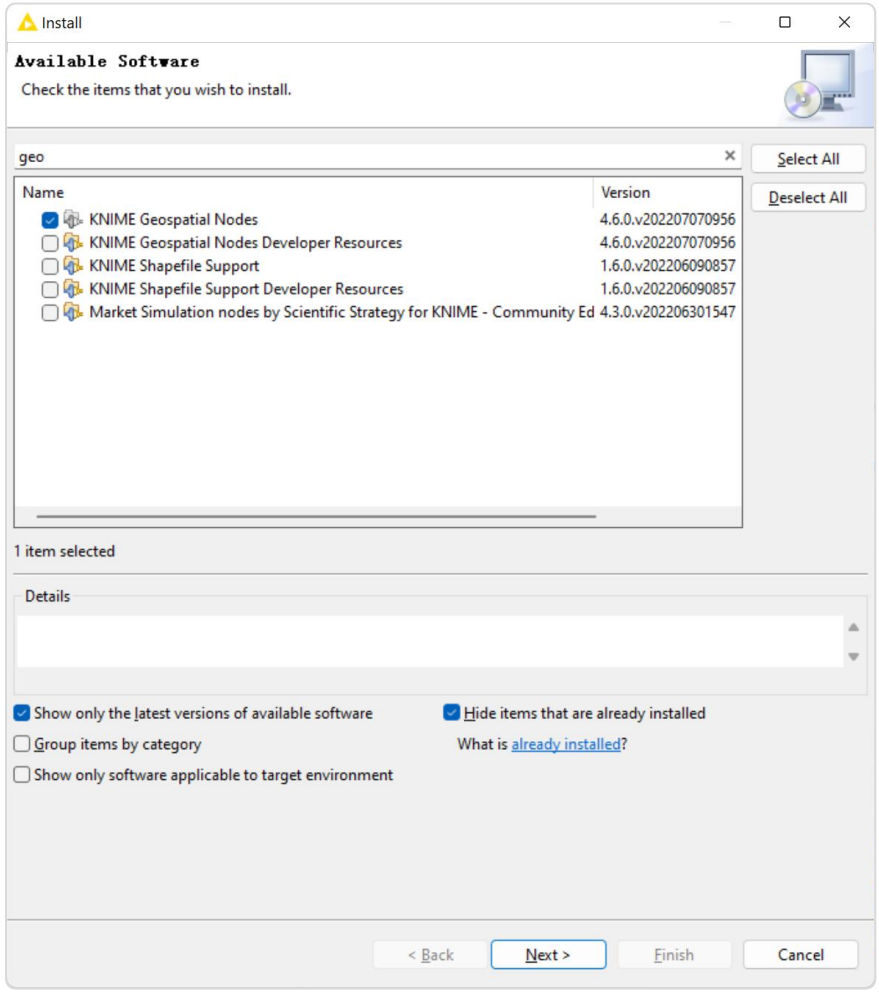
Install Related KNIME Python Extensions

KNIME -> File-> Install KNIME Extensions

Search for Python and select
KNIME Python Extension Development (Labs)
KNIME Python Integration (Labs)



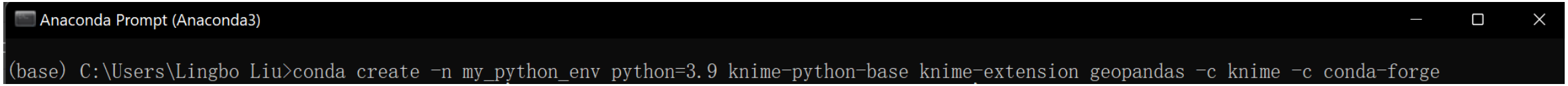
Disable the “Group items by category” option
Search for geo and select
KNIME Geospatial Nodes



Anaconda Prompt—Build New Python Environment for Geospatial Nodes

Anaconda Prompt: Setting up new conda environment *my_python_env* also include the geopandas package e.g.

