Part II: Python

Python is one of the most popular general-purpose programming languages

Rank	Language	Ratings
1	Java	20.5%
2	C	14.6%
3	C++	6.7%
4	C#	4.3%
5	**Python**	**4.3%**
6	PHP	2.8%
7	Visual Basic.Net	2.6%
8	JavaScript	2.3%
9	Perl	2.3%
10	Ruby	2.2%

TIOBE Index, March 2016
http://www.tiobe.com/tiobe_index

Python has many applications

- Web development

- Application development

- Computer graphics

- Scientific computing

  - Bioinformatics

  - Machine learning

  - Simulations

https://www.python.org/about/quotes/

We use the Anaconda Python distribution

PYTHON
THE FASTEST
GROWING
OPEN DATA
SCIENCE
PLATFORM

ANACONDA®

Modern open source analytics platform
powered by Python

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http://www.continuum.io

Launcher   Environment: root ▾   Python 3.5.1-0   Manage Channels   **1.0.0**

glueviz   ⬇ Install

link visualizations of scientific datasets

ipython-notebook   ✈ Launch

IPython Notebook   *Version 4.0.4*

Notebook
Gallery

ipython-qtconsole   ✈ Launch

IPython QtConsole   *Version 4.0.1*

Continuum
Analytics

orange-app   ⬇ Install

data visualization and data analysis tool

Documentation

spyder-app   ✈ Launch

Scientific Python Development Environment   *Version 2.3.8*

Launcher   Environment: root ▾   Python 3.5.1-0   Manage Channels   **1.0.0**
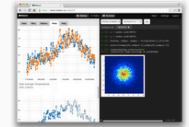
glueviz

