

03-JupyterQuickStart

August 11, 2020

1 Jupyter



1.1 Launch Jupyter server

```
jupyter notebook
```

- Go to notebooks folder
- Open the file 03.JupyterQuickStart.ipynb

1.2 Make a Copy

Before modifying the notebook, make a copy of it. Go to to **File** menu on the top left of the notebook and click on **Make a Copy...**

1.3 Jupyter Notebook

Jupyter notebook, formerly known as the IPython notebook, is a flexible tool that helps you create readable analyses, as you can keep code, images, comments, formulae and plots together.

Jupyter is quite extensible, supports many programming languages and is easily hosted on your computer or on almost any server — you only need to have ssh or http access. Best of all, it's completely free.

The name Jupyter is an indirect acronym of the three core languages it was designed for: **J**ulia, **PY**thon, and **R**

1.4 Keyboard Shortcuts

- To access keyboard shortcuts, use the command palette: **Cmd + Shift + P**
- **Esc** will take you into command mode where you can navigate around your notebook with arrow keys.
- While in command mode:
- **A** to insert a new cell above the current cell, **B** to insert a new cell below.
- **M** to change the current cell to Markdown, **Y** to change it back to code
- **D + D** (press the key twice) to delete the current cell

1.5 Easy links to documentation

- **Shift + Tab** will also show you the Docstring

```
[1]: dict
```

```
[1]: dict
```

1.6 Magic commands

```
[2]: %lsmagic
```

```
[2]: Available line magics:
```

```
%alias %alias_magic %autoawait %autocall %automagic %autosave %bookmark  
%cat %cd %clear %colors %conda %config %connect_info %cp %debug %dhist  
%dirs %doctest_mode %ed %edit %env %gui %hist %history %killbgscripts  
%ldir %less %lf %lk %ll %load %load_ext %loadpy %logoff %logon  
%logstart %logstate %logstop %ls %lsmagic %lx %macro %magic %man  
%matplotlib %mkdir %more %mv %notebook %page %pastebin %pdb %pdef %pdoc  
%pfile %pinfo %pinfo2 %pip %popd %pprint %precision %prun %psearch  
%psource %pushd %pwd %pycat %pylab %qtconsole %quickref %recall %rehashx  
%reload_ext %rep %rerun %reset %reset_selective %rm %rmdir %run %save  
%sc %set_env %store %sx %system %tb %time %timeit %unalias %unload_ext  
%who %who_ls %whos %xdel %xmode
```

```
Available cell magics:
```

```
%%! %%HTML %%SVG %%bash %%capture %%debug %%file %%html %%javascript  
%%js %%latex %%markdown %%perl %%prun %%pypy %%python %%python2  
%%python3 %%ruby %%script %%sh %%svg %%sx %%system %%time %%timeit
```

```
%%writefile
```

Automagic is ON, % prefix IS NOT needed for line magics.

```
[3]: %ls
```

01-GitBasics.ipynb	book-017.dat	book-054.dat	book-091.dat
02-Installation.ipynb	book-018.dat	book-055.dat	book-092.dat
03-JupyterQuickStart.ipynb	book-019.dat	book-056.dat	book-093.dat
04-WordCount.ipynb	book-020.dat	book-057.dat	book-094.dat
05-MapReduce.ipynb	book-021.dat	book-058.dat	book-095.dat
06-ParallelComputation.ipynb	book-022.dat	book-059.dat	book-096.dat
07-AsynchronousProcessing.ipynb	book-023.dat	book-060.dat	book-097.dat
08-DaskDelayed.ipynb	book-024.dat	book-061.dat	book-098.dat
09-DaskBag.ipynb	book-025.dat	book-062.dat	book-099.dat
10-PandasSeries.ipynb	book-026.dat	book-063.dat	
data/			
11-PandaDataframes.ipynb	book-027.dat	book-064.dat	fibonacci.py
12-PySpark.ipynb	book-028.dat	book-065.dat	images/
13-UnixCommands.ipynb	book-029.dat	book-066.dat	log
14-Hadoop.ipynb	book-030.dat	book-067.dat	
mapper.py*			
15-HadoopFileFormats.ipynb	book-031.dat	book-068.dat	pmap.py
16-DaskDataframes.ipynb	book-032.dat	book-069.dat	
reducer.py*			
17-SparkDataFrames.ipynb	book-033.dat	book-070.dat	sample00.txt
18-NYCTaxiCabTripDask.ipynb	book-034.dat	book-071.dat	sample01.txt
19-NYCTaxiCabTripSpark.ipynb	book-035.dat	book-072.dat	sample02.txt
Makefile	book-036.dat	book-073.dat	sample03.txt
book-000.dat	book-037.dat	book-074.dat	sample04.txt
book-001.dat	book-038.dat	book-075.dat	sample05.txt
book-002.dat	book-039.dat	book-076.dat	sample06.txt
book-003.dat	book-040.dat	book-077.dat	sample07.txt
book-004.dat	book-041.dat	book-078.dat	sample08.txt
book-005.dat	book-042.dat	book-079.dat	sample09.txt
book-006.dat	book-043.dat	book-080.dat	sample10.txt
book-007.dat	book-044.dat	book-081.dat	sample11.txt
book-008.dat	book-045.dat	book-082.dat	sample12.txt
book-009.dat	book-046.dat	book-083.dat	sample13.txt
book-010.dat	book-047.dat	book-084.dat	sample14.txt
book-011.dat	book-048.dat	book-085.dat	sample15.txt
book-012.dat	book-049.dat	book-086.dat	sample16.txt
book-013.dat	book-050.dat	book-087.dat	sample17.txt
book-014.dat	book-051.dat	book-088.dat	sample18.txt
book-015.dat	book-052.dat	book-089.dat	sample19.txt
book-016.dat	book-053.dat	book-090.dat	test_stdin.py

```
[4]: %%file sample.txt
```

write the cell content to the file sample.txt.
The file `is` created when you run this cell.

Writing sample.txt

```
[5]: %cat sample.txt
```

write the cell content to the file sample.txt.
The file is created when you run this cell.

```
[6]: %%file fibonacci.py
```

```
f1, f2 = 1, 1
for n in range(10):
    print(f1, end=',')
    f1, f2 = f2, f1+f2
```

Overwriting fibonacci.py

```
[7]: %run fibonacci.py
```

1,1,2,3,5,8,13,21,34,55,

```
[8]: # %load fibonacci.py
```

```
f1, f2 = 1, 1
for n in range(10):
    print(f1, end=',')
    f1, f2 = f2, f1+f2
```

1,1,2,3,5,8,13,21,34,55,

```
[9]: %%time
```

```
f1, f2 = 1, 1
for n in range(10):
    print(f1, end=',')
    f1, f2 = f2, f1+f2
print()
```

1,1,2,3,5,8,13,21,34,55,

CPU times: user 816 μ s, sys: 0 ns, total: 816 μ s

Wall time: 522 μ s

1.7 Installing Python Packages from a Jupyter Notebook

1.7.1 Install a conda package in the current Jupyter kernel

Example with package `numpy` from *conda-forge*

```
%conda install -c conda-forge lorem
```