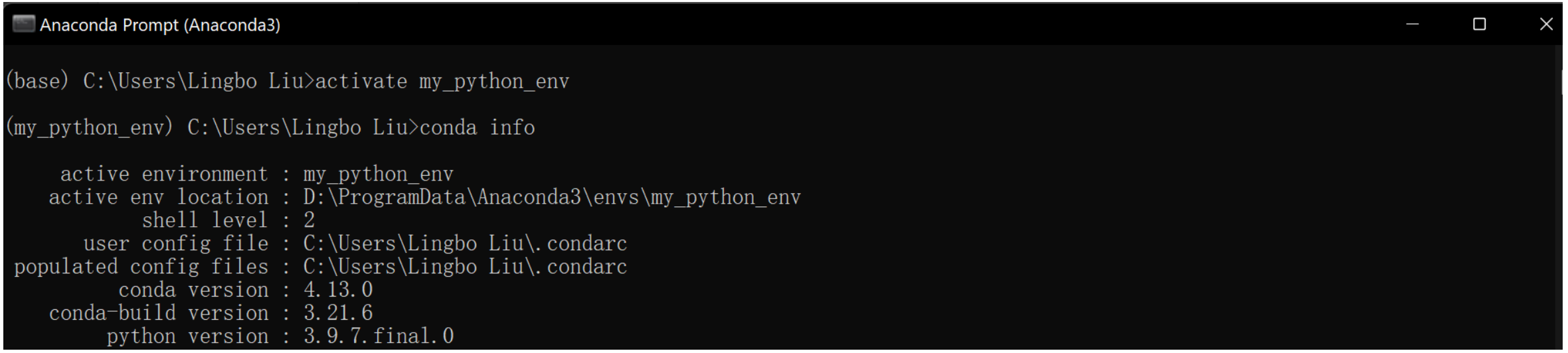
conda create -n my_python_env python=3.9 knime-python-base knime-extension geopandas -c knime -c conda-forge



Anaconda Prompt: activate *my_python_env*

conda info

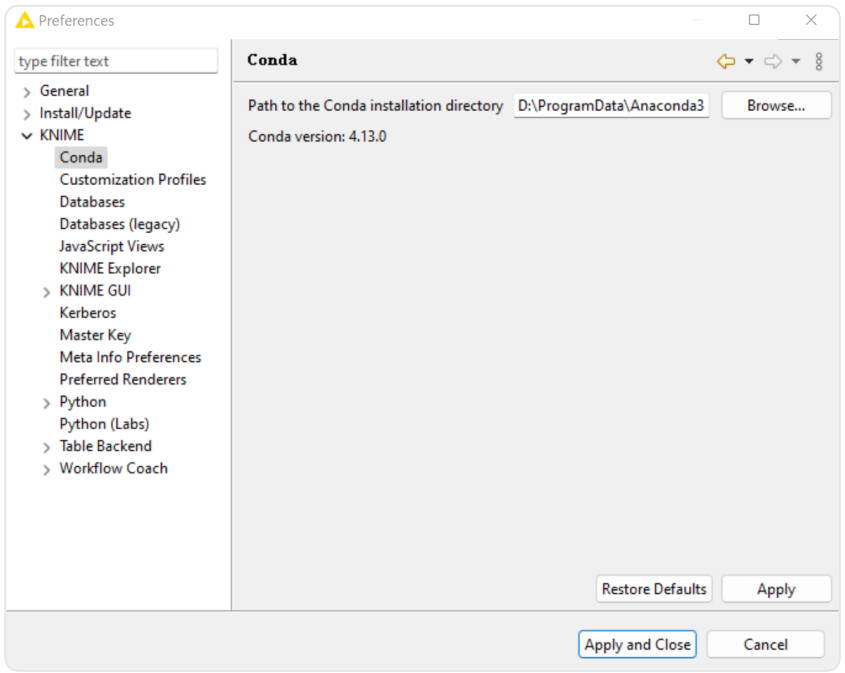
Record the env location path : D:\ProgramData\Anaconda3\envs\my_python_env