⬇ Install

link visualizations of scientific datasets

ipython-notebook

✈ Launch

IPython Notebook

Version 4.0.4

ipython-qtconsole

✈ Launch

IPython QtConsole

Version 4.0.1

Simple python console for small problems

orange-app
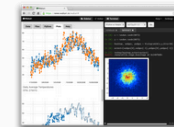
⬇ Install

data visualization and data analysis tool

spyder-app

✈ Launch

Scientific Python Development Environment

Version 2.3.8

Wakari

Notebook Gallery
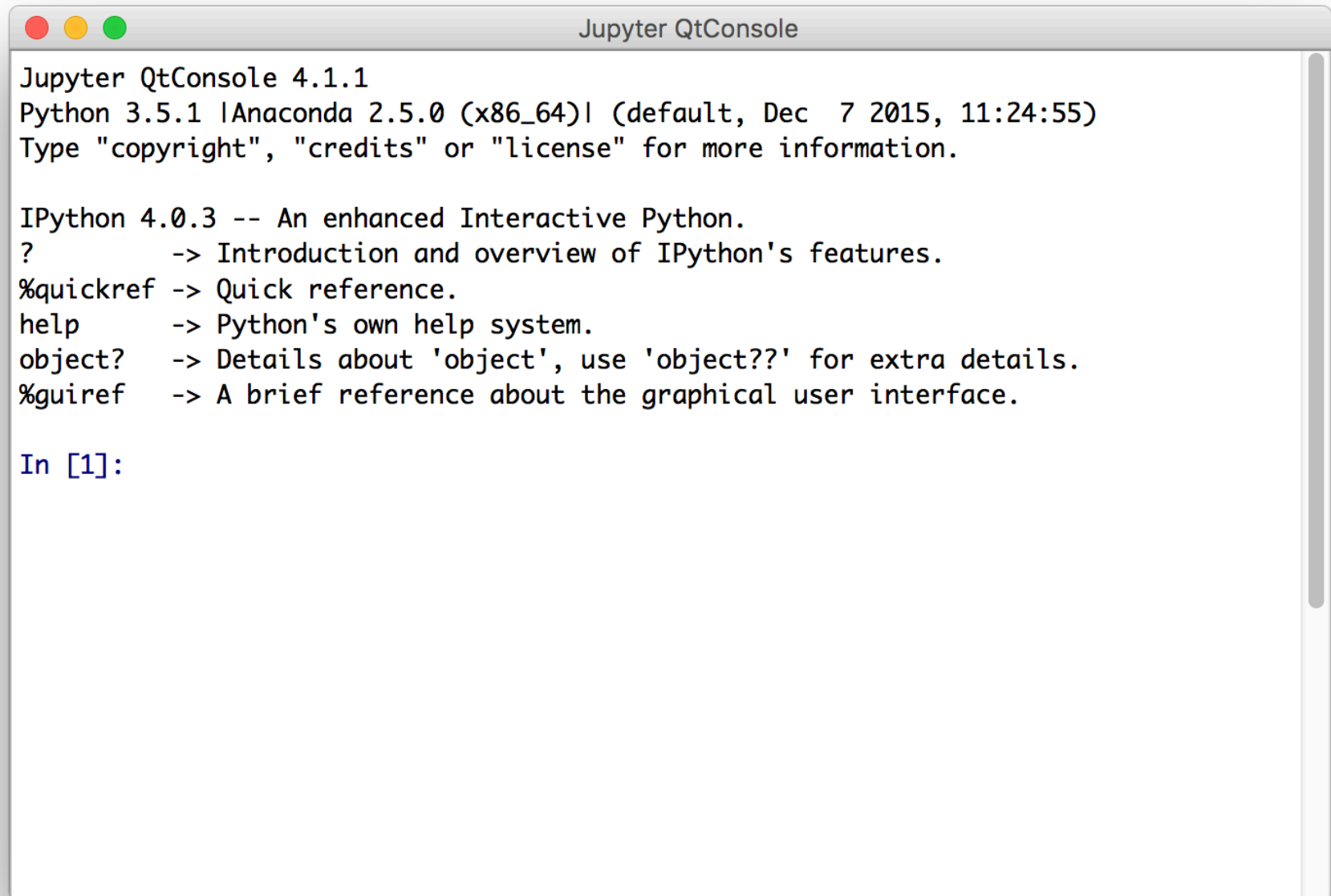
Continuum Analytics

Documentation

IPython QtConsole

```
Jupyter QtConsole
```

```
Jupyter QtConsole 4.1.1
Python 3.5.1 |Anaconda 2.5.0 (x86_64)| (default, Dec  7 2015, 11:24:55)
Type "copyright", "credits" or "license" for more information.

IPython 4.0.3 -- 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.
%guiref   -> A brief reference about the graphical user interface.

In [1]:
```

Launcher   Environment: root ▾   Python 3.5.1-0   Manage Channels   1.0.0

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ipython-notebook   ✈ Launch

IPython Notebook   *Version 4.0.4*

ipython-qtconsole   ✈ Launch

IPython QtConsole   *Version 4.0.1*

orange-app   ⬇ Install

data visualization and data analysis tool

spyder-app   **Similar to R Studio, but not   ✈ Launch
                          as full featured.**
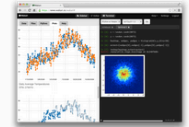
Scientific Python Development Environment   *Version 2.3.8*

