

Boise Python Developers Meetup

IPython Notebook Basics?

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What is an IPython Notebook?

- Web browser based interactive environment
- Code cells, Rich text, Graphics, Multimedia
- Generate output or convert to PDF, HTML
- Share as a static web page
- Flexible, controlled Parallel Processing
- Interactive multi-user collaboration

What Do You Need?

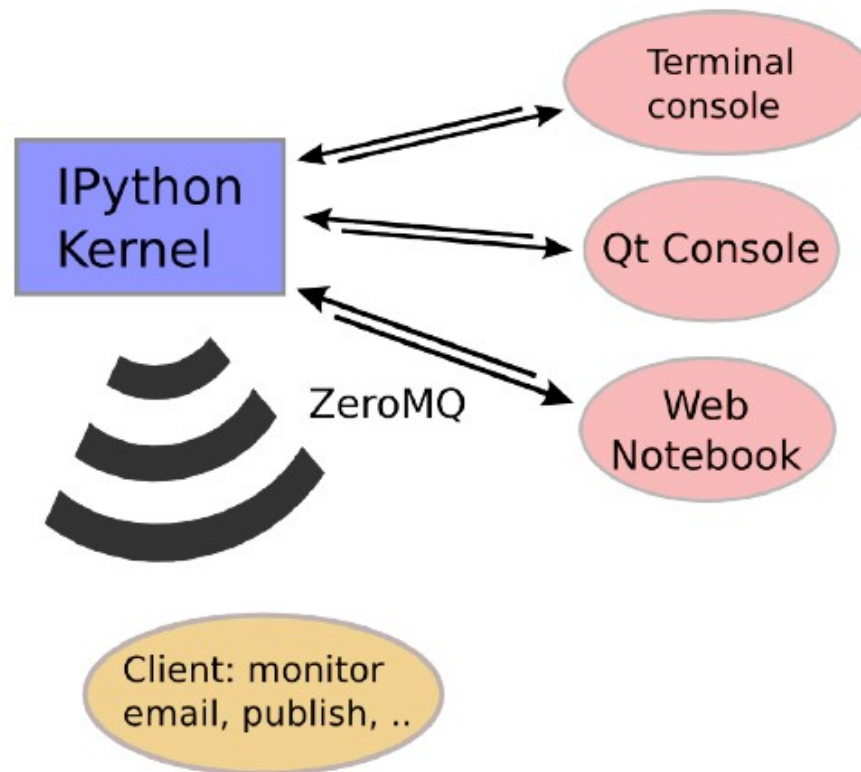
- Packages:
 - python – v2 or v3
 - ipython
- Sources:
 - Your distro repository
 - <https://pypi.python.org/pypi/ipython>
 - <https://github.com/ipython/ipython>

Let's Get Started

- Open a terminal session
 - Enter: `ipython notebook`
 -
 - You need to kill process when done!
- What do you get?
 - Command entry history

Behind the Pretty Picture

Interactive architecture



IPython “Magic”

- Notebook uses IPython Magic
- Line Magic and Cell Magic
 - Run system commands
 - Start/run other languages
 - Connect to web services
 - Collaborate with other users

Notebook: `basic-steps.ipynb`

Let's See Some Examples

Rich Output

- Text
- Graphics
- Multimedia

Notebook: rich-output.ipynb

Embed Other Interpreters

Run other languages within
A Notebook

Notebook: `other-languages.ipynb`

Embed Other Programs Results

Octave – Matlab compatible

R – statistical package

Notebook: octave-magic.ipynb
trapezoid-rule.ipynb

Links:

IPython Notebook Introduction – homepage:

<http://ipython.org/ipython-doc/stable/notebook/index.html>

<http://ipython.org/notebook.html>

IPython Official Repository (GitHub):

<https://github.com/ipython/ipython>

Good overview of early capabilities:

<https://www.youtube.com/watch?v=26wgEsg9Mcc>

Python Docs with Notebook:

<http://nbviewer.ipython.org/github/ipython/ipython/blob/master/examples/Index.ipynb>

Gallery of Interesting IPython Notebooks:

<https://github.com/ipython/ipython/wiki/A-gallery-of-interesting-IPython-Notebooks>

Using IPython Notebook on Parallel Cluster:

<http://web.mit.edu/STAR/cluster/docs/latest/plugins/ipython.html>

http://www.astro.washington.edu/users/vanderplas/Astr599/notebooks/21_IPythonParallel