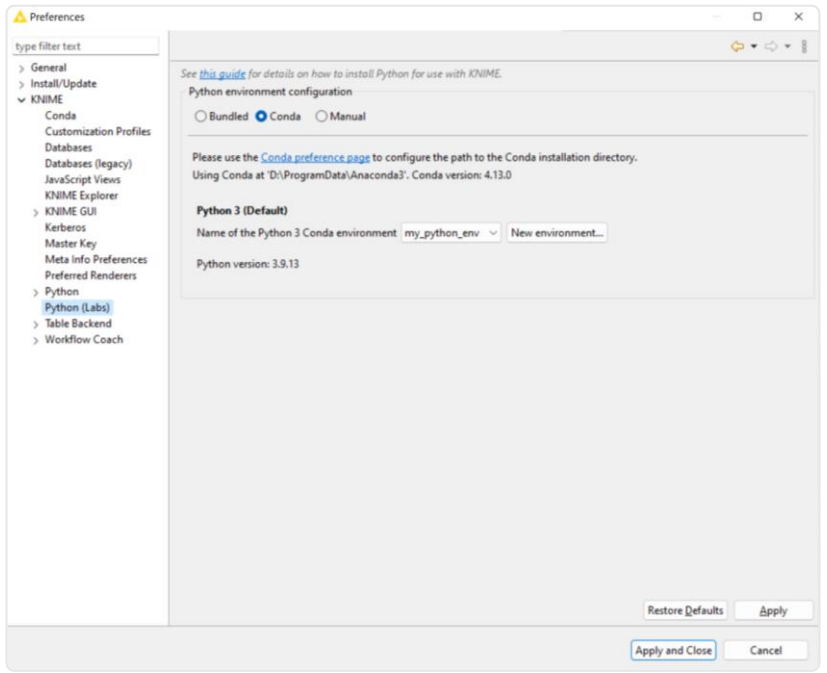


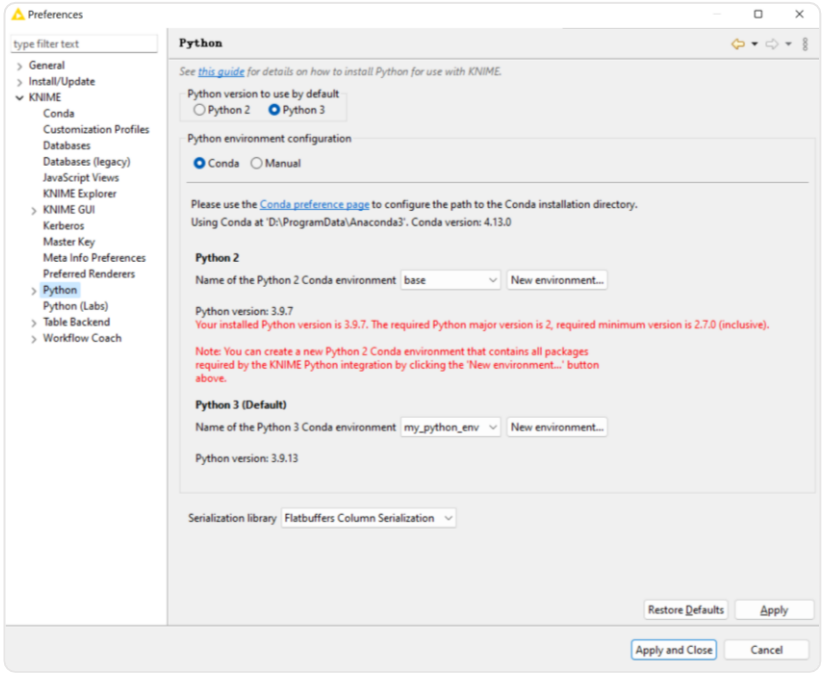
Configure KNIME Python Setting

Configure KNIME Python setting

KNIME -> File-> Preference> KNIME> Conda Choose anaconda directory
KNIME -> File-> Preference> KNIME> Python(Labs) Choose *my_python_env*
***KNIME -> File-> Preference> KNIME> Python(Labs)** Choose *my_python_env*
** This step is not necessary unless you installed KNIME Python Integration*