Wakari

Notebook Gallery

Continuum Analytics

Documentation

Spyder

Launcher   Environment: root ▾   Python 3.5.1-0   Manage Channels   **1.0.0**
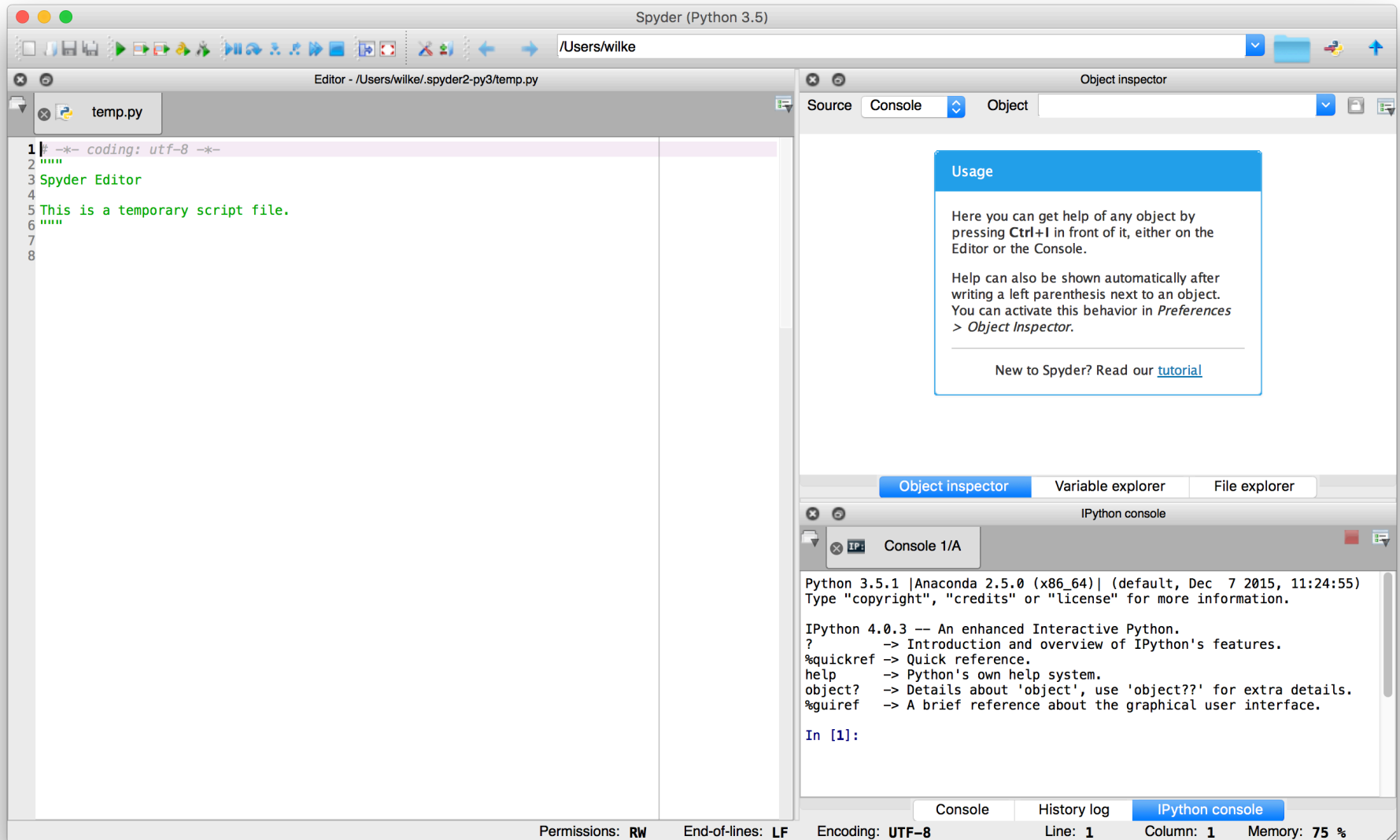
glueviz
Install

link visualizations of scientific datasets

ipython-notebook

Mix text and python code, similar to R Markdown

⚡ Launch

IPython Notebook

Version 4.0.4

ipython-qtconsole

⚡ Launch

IPython QtConsole

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Scientific Python Development Environment

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Wakari
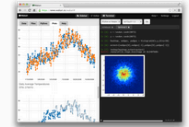
Notebook Gallery

