Introduction to IPython Notebook

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Unidata Python Workshop

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Overview

- Brief overview of IPython Notebook
  - What is it?
  - How do you use it?

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  - What is it?
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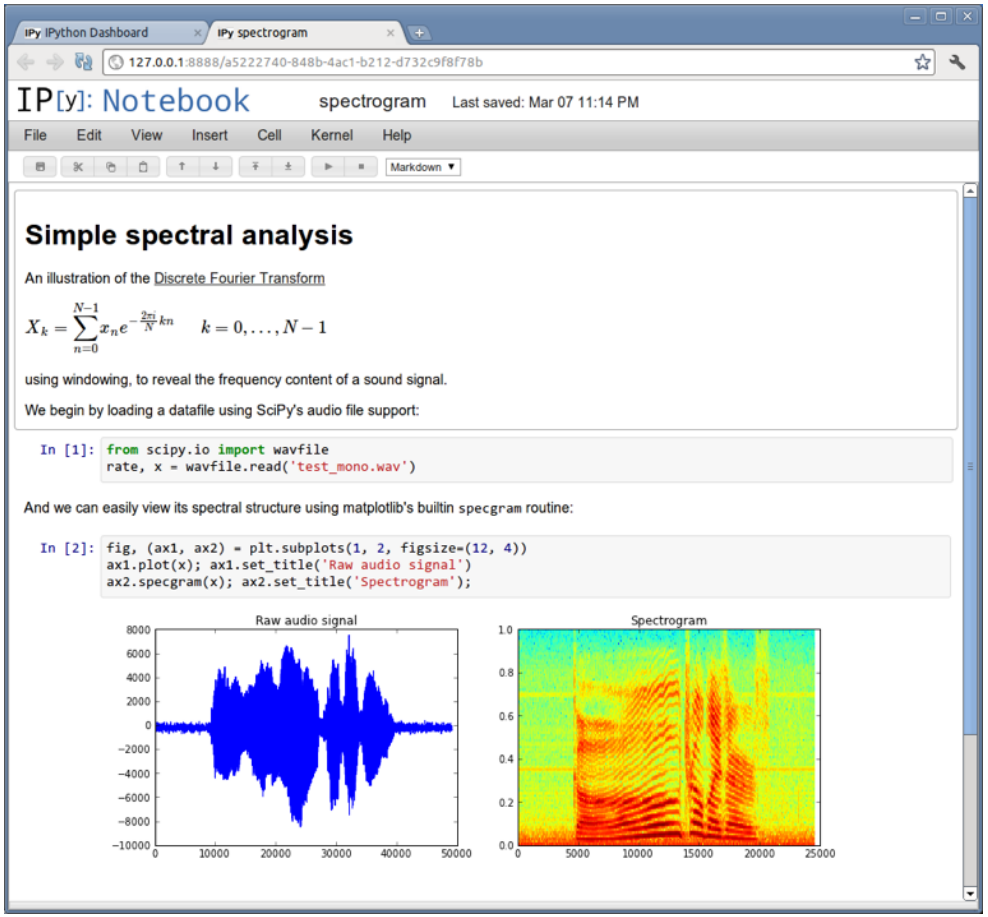
- Examples of basic IPython Notebook Usage.
- Discuss some Advanced IPython Notebook Uses.

What is IPython Notebook?

"The IPython Notebook is a web-based interactive computational environment where you can combine code execution, text, mathematics, plots and rich media into a single document"