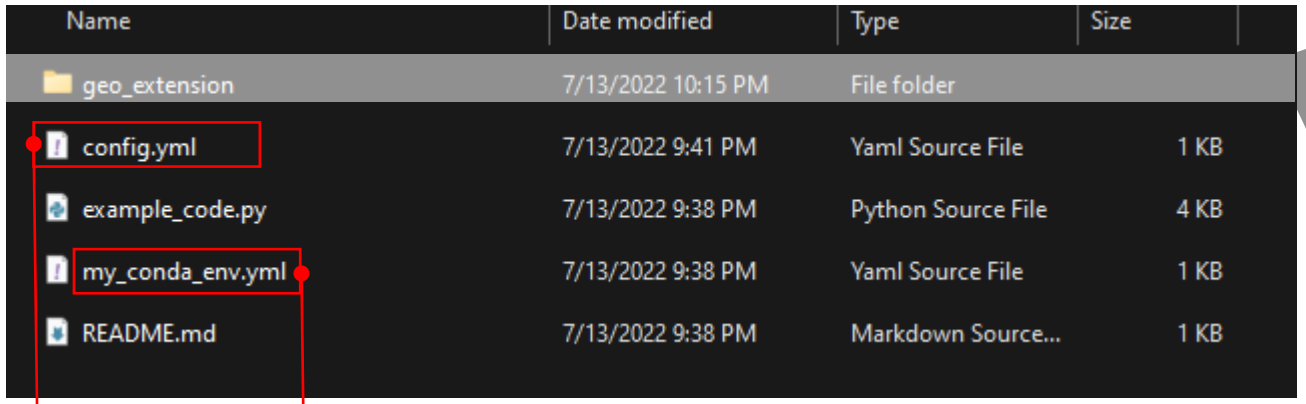






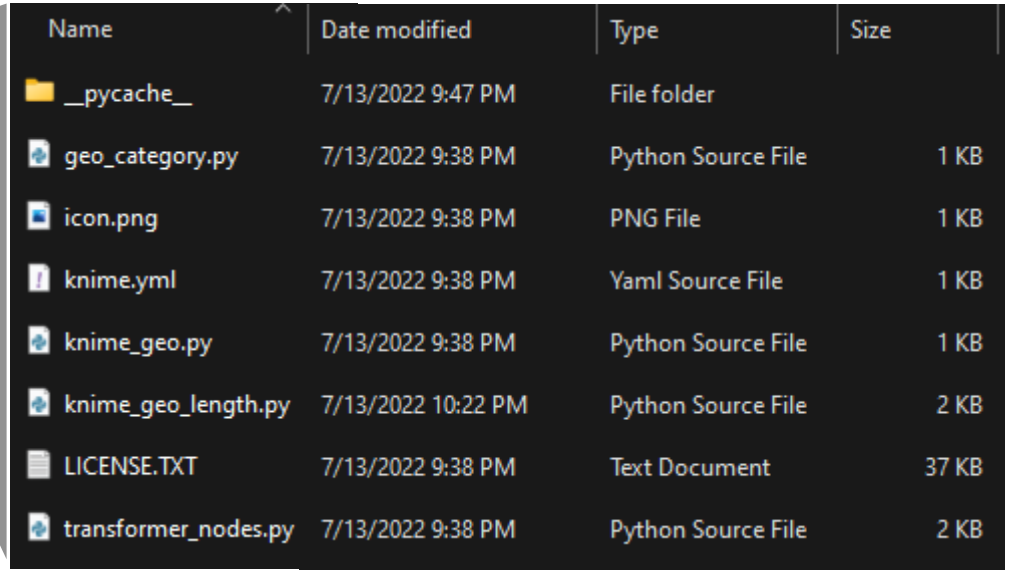
Extract geo.zip and set config.yml

Extract geo.zip, it contains a subfolder geo_extension



Name	Date modified	Type	Size
geo_extension	7/13/2022 10:15 PM	File folder	
config.yml	7/13/2022 9:41 PM	Yaml Source File	1 KB
example_code.py	7/13/2022 9:38 PM	Python Source File	4 KB
my_conda_env.yml	7/13/2022 9:38 PM	Yaml Source File	1 KB
README.md	7/13/2022 9:38 PM	Markdown Source...	1 KB