Continuum Analytics
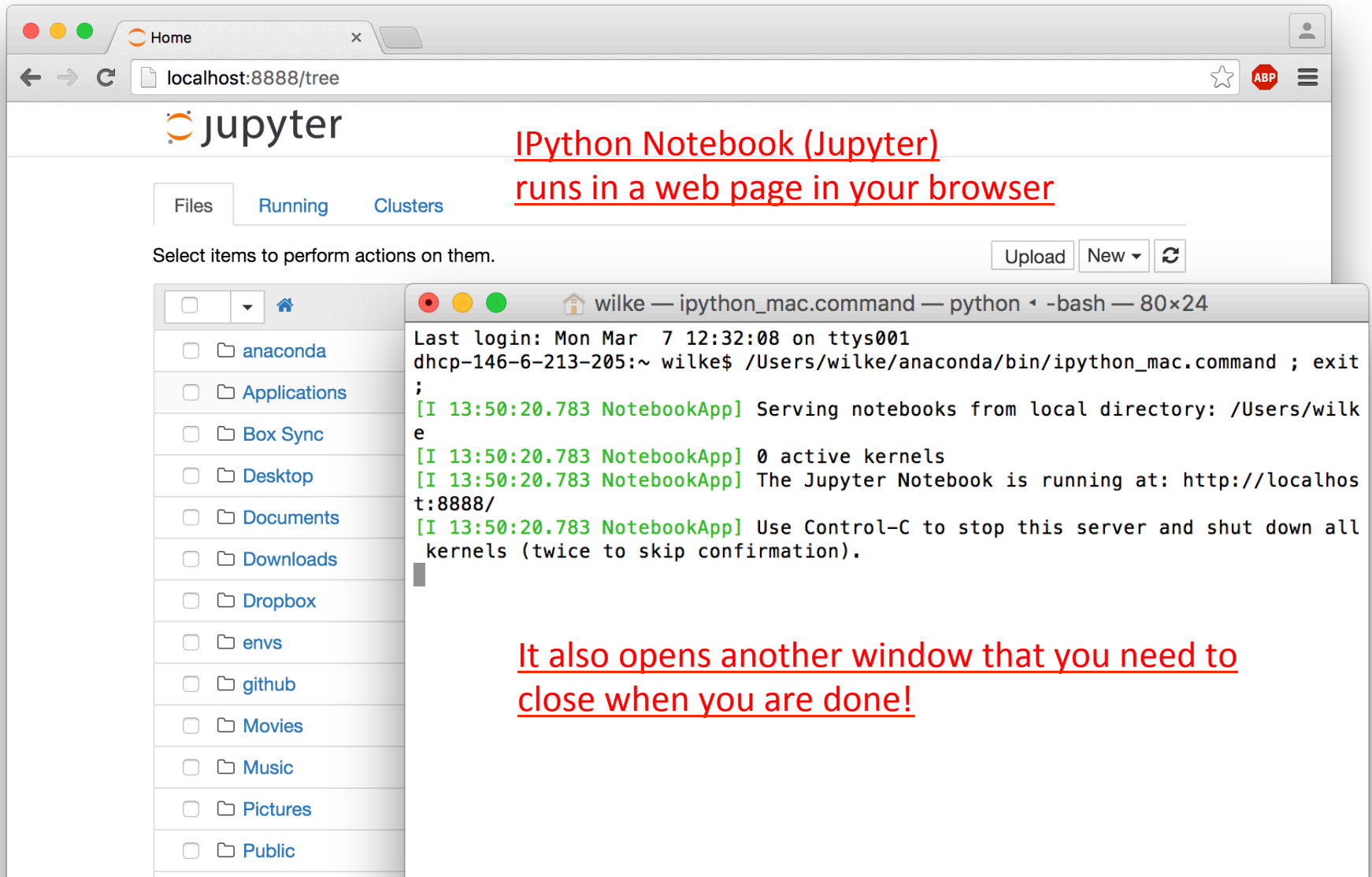
Documentation

IPython Notebook

IPython Notebook (Jupyter)
runs in a web page in your browser

IPython Notebook

IPython Notebook (Jupyter)
runs in a web page in your browser

It also opens another window that you need to
close when you are done!