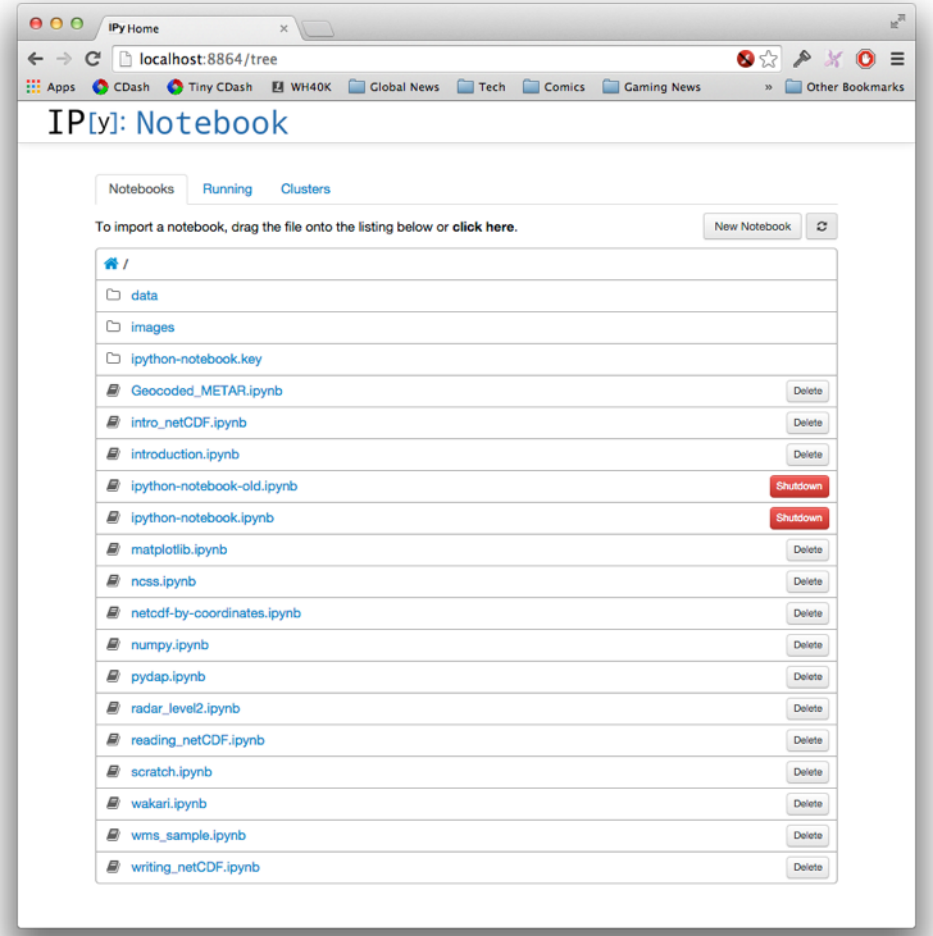
http://ipython.org/notebook.html

What is IPython Notebook

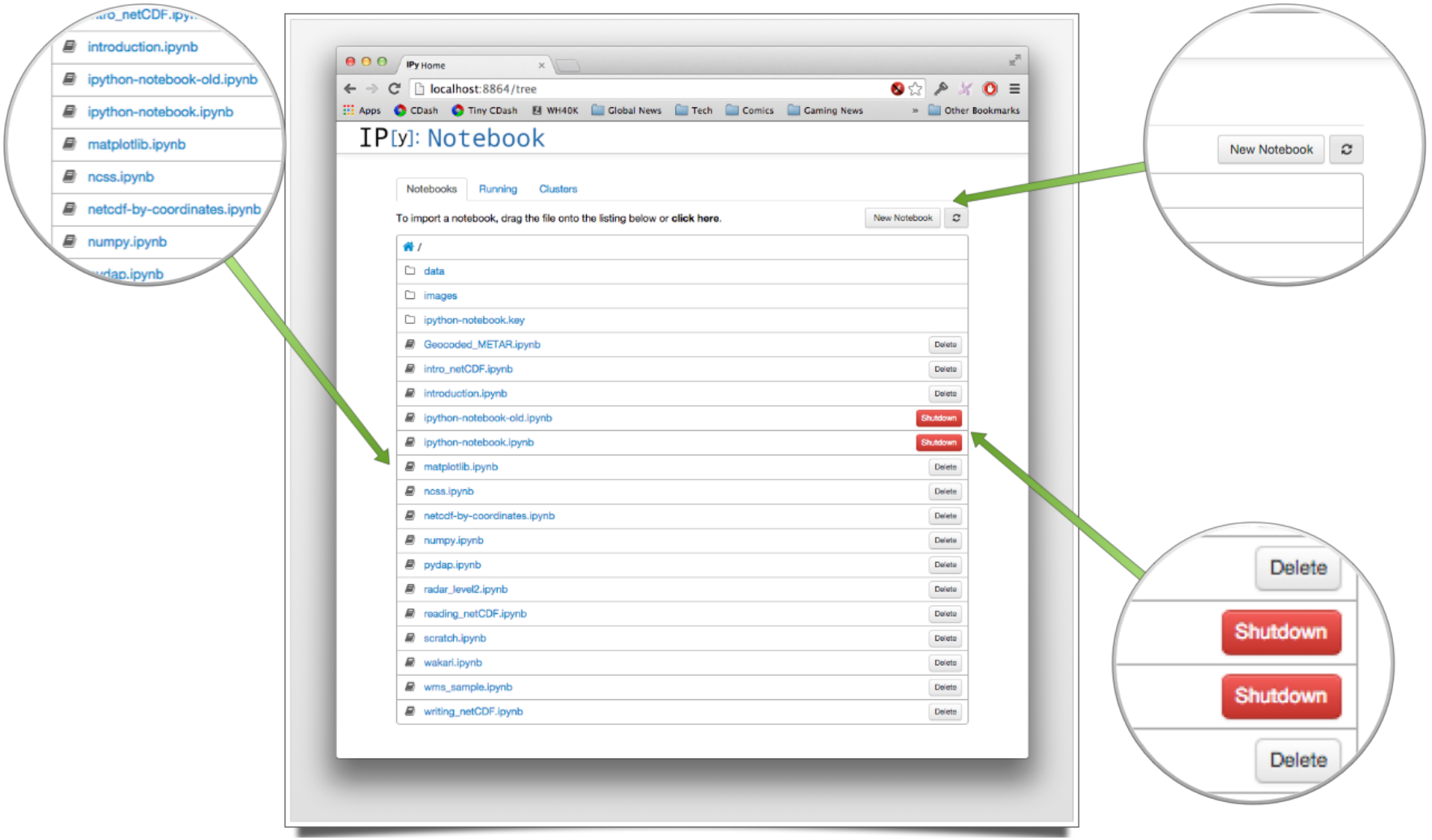
- IPython Notebook is comprised of two parts:
  - The IPython Notebook server
  - Individual Notebooks (.ipynb)

IPython Notebook Server

- The IPython Notebook Server acts as a dashboard for a collection of individual notebooks.