Python tools in the subfolder geo_extension



Name	Date modified	Type	Size
__pycache__	7/13/2022 9:47 PM	File folder	
geo_category.py	7/13/2022 9:38 PM	Python Source File	1 KB
icon.png	7/13/2022 9:38 PM	PNG File	1 KB
knime.yml	7/13/2022 9:38 PM	Yaml Source File	1 KB
knime_geo.py	7/13/2022 9:38 PM	Python Source File	1 KB
knime_geo_length.py	7/13/2022 10:22 PM	Python Source File	2 KB
LICENSE.TXT	7/13/2022 9:38 PM	Text Document	37 KB
transformer_nodes.py	7/13/2022 9:38 PM	Python Source File	2 KB

D: > Software > knime_470 > knimespace > geo > ! my_conda_env.yml

```yaml
name: my_python_env
channels:
  - knime
  - conda-forge
dependencies:
  - packaging
  - python=3.9
  - knime-extension
  - knime-python-base
  - geopandas
```

Change the path in src and conda_env_path

! config.yml ×

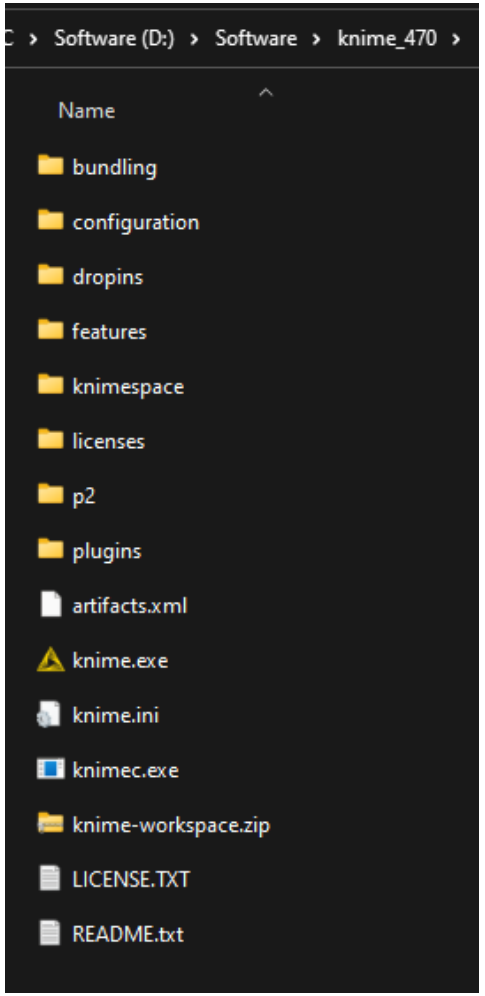
D: > Software > knime_470 > knimespace > geo > ! config.yml

