

## Tutorial Video:

Please watch this walkthrough if these steps don't make sense!

<https://youtu.be/S4vKlfVu-H0>

Aside:

- In the tutorial I mentioned "Windows Subsystem for Linux" (WSL). If you haven't taken 280 and/or don't know what that is, go through these tutorials first to set up WSL on your machine:
- 1) [https://eecs280staff.github.io/tutorials/setup\\_wsl.html](https://eecs280staff.github.io/tutorials/setup_wsl.html)
- 2) <https://eecs280staff.github.io/tutorials/cli.html>
  - And if you aren't familiar with VSCode, do this too (everything up to right before the "Compile and Run" section is relevant to us):
- 3) [https://eecs280staff.github.io/tutorials/setup\\_vscode\\_wsl.html](https://eecs280staff.github.io/tutorials/setup_vscode_wsl.html)

## Instructions:

1. Get the license from Logan for the actual REFPROP library  
REFPROP is [uploaded to the MASA drive here](#)! Also found on the [Dropbox here](#). You'll need a windows personal computer or laptop to install it (running the installer .exe). If you do not have Windows, you can use the [pre-compiled version here](#).

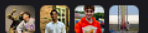
From there, if you want to install on Linux/MacOS, you need to take those files from the windows installation (under the Program Files (x86) folder), and proceed with the instructions on [REFPROP-cmake](#) on your Linux/Mac machine.



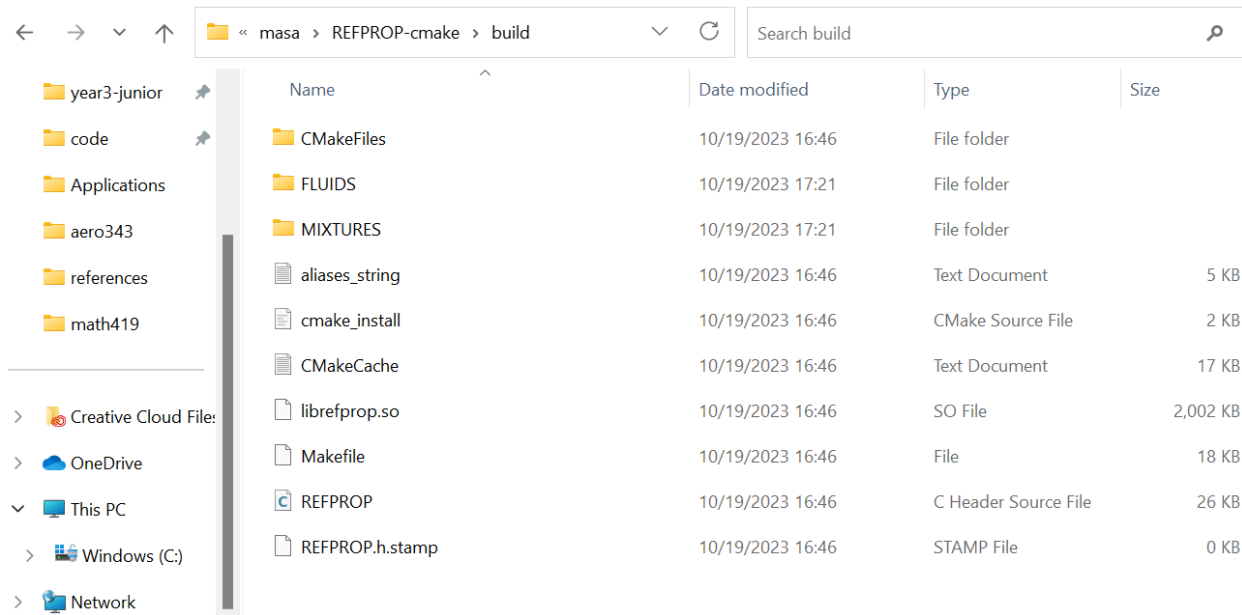
Jason Chen 5:55 PM

Ok so it's kind of a struggle bus to install REFPROP (and use it with the Python wrapper) on WSL so here's what I had to do:

1. Run the windows installer like normal (Logan's pinned message in this channel)
2. This will install into your Program Files (x86) folder
3. Go to here and follow instructions: <https://github.com/usnistgov/REFPROP-cmake>
  - a. Step 2 is confusing but basically paste the FORTRAN folder from your REFPROP install (inside Program Files (x86)) into the root of the repo you just cloned
  - b. Then follow the rest of the steps
4. Once it's done building, now paste the FLUIDS and MIXTURES folders (inside Program Files (x86)) into your new build (in the repo, paste into root/build/)
5. Now it should work when you run example code



10 replies Last reply 4 months ago



Finally, go here for the Python library (you just need to pip3 install):

<https://github.com/usnistgov/REFPROP-wrappers/tree/master/wrappers/python>

Some example code to try:

```
import os, numpy as np
from ctREFPROP.ctREFPROP import REFPROPFunctionLibrary

def NBP():
    RP = REFPROPFunctionLibrary(os.environ['RPPREFIX'])
    RP.SETPATHdll(os.environ['RPPREFIX'])
    print(RP.RPVersion())

    MOLAR_BASE_SI = RP.GETENUMdll(0,"MOLAR BASE SI").iEnum
    p_Pa = 101325
    Q = 0.0
    r = RP.REFPROPdll("Water","PQ","T",MOLAR_BASE_SI,0,0,p_Pa,Q,[1.0])
    print(r.Output[0])

    # r = RP.REFPROPdll("PROPANE","PQ","T",MOLAR_BASE_SI, 0,0,101325, 0, [1.0])
    # print(r.ierr, r.herr, r.Output[0])

if __name__=='__main__':
    # If the RPPREFIX environment variable is not already set by your installer (e.g.,
    on windows),
    # then uncomment this line and set the absolute path to the location of your
    install of
    # REFPROP
    os.environ['RPPREFIX'] = r'/home/jasonyc/masa/REFPROP-cmake/build'

    # Print the version of REFPROP in use and the NBP
    NBP()
```