Tutorial: Intro to Jupyter/IPython

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Let's grab our tutorial materials!

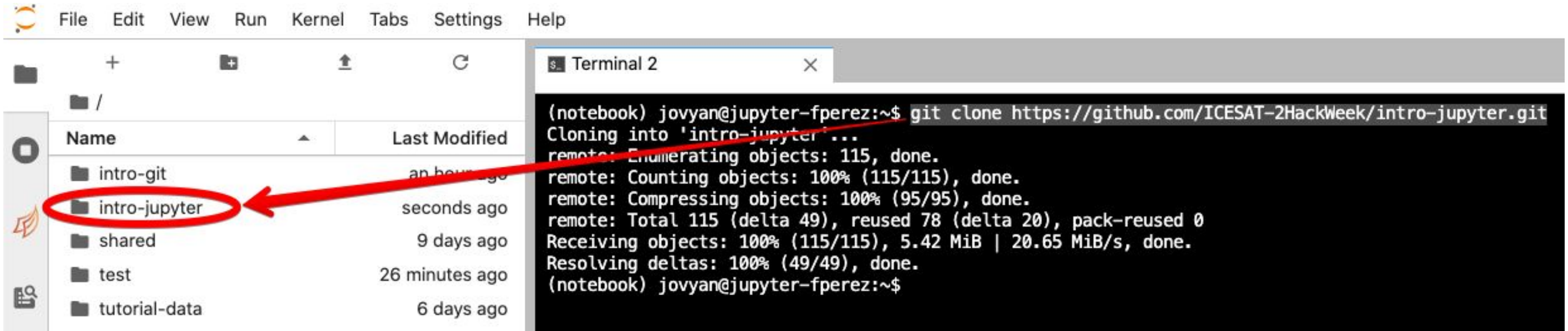
Location: https://github.com/ICESAT-2HackWeek/intro-jupyter

In a terminal, type:

```
git clone https://github.com/ICESAT-2HackWeek/intro-jupyter.git
```

If you had already done that, then in the intro-jupyter directory type:

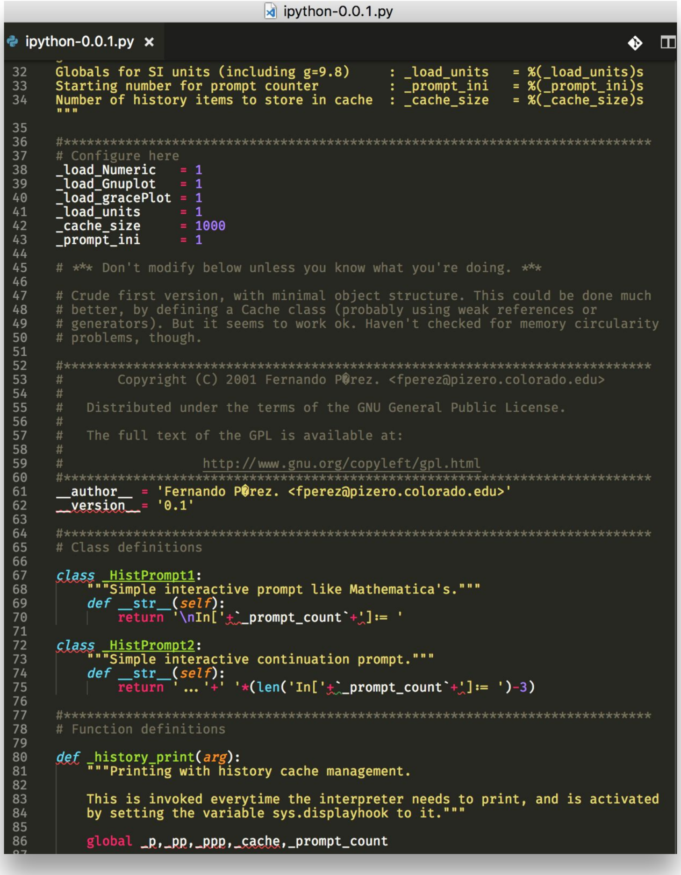
```
git pull
```



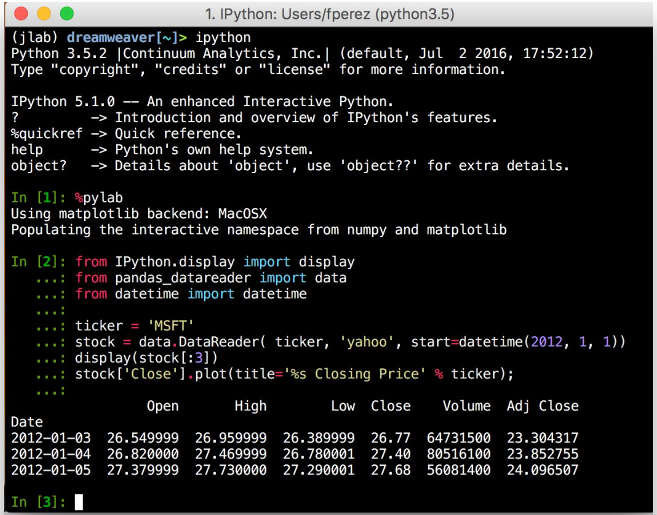
Name	Last Modified
intro-git	an hour ago
intro-jupyter	seconds ago
shared	9 days ago
test	26 minutes ago
tutorial-data	6 days ago

```
(notebook) jovyan@jupyter-fperez:~$ git clone https://github.com/ICESAT-2HackWeek/intro-jupyter.git
Cloning into 'intro-jupyter'...
remote: Enumerating objects: 115, done.
remote: Counting objects: 100% (115/115), done.
remote: Compressing objects: 100% (95/95), done.
remote: Total 115 (delta 49), reused 78 (delta 20), pack-reused 0
Receiving objects: 100% (115/115), 5.42 MiB | 20.65 MiB/s, done.
Resolving deltas: 100% (49/49), done.
(notebook) jovyan@jupyter-fperez:~$
```