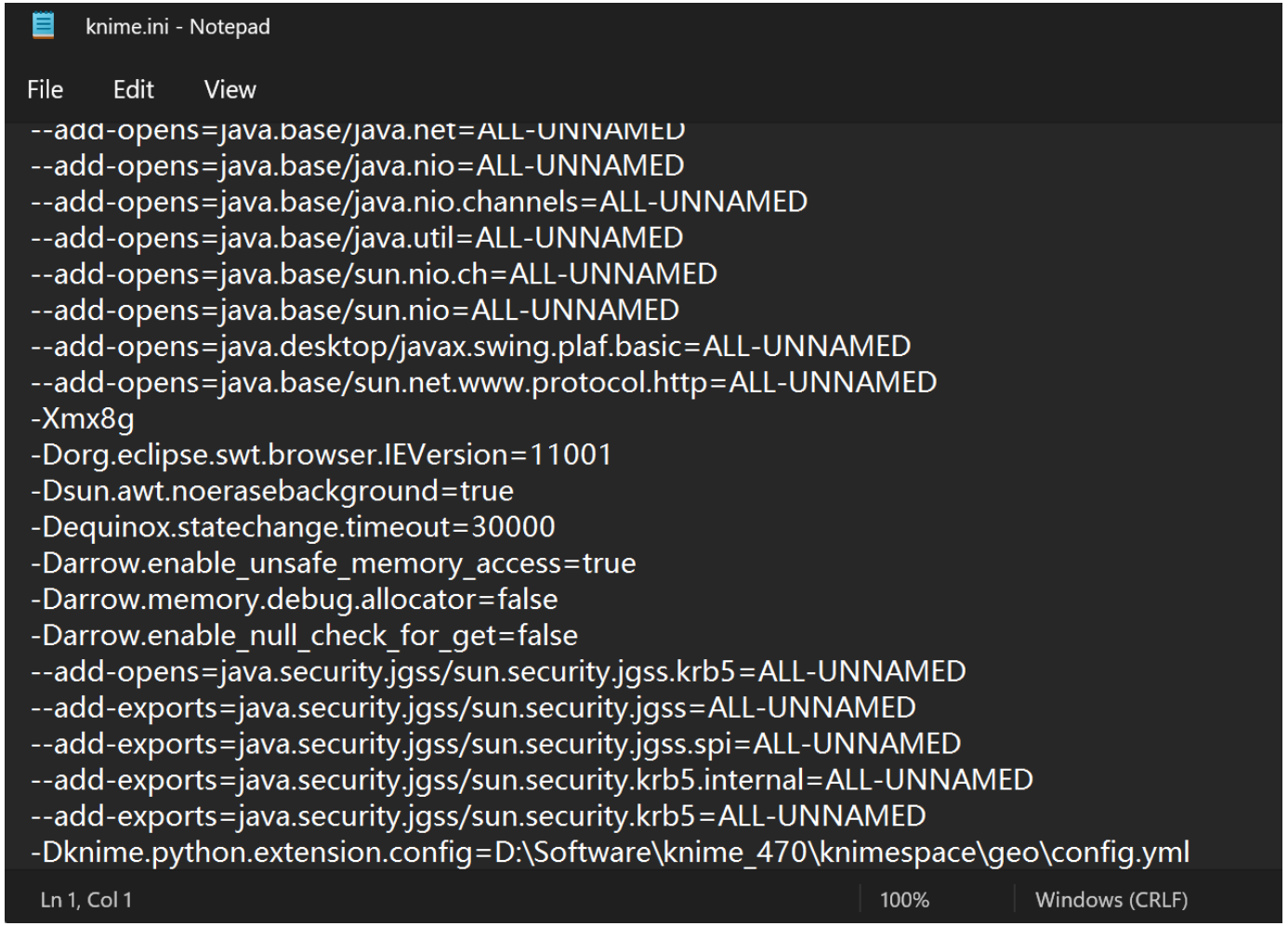
```yaml
org.knime.geo: # {group_id}.{name} from the knime.yml
  src: D:\Software\knime_470\knimespace\geo\geo_extension # Path to folder containing the extension files
  conda_env_path: D:\ProgramData\Anaconda3\envs\my_python_env # Path to the Python environment to use
  debug_mode: true # Optional line, if set to true, it will always use the latest changes of execute/configure, when that method is used within the KNIME Analytics Platform
```

