

CS4487 - Tutorial 1: Introduction to Jupyter and Python

Welcome to Jupyter (IPython Notebooks)! In this tutorial you will get familiar with the Jupyter computing environment, and also practice writing some small Python programs.

What's Jupyter Notebook?

The Jupyter Notebook is an open-source web application that allows you to create and share documents that contain live code, equations, visualizations and narrative text. Jupyter Notebook is maintained by the people at [Project Jupyter](https://jupyter.org/) (<https://jupyter.org/>).

Jupyter Notebook is a spin-off project from the IPython project, which used to have an IPython Notebook project itself. The name, Jupyter, comes from the core supported programming languages that it supports: Julia, Python, and R. Jupyter ships with the IPython kernel, which allows you to write your programs in Python, but there are currently over 100 other kernels that we can also use.

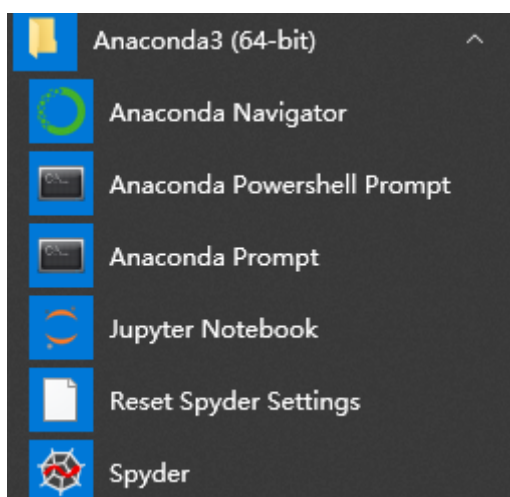
1. Installation

The Jupyter Notebook is not included with Python, so you need to install Python. We recommend [Anaconda](https://www.anaconda.com/) (<https://www.anaconda.com/>), which is a free and open-source distribution of the Python and R programming languages for scientific computing (data science, machine learning applications, large-scale data processing, predictive analytics, etc), that aims to simplify package management and deployment.

The Anaconda provides large selection of packages (Jupyter, Numpy, Panda, Conda, etc) and commercial support. It is an environment manager, which provides the facility to create different python environments, each with their own settings. In addition, Anaconda has its own installer tool called conda that you could use for installing a third-party package.

Recommended version: [Anaconda3-4.2.0](https://repo.continuum.io/archive/) (<https://repo.continuum.io/archive/>) .

You can use Anaconda Prompt or Anaconda Powershell Prompt from the Windows start menu to launch jupyter notebook. Enter the prompt/terminal and run the command: `jupyter notebook` . The jupyter notebook will launch where the current working directory is. You can change the Jupyter notebook startup folder if you want.



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Anaconda Prompt - jupyter notebook

(base) C:\Users\Garry>d:

(base) D:\>cd D:\OneDrive\OneDrive - City University of Hong Kong\course\CS4487\materials\CS4487\Tutorial

(base) D:\OneDrive\OneDrive - City University of Hong Kong\course\CS4487\materials\CS4487\Tutorial>ls
tutorial 1' tutorial 2' tutorial 3' tutorial 4' tutorial 5' tutorial 6' tutorial1_dummy.txt

(base) D:\OneDrive\OneDrive - City University of Hong Kong\course\CS4487\materials\CS4487\Tutorial>jupyter notebook
[I 16:02:28.970 NotebookApp] The port 8888 is already in use, trying another port.
[I 16:02:29.043 NotebookApp] JupyterLab extension loaded from C:\Users\Garry\Anaconda3\lib\site-packages\jupyterlab
[I 16:02:29.044 NotebookApp] JupyterLab application directory is C:\Users\Garry\Anaconda3\share\jupyter\lab
[I 16:02:29.046 NotebookApp] Serving notebooks from local directory: D:\OneDrive\OneDrive - City University of Hong Kong\course\CS4487\materials\CS4487\Tutorial
[I 16:02:29.046 NotebookApp] The Jupyter Notebook is running at:
[I 16:02:29.046 NotebookApp] http://localhost:8889/?token=c5397dbf489bee57723ad0ba52a34e2de80318ca322f3225
[I 16:02:29.046 NotebookApp] Use Control-C to stop this server and shut down all kernels (twice to skip confirmation).
[C 16:02:29.053 NotebookApp]




To access the notebook, open this file in a browser:
    file:///C:/Users/Garry/AppData/Roaming/jupyter/runtime/nbserver-8984-open.html
Or copy and paste one of these URLs:
    http://localhost:8889/?token=c5397dbf489bee57723ad0ba52a34e2de80318ca322f3225
```

Files

Running

Clusters

Select items to perform actions on them.

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