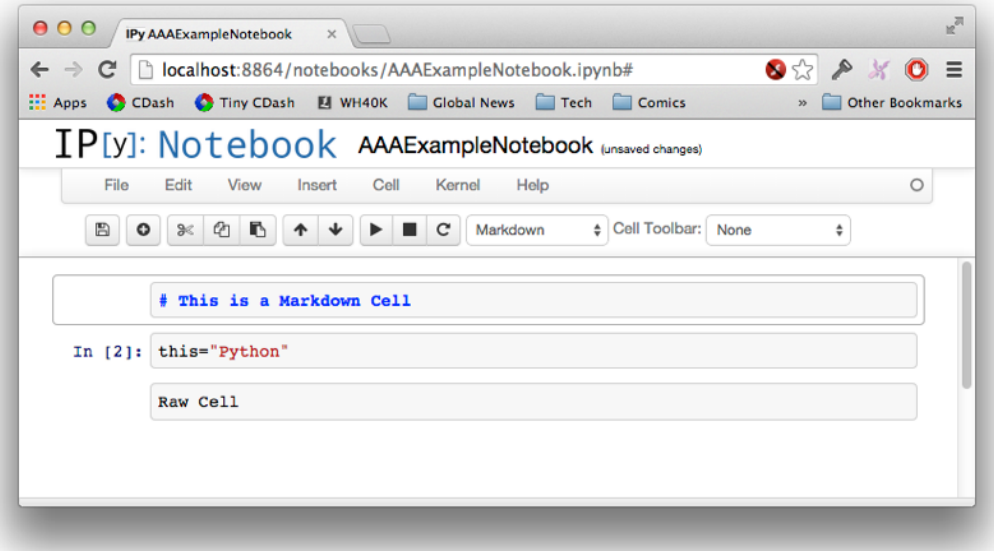


IPython Notebook Server



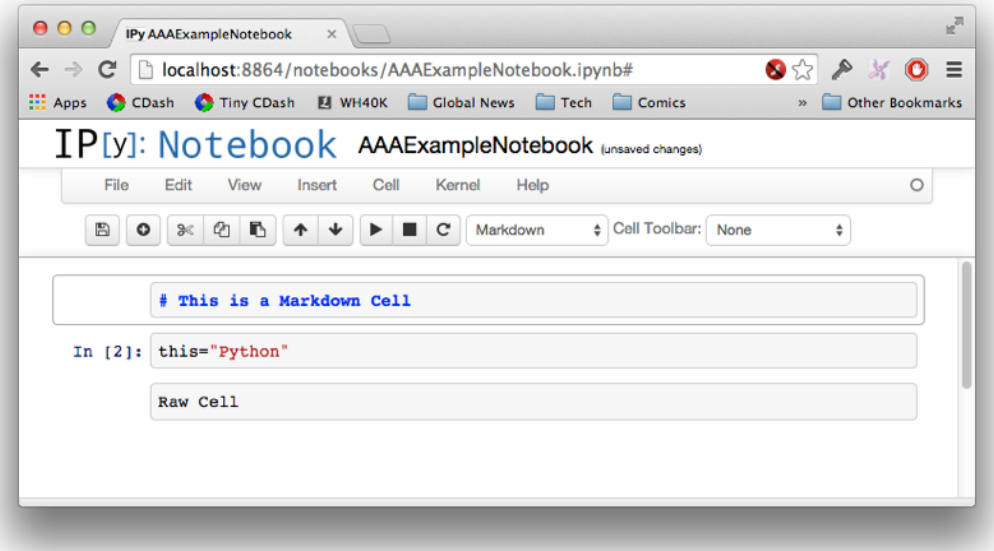
IPython Notebooks

- An IPython Notebook is a collection of *cells*.