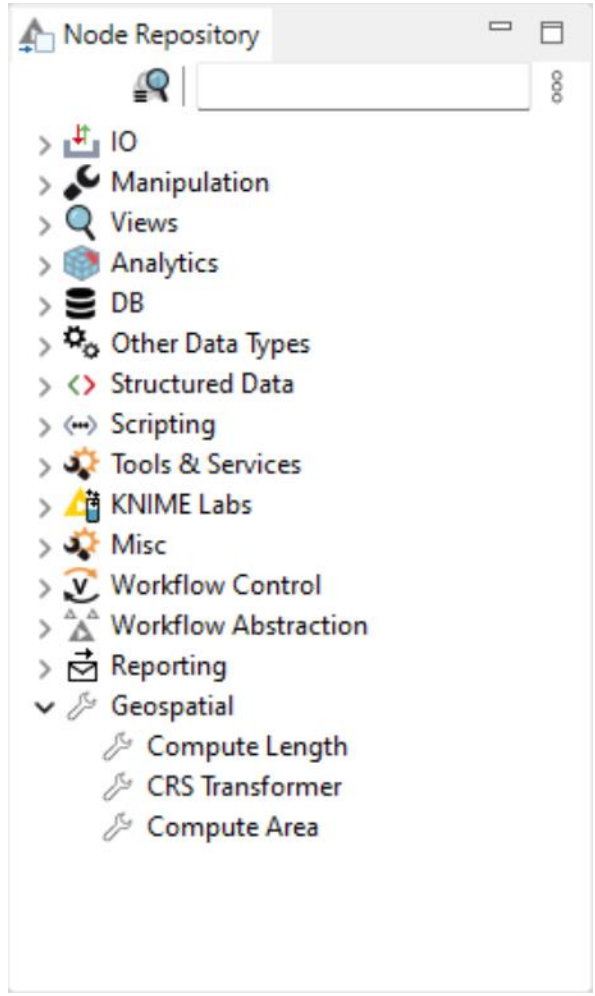
Configure knime.ini and All set

Add the following line to your *knime.ini* file which should point to *config.yml* file within the extracted folder

