Setting up Python for working with audio
Updated 17 January 2017

1. If you are on a lab machine, skip to Step 3. If you are on your own machine, download the **Python 2.7** version of the appropriate installer for Anaconda from https://www.continuum.io/downloads . If you are on a Mac, choose the "Graphical installer." If you are on Windows or Linux, be sure to choose the correct (32-bit or 64-bit) version.

Python 2.7 version

GRAPHICAL INSTALLER (403M)

2. Follow the installation instructions. **Make sure to enter "yes" if you are prompted to approve adding Anaconda to your path**.
3. Download the Lab Bundle .zip file from learn.gold, and unzip it.
4. Find the file named PMClibs.py in your unzipped bundle, and move it to a location where it will not get accidentally deleted or moved. (For instance, I saved it to /Users/rebecca/Desktop/PMCLabFiles/PMClibs.py) Make a note of the full name of the location of this file.
5. Use a text or code editor to open the file ipython_config.py in your lab bundle. Edit line 64 so that, instead of referring to "PMClibs.py" with no absolute directory, you tell it the absolute directory (which you know from Step 3). For instance, I edited mine so that it now looks like this:

```
# List of files to run at IPython startup.
c.InteractiveShellApp.exec_files = ['/Users/rebecca/Desktop/PMCLabFiles/PMClibs.py']
```

6. Run the following command in Terminal (Linux or Mac) or Command Prompt (Windows):

        ipython profile create

    (If you get an error running this command, try quitting and restarting Terminal. If that doesn't work, try restarting your computer.) This will create an IPython "profile" file with code that's loaded every time you run IPython in a Notebook.

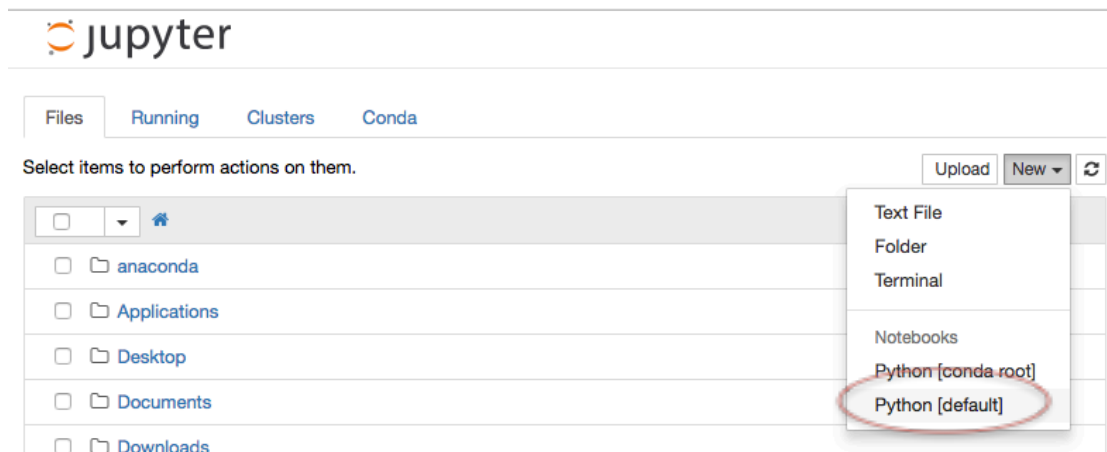7. Locate this new profile file located in [YOUR_HOME_DIRECTORY]/.ipython/profile_default/ipython_config.py

    Note: (1) The ".ipython" directory begins with a dot ! (2) This directory may be hidden for you, so you won't be able to see it in Finder/Windows Explorer. You may have to change your preferences so that you can view hidden files, or you can access it in Terminal or a Command Prompt. For instance, on a Mac, I can open the parent directory in Finder using the following Terminal command:

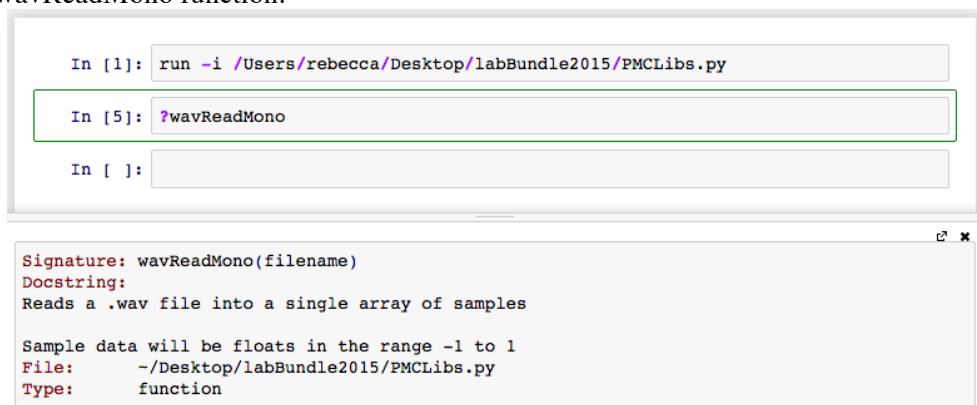   open /Users/rebecca/.ipython/profile_default/

8. Overwrite this profile file using the ipython_config.py file from your lab bundle, which you edited with your own PMClibs file path in Step 4.

Running Jupyter Notebook and Testing Your Installation

1. Run Jupyter Notebook by doing either one of the following:
   a. Open a Terminal or Command window and type the following command:
      ```
      jupyter notebook
      ```

   b. OR, open the Navigator application, which was installed with Anaconda (this will be located within /Applications/anaconda/ on a Mac), and use the GUI to launch a new Jupyter Notebook.

2. You should now have seen Jupyter Notebook open in your default web browser. Hit the "New" button at the top right and select "Python [default]" to create a new Python 2 Notebook. (If you don't see an option for Python [default], choose the option called "Python [root]" or "Python 2", or some other option. If it says "Python 3" then you've installed the wrong version and you will have to add Python 2 to your installation following these instructions[1])

3. To verify that Python has loaded the required library code located in PMClibs.py, you can request it to tell you about the "wavReadMono" function by typing
   ```
   ?wavReadMono
   ```
   into the next box, and holding **Shift** while hitting **Return** to execute it. If everything has worked, you'll see a box pop up at the bottom of your screen with a text description of the wavReadMono function:

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[1] http://conda.pydata.org/docs/py2or3.html#install-a-different-version-of-python

If you don't see this, and instead see something like "Object `wavReadMono` not found", repeat your installation steps from Page 1 carefully. Otherwise, you're done!

You will NOT have to repeat any of this in the future, once it's installed correctly. Simply run a new notebook by typing "jupyter notebook" in the terminal/command prompt, and your libraries will be automatically loaded! ☺