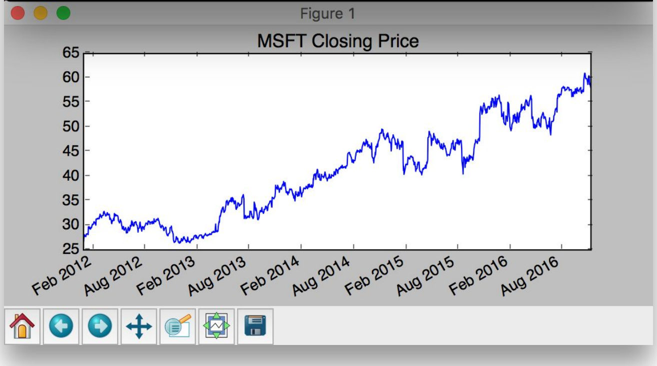
IPython: an afternoon hack, 2001



```
Globals for SI units (including g=9.8)     : _load_units    = %(_load_units)s
Starting number for prompt counter         : _prompt_ini    = %(_prompt_ini)s
Number of history items to store in cache  : _cache_size    = %(_cache_size)s
"""

#*****************************************************************************
# Configure here
_load_Numeric   = 1
_load_Gnuplot   = 1
_load_gracePlot = 1
_load_units     = 1
_cache_size     = 1000
_prompt_ini     = 1

# *** Don't modify below unless you know what you're doing. ***

# Crude first version, with minimal object structure. This could be done much
# better, by defining a Cache class (probably using weak references or
# generators). But it seems to work ok. Haven't checked for memory circularity
# problems, though.

#*****************************************************************************
#       Copyright (C) 2001 Fernando P�rez. <fperez@pizero.colorado.edu>
#
#   Distributed under the terms of the GNU General Public License.
#
#   The full text of the GPL is available at:
#
#                   http://www.gnu.org/copyleft/gpl.html
#*****************************************************************************
__author__ = 'Fernando P�rez. <fperez@pizero.colorado.edu>'
__version__= '0.1'

#*****************************************************************************
# Class definitions

class _HistPrompt1:
    """Simple interactive prompt like Mathematica's."""
    def __str__(self):
        return '\nIn['+`_prompt_count`+']:= '

class _HistPrompt2:
    """Simple interactive continuation prompt."""
    def __str__(self):
        return ' ...'+' '*(len('In['+`_prompt_count`+']:= ')-3)

#*****************************************************************************
# Function definitions

def _history_print(arg):
    """Printing with history cache management.

    This is invoked everytime the interpreter needs to print, and is activated
    by setting the variable sys.displayhook to it."""

    global _p,_pp,_ppp,_cache,_prompt_count
```



```
(jlab) dreamweaver[~]> ipython
Python 3.5.2 |Continuum Analytics, Inc.| (default, Jul  2 2016, 17:52:12)
Type "copyright", "credits" or "license" for more information.

IPython 5.1.0 -- An enhanced Interactive Python.
?         -> Introduction and overview of IPython's features.
%quickref -> Quick reference.
help      -> Python's own help system.
object?   -> Details about 'object', use 'object??' for extra details.

In [1]: %pylab
Using matplotlib backend: MacOSX
Populating the interactive namespace from numpy and matplotlib

In [2]: from IPython.display import display
   ...: from pandas_datareader import data
   ...: from datetime import datetime
   ...:
   ...: ticker = 'MSFT'
   ...: stock = data.DataReader( ticker, 'yahoo', start=datetime(2012, 1, 1))
   ...: display(stock[:3])
   ...: stock['Close'].plot(title='%s Closing Price' % ticker);
   ...:
                 Open       High        Low  Close    Volume  Adj Close
Date
2012-01-03  26.549999  26.959999  26.389999  26.77  64731500  23.304317
2012-01-04  26.820000  27.469999  26.780001  27.40  80516100  23.852755
2012-01-05  27.379999  27.730000  27.290001  27.68  56081400  24.096507

In [3]:
```



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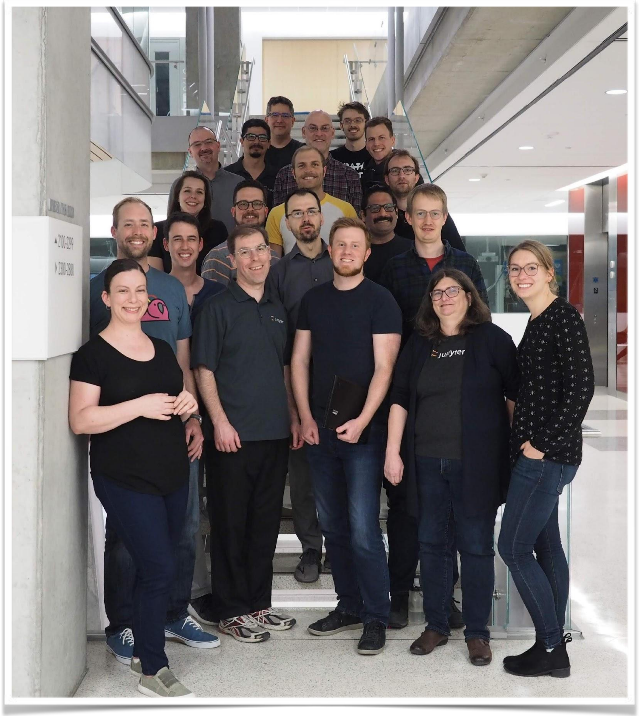
- Brett Cannon

A true team effort

jupyter



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