
ThaiPASS 2018
THAILAND-UK
PYTHON
ASTRONOMY
SUMMER SCHOOL
LEARN FROM UK
AND THAI SCIENTISTS:
Python coding
Astronomy
Data handling
Career workshop
FULL BOARD
NO REGISTRATION FEES
7-12 OCTOBER 2018
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Email us for help: thaipass@hull.ac.uk

Welcome to ThaiPASS 2018

Welcome to the Thailand-UK Python Astronomy Summer School (ThaiPASS). The aim of this week-long school is to help you learn and understand how to use Python, a powerful object-based programming language, through the data-based subject of Astronomy. You will have a chance to use real observational data from a telescope, as well as the chance to produce models of the physics behind the objects we observe in the night sky. The first thing you must do in preparation for the school is to install the required software, and to learn the basics of the Python programming language from our own guides. These are linked to you below. If you have any questions about anything in these documents, feel free to contact the **ThaiPASS Team**.

Installation Instructions

We will start by installing the required software that we will use for the school, as well as the tasks included in the documentation to prepare you for the week. The key Python software package we will use is called **ANACONDA™**. We should note here that there are two versions of python that are concurrently supported, the one we will be using is **Python 3.6**. The instructions below will provide direct links to the software packages we will be using. Please follow the instructions for your operating system:

Mac OS

Anaconda™

For Mac OS devices please follow this link for ANACONDA MAC OS to download the '.pkg' file, where the download should begin automatically for your default web browser. Save it to your chosen location, then run this file by double-clicking on it. Follow the on-screen instructions to complete the installation.

Jupyter Notebook

Throughout the summer school we will write and run all of our programs through a Python-based application called "Jupyter Notebook". To run this from MacOS, you must first open the application named "Terminal". The best way to find this is to open the Application window

in “Finder”, and search for “Terminal”, the icons for both of these are shown below so you know you are opening the right software.

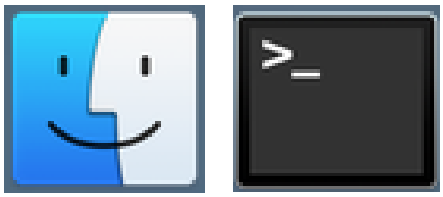

Figure 1. Example of software icons: Finder on the left; Terminal on the right.

Once you have located “Terminal” and have opened it, you will be presented with a ‘command prompt’ window with your user name. Type ‘jupyter notebook’ (without the quotes), you can see the image below as an example, then press enter/return on your keyboard. This should load the jupyer notebook program into your default web browser (note: this program will only open after installing Anaconda).

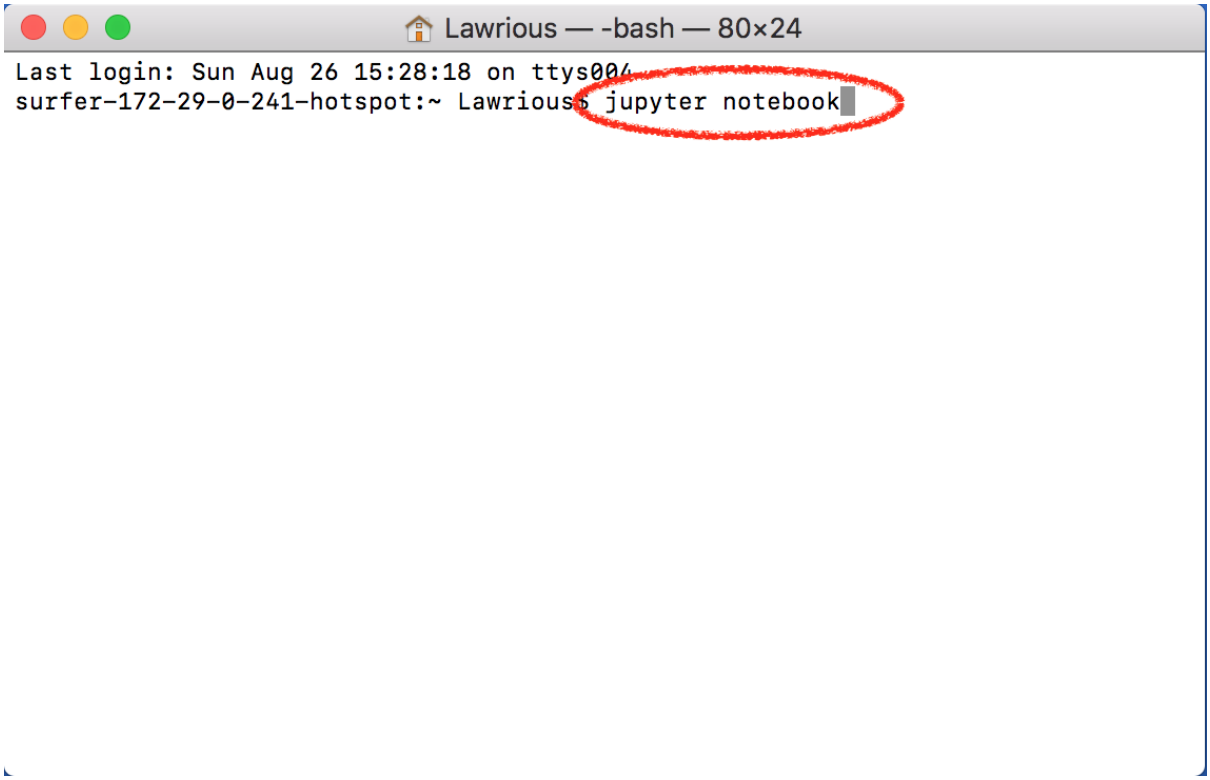

Figure 2. Example of the terminal window. Typing ‘jupyter notebook’ and pressing enter/return on your keyboard will load the program into your default web browser.