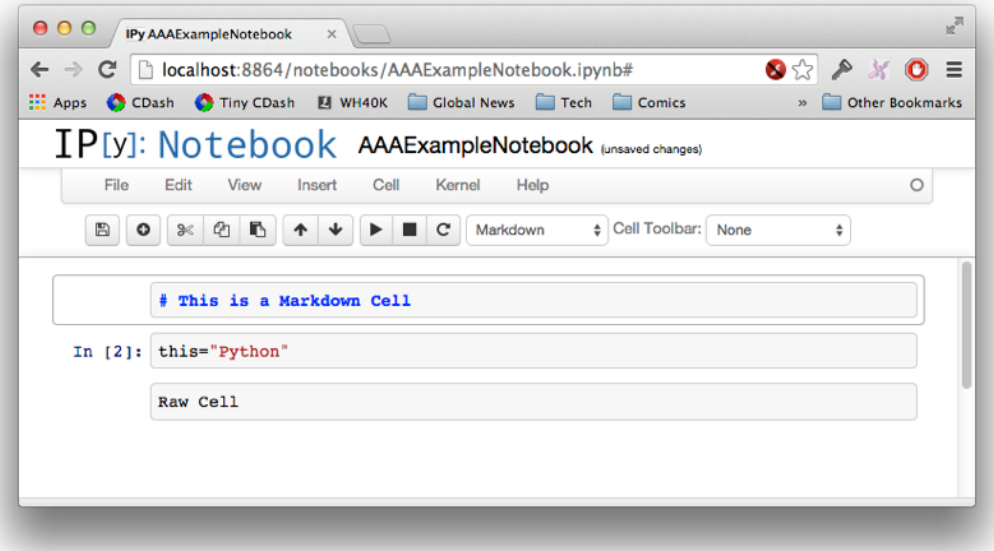
IPython Notebooks

- An IPython Notebook is a collection of *cells*.
  - Markdown



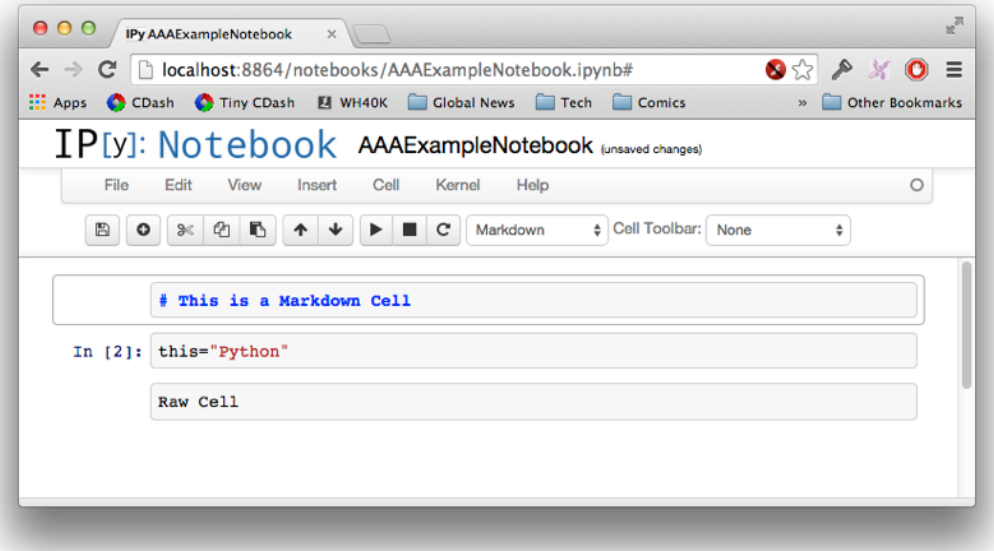
IPython Notebooks

- An IPython Notebook is a collection of *cells*.
  - Markdown