-Dknime.python.extension.config=D:\Software\knime_470\knimespace\geo\config.yml

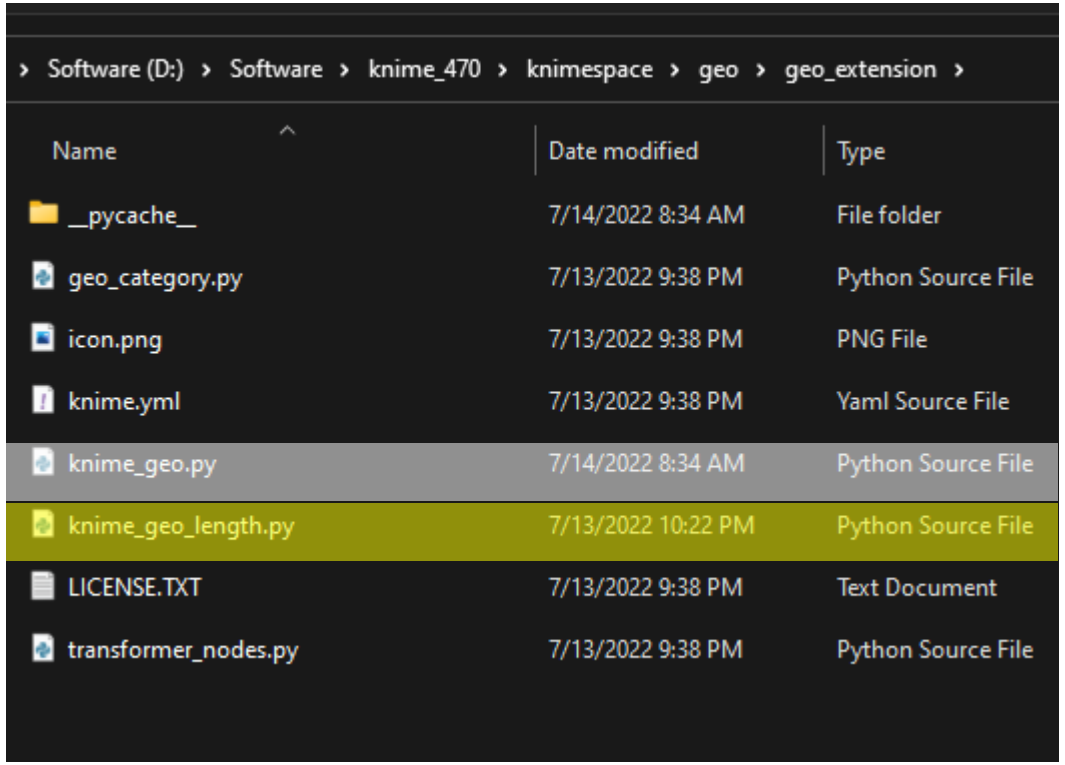


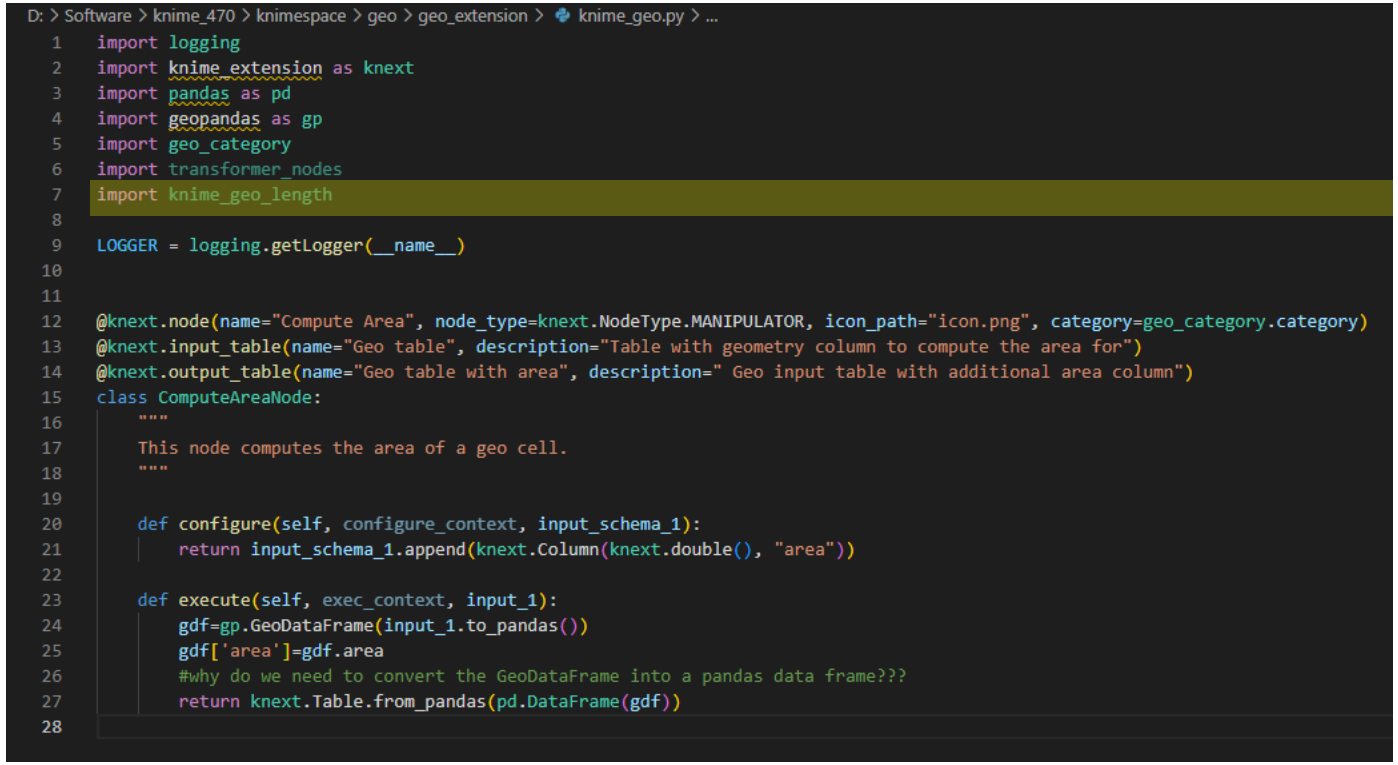




Add New nodes to Geospatial

Create New Python file in the geo_extension folder, and read the nodes by import in knime_geo.py





Special Thanks to Tobias Koetter and Carsten Haubold

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