Windows

Anaconda™

For Windows OS devices please follow this link for the ANACONDA WINDOWS OS to download the 64-bit '.exe' file (32-bit version here), where the download should begin automatically for your default web browser. Save it to your chosen location, then run this file by double-clicking on it. Follow the on-screen instructions to complete the installation.

Jupyter Notebook

Throughout the summer school we will write and run all of our programs through a Python-based application called "Jupyter Notebook". To run this program on Microsoft Windows OS you must first open the windows application named "command prompt. The simplest way to open this program is to press the windows key + R $\left(\blacksquare + R\right)$, which opens the "Run" command window. Type, 'cmd' (without the quotation marks), which will then open the command prompt window into your C: Drive (default storage space). Now, type 'jupyter notebook' (all lower case without the quotes), then press enter/return on your keyboard. This should load the jupyter notebook program into your default web browser (note: this program will only open after installing Anaconda).

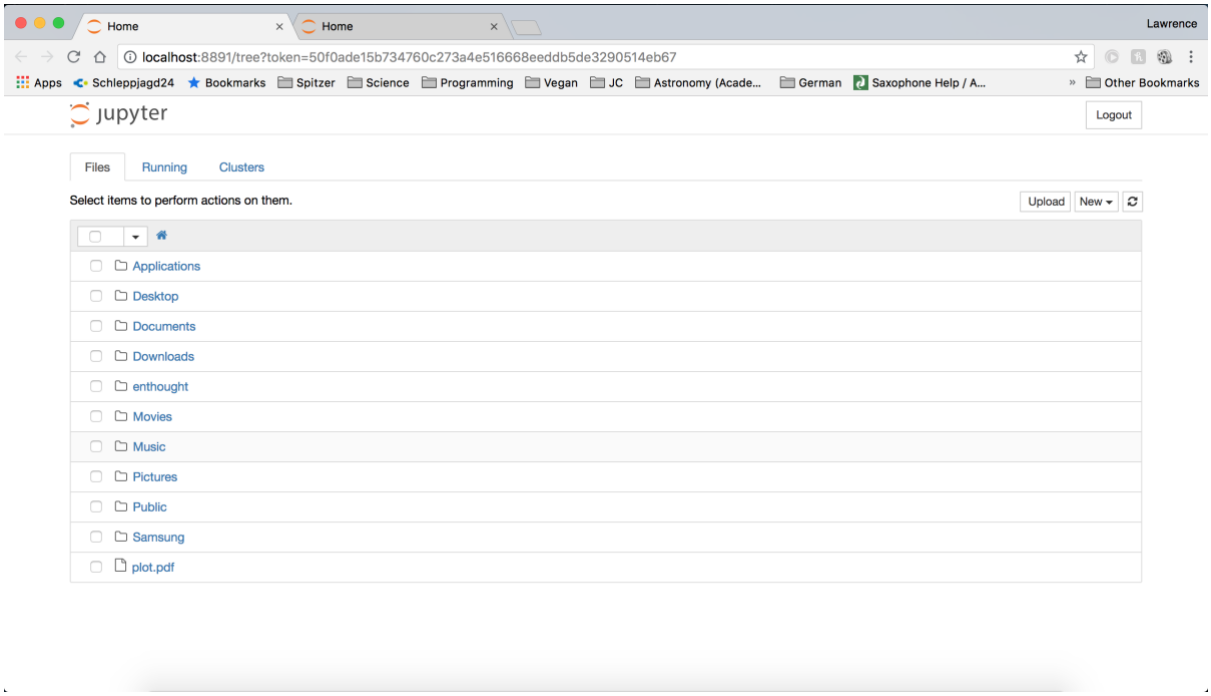

Figure 3. An Example of Jupyter Notebook running in a web browser.

Next Steps

Now you are ready to start understanding the programming language of 'Python'. You should first open jupyter notebook by the method relevant to your operating system above. Once jupyter notebook is loaded, navigate to where you have saved this repository and open '../StarterPack/Introduction to Python/Thaipass_Tutorial_Basic_python_skills.ipynb'. This is a jupyter notebook file, it will contain introductions to certain concepts, as well as explain the basics of Python and provide example code for you to follow through. There are also some tasks which you should complete as to go through the file. This is to test to see if you have understood the concepts presented.

After you have read and completed the tasks in 'Thaipass_Tutorial_Basic_python_skills.ipynb' You should go to the 'advanced' jupyter notebook, which can be found in the folder, 'THAIPASS_advanced/THAIPASS_advanced_notebook.ipynb'. This jupyter notebook will continue on from the concepts taught in the basic file, introducing you to more advanced concepts and techniques in using Python. Again, you should complete the tasks as you go through the notebook to check if you have understood. At the school we can help and assist you on anything that you did not understand, or, you wish for us to explain in more detail.

That is it for this document now, we are looking forward to greeting you in October, and if there are any problems, do not forget to contact us here: **ThaiPASS Team**.

Kind Regards,

The ThaiPASS UK Team.