  - Code

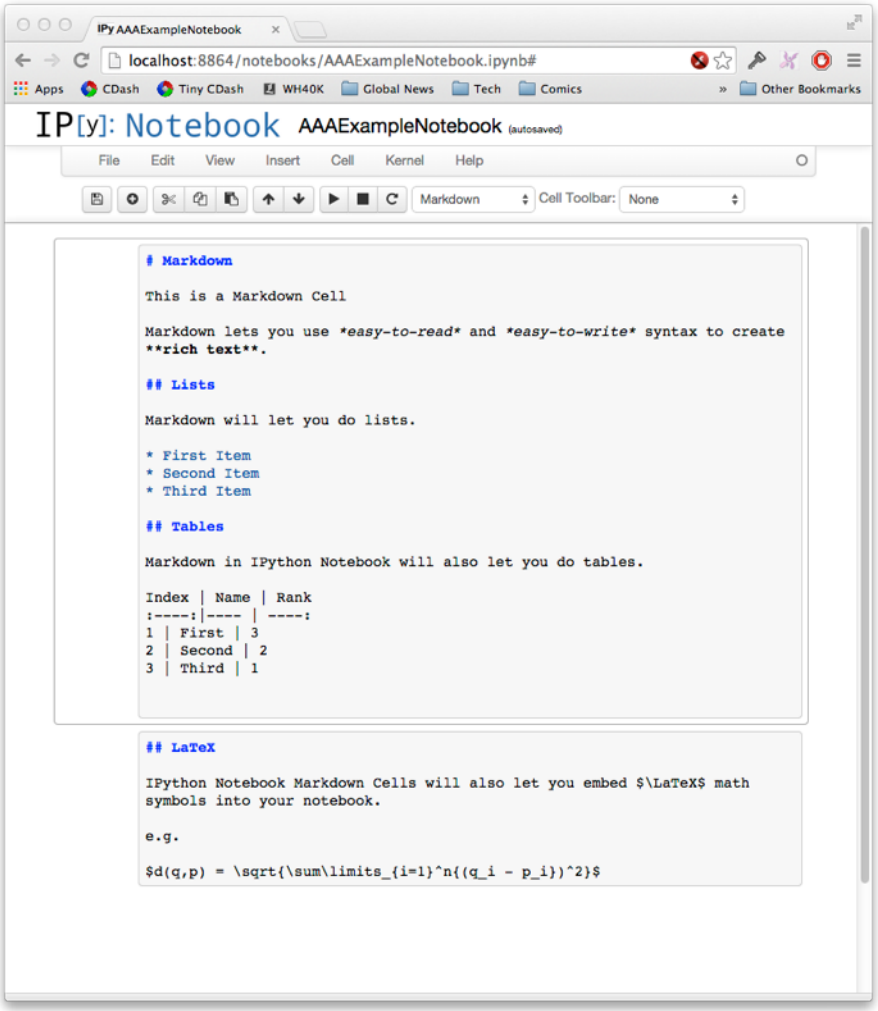


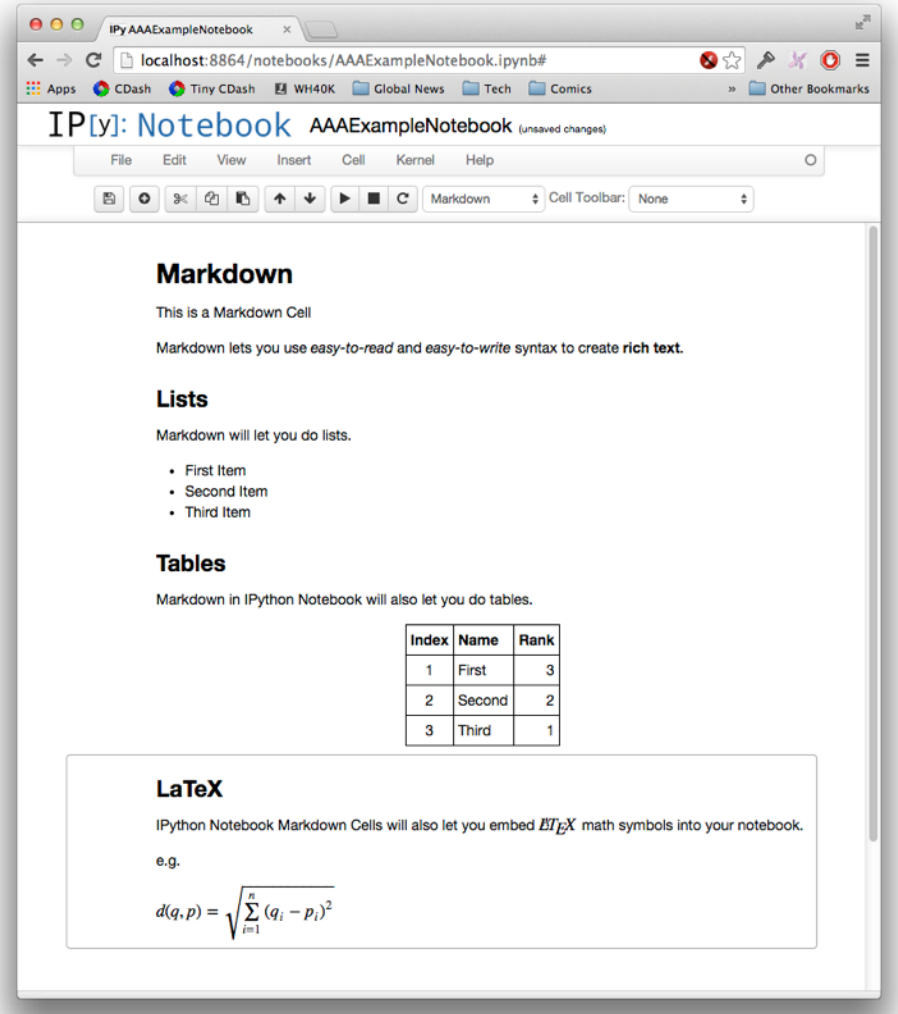
IPython Notebooks

- An IPython Notebook is a collection of *cells*.
  - Markdown
  - Code
  - "Raw" - *Raw cells are left 'as is' and are not processed.*

