

## GeoIPS Workshop Prerequisites: VSCode and Plugins


For the GeoIPS workshop, we will be using Jupyter Notebooks to demonstrate how to use GeoIPS. VSCode provides a nice environment for working with Jupyter Notebooks, so we ask that everyone install it prior to the workshop so that we are all working in a similar environment.

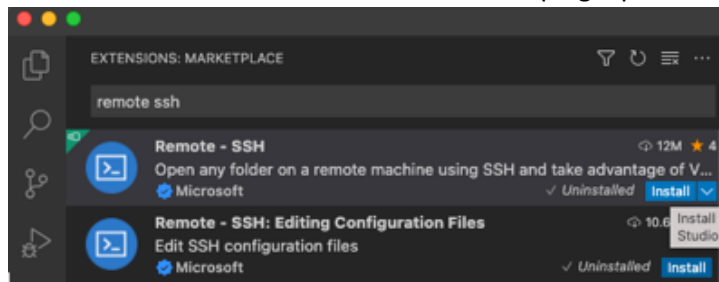
Regardless of whether you will be running GeoIPS directly on your laptop or on a remote server, you will need to install VSCode on your laptop. You will SSH to your remote machine through VSCode.


### Installation Steps

1. Download VSCode and install it: [VSCode Download Link for Windows, Mac, and Linux](#)
2. Open VSCode

*If you will run GeoIPS on a remote machine, please follow steps 3-6, otherwise skip to step 7*

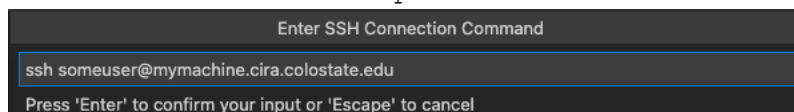
3. Install the Remote SSH plugin
  - Click the *Extensions*  button in left sidebar
  - Type `ssh` in search bar that appears
  - Click the install button for the *Remote – SSH* plugin published by Microsoft



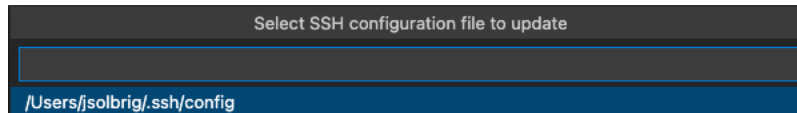
4. Set up your SSH target
  - Select the *Remote Explorer*  button in the left sidebar
  - If there is a pull-down menu, ensure that *SSH Targets* is selected in the pull-down menu near the top left



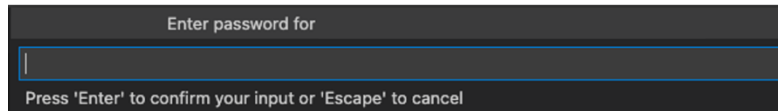
- Select plus (+) button next to *SSH TARGETS*
- This will open a prompt at the top-middle of the VSCode window. Enter `ssh <username>@<host ip address or name>`




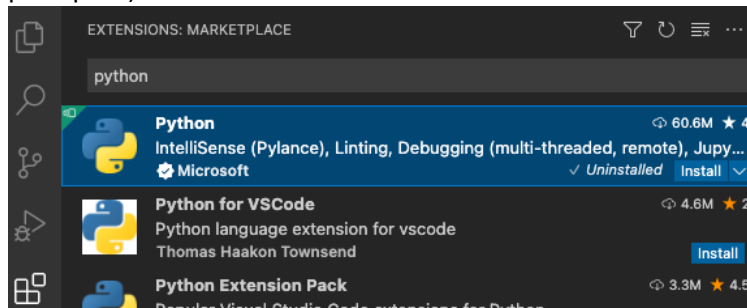
- When prompted for which SSH configuration file to update, select the file in your home directory unless you have a good reason to do otherwise.



- Your new connection should appear under *SSH TARGETS*
5. SSH to your new connection
- Right click your new SSH connection under *SSH TARGETS*
  - Select *Connect to Host in New Window*
  - If prompted, enter your password into the textbox at top



6. To open a project (e.g. a clone of GeoIPS or one of your own) from the remote system
- Click on the File (Windows) or Code (Mac) menu
  - Click open folder (you may be prompted for a password again)
  - Navigate to desired work environment (e.g. the top-level folder/directory for a project)
7. Add the Microsoft Python extension
- Click the *Extensions*  button in the left sidebar
  - Search for *python* in search bar that appears
  - Click *install* for the Microsoft Python extension (if using SSH select remote installation if prompted)





- Reload VSCode if necessary (*ctrl+shift+p* → type *reload* → select *Developer: Reload Window*)
8. If you have already installed GeoIPS, you can enable the GeoIPS conda environment (named *geoips\_conda*) at this point using: *ctrl+shift+p* → search *python* → select *Python: Select Interpreter*, then select your conda environment (e.g. *geoips\_conda*) from the options

**You're all set!**

**If you'd like to give VSCode a test-drive before the workshop, keep reading below!**

## Opening a Project

If you would like to experiment with VSCode you will need to open a project. Projects can be opened either from your local computer or from a remote computer.

- **Open a Local Project:** To open a project on your local computer, click the *Explorer* button  then select *Open Folder*. Navigate to your project's folder, then click *Open*.
- **Open a Remote Project:** To open a project from a remote computer, follow the instructions in step 5 above, then click the *Explorer* button  then select *Open Folder*. Navigate to your project's folder, then click *Open*.

## Optional Plugins

VSCode makes extensive use of plugins for different applications. In the above instructions we installed a couple of plugins to help with the GeolPS workshop, but there are likely other plugins that would make your experience more seamless. Feel free to explore and install additional plugins!

Some suggestions:

- An emulator for your favorite text editor (Vim, Emacs, Notepad++, etc)
- Language-specific plugins (Fortran, C, C++, Matlab, R, Julia, etc)
- Plugins for file formats that you use (Yaml, Json, Markdown, Restructured Text, etc)