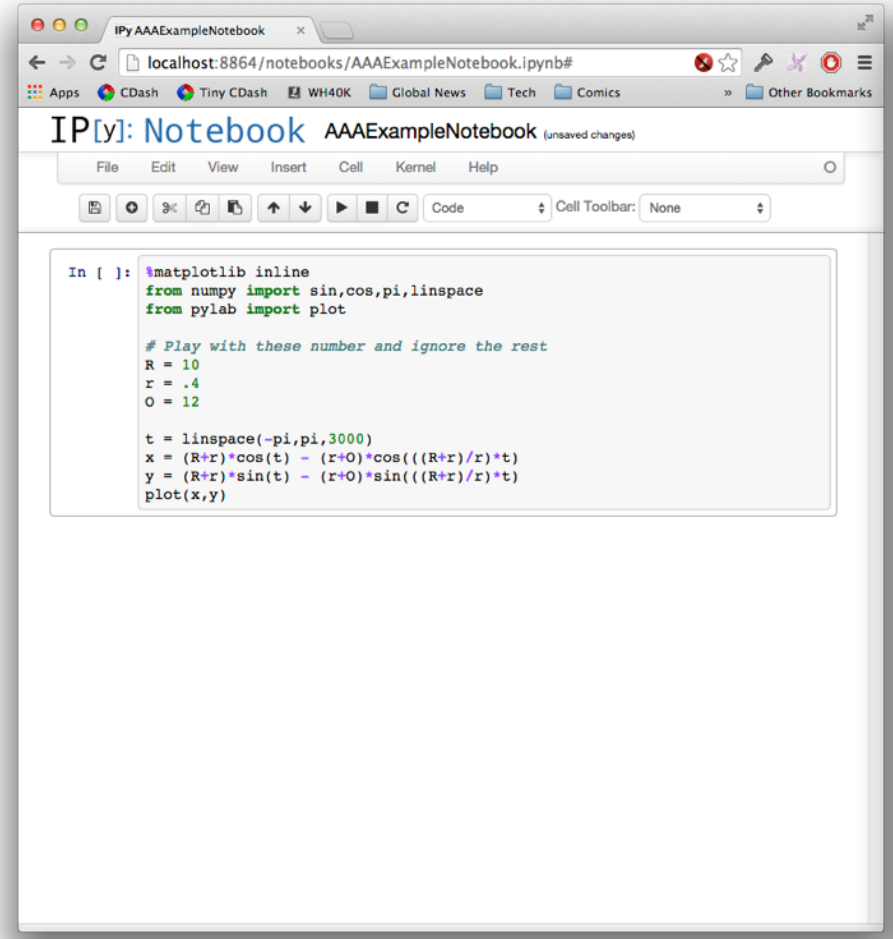


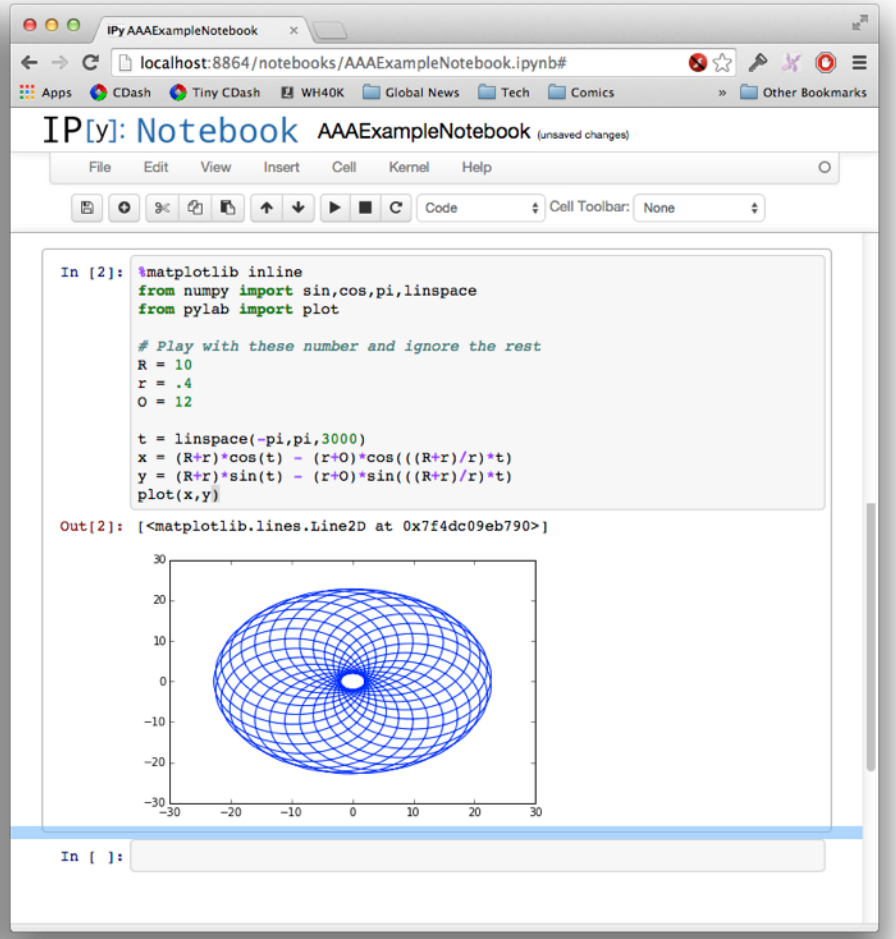
Markdown Cells





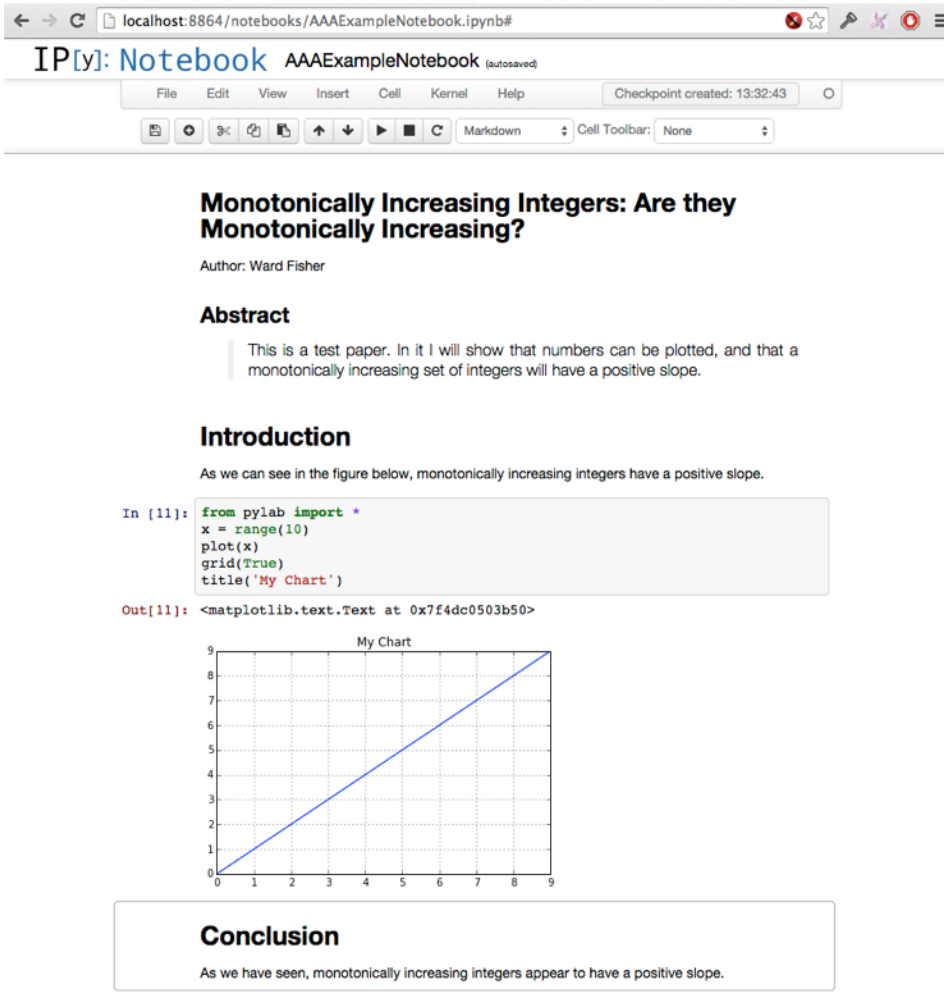
Python Cells





What does this get you?

- A sharable document with embedded, reproducible experimental data analysis.



Installing IPython Notebook

- The easiest way to install IPython notebook is with a package manager like “Conda”
  - Maintained by Continuum Analytics
  - http://continuum.io/downloads

Installing IPython Notebook

- Once Anaconda is installed, you can use the 'conda' command to install ipython notebook (and other packages).

```
$ conda install ipython ipython-notebook
```

Launching IPython Notebook

- IPython Notebook is launched via the command line.

```
$ ipython notebook
```

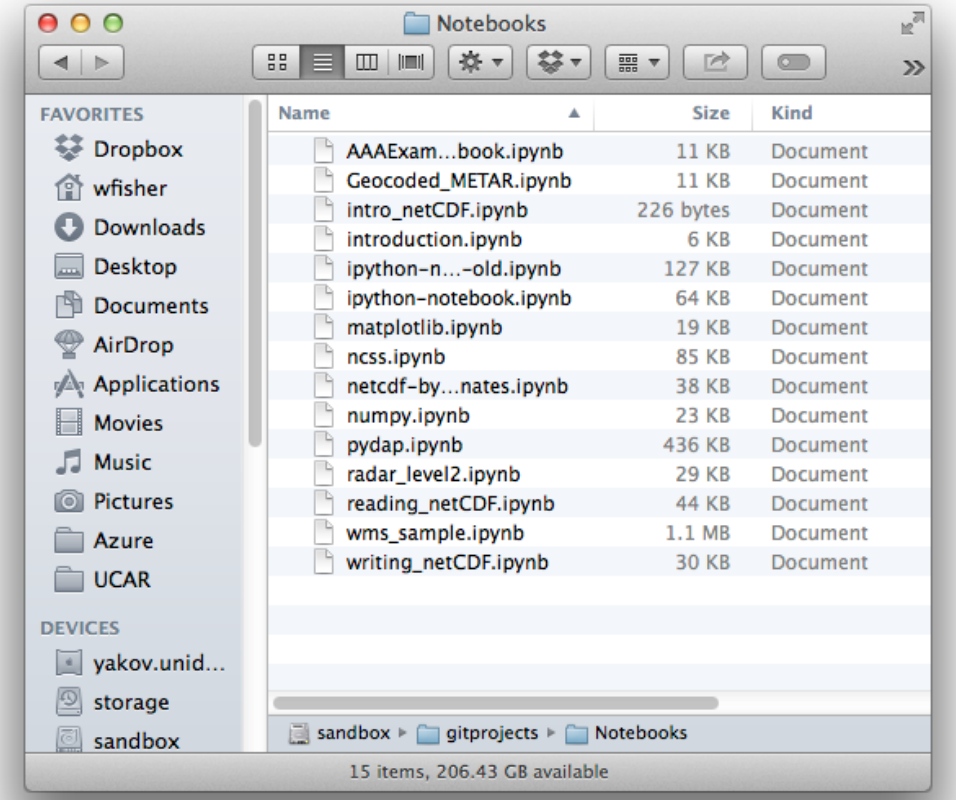
Launching IPython Notebook

- IPython Notebook is launched via the command line.

```
$ ipython notebook [options]
```

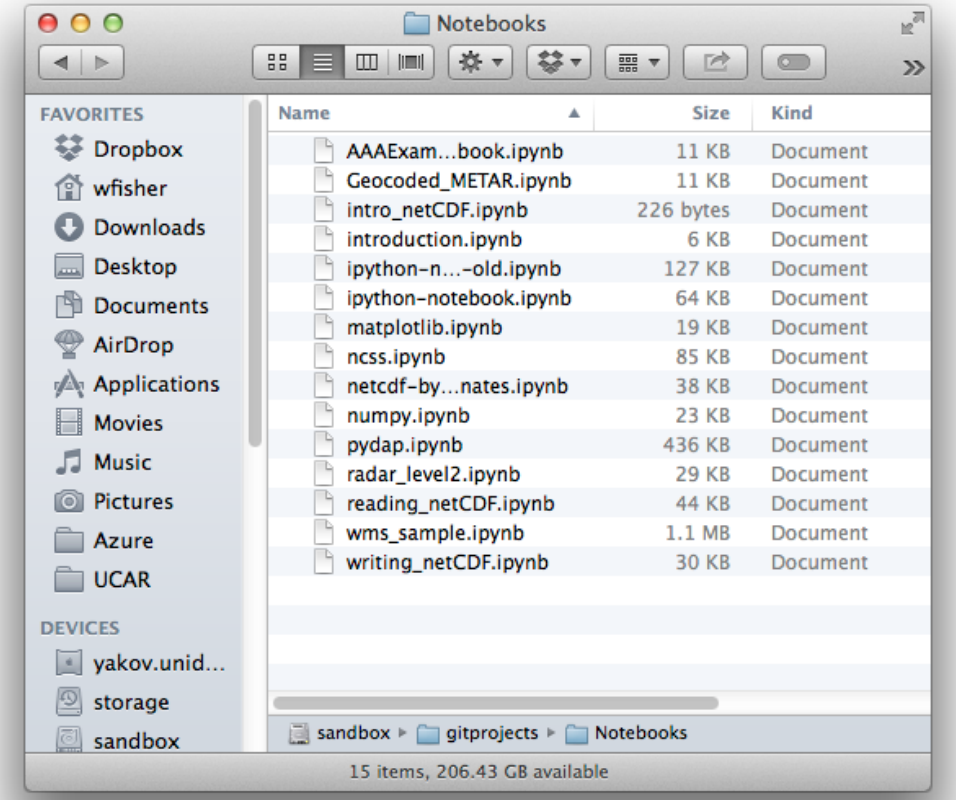
- There are a number of command line options for advanced usage.

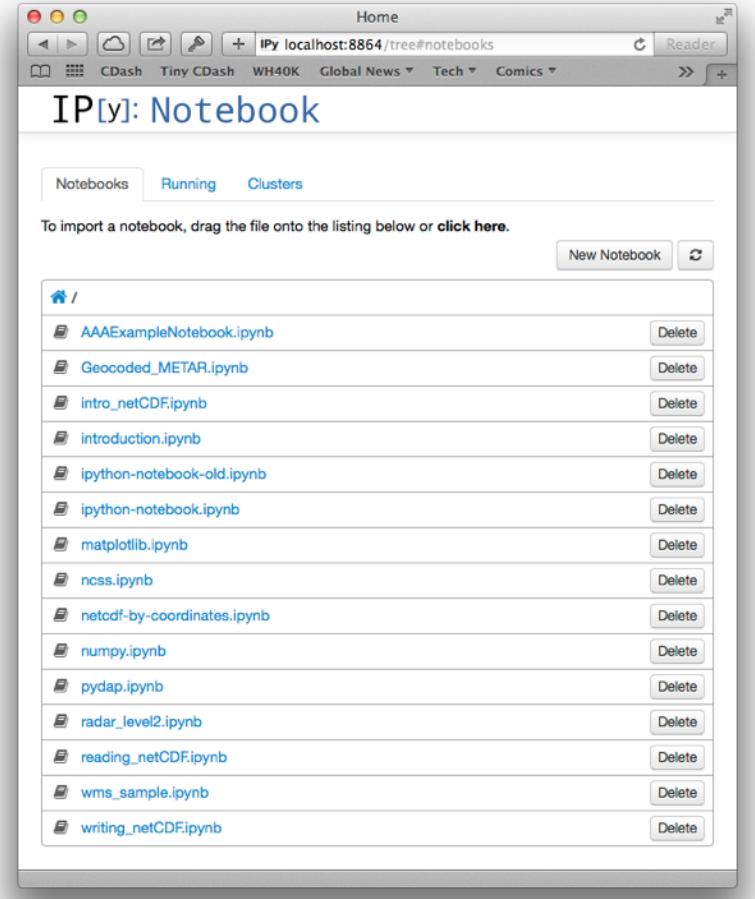
Running IPython Notebook Server



- Notebooks are arranged in a directory.
- You launch IPython Notebook from the root of this directory structure.

Running IPython Notebook Server





Working in IPython Notebook

Switching to the Browser.