

# Jupyter Notebooks & Binder



Data Binge 2019-04-05

<http://tinyurl.com/y5cjysrl>

# What is Jupyter?

“Project Jupyter exists to develop open-source software, open-standards, and services for interactive computing across dozens of programming languages.”

Jupyter Notebooks are documents that can run code and display output in a pretty, readable format. You can use them for your own data analysis, or for presenting results.

Cool stuff:

- Support for lots of languages.
- “Cell” based format makes it easy to run code interactively. But also, **danger**.
- Code & output are displayed together.
- Sharing with non-users is easy, thanks to NBViewer/that thing GitHub does and Binder.

# Notebook Tutorials

Access the tutorials [here](#) (credit: Julia Evans)

Useful shortcuts:

- Insert cell: **a** (above selected) or **b** (below selected)
- Delete selected cell: **dd**
- Run selected cell: **Shift + Enter**
- Command palette: **Cmd/Ctrl + Shift + P**

# Installing Jupyter

Instructions are [here](#). Installing using Anaconda is a good idea, since it comes with useful stuff like matplotlib pre-installed.

# Binder: Web-based interactive notebooks

[Here's a nice set of tutorials](#) on the interactive plotting library Bokeh.

Sadly, we can't do anything with them without going through all the hassle of installing Jupyter on everyone's computer. Oh well.

Except! Binder is a thing.

Go to <https://mybinder.org/>, enter the Github URL in the box, and click **launch**.

## Ways to share notebooks

Method	How much work is it?	What can it do?
.ipynb file	Install Anaconda or JN	Interactive, can save work
NBViewer/ Github/ Export	Almost none	Not interactive
Binder	Not much	Interactive
JupyterHub (run your own server)	IDK, probably a lot?	Interactive, can save work

# Using Binder for your own notebooks

The Bokeh repo was already set up to use Binder, which we can tell because there's a file called `environment.yml`. If you're trying to share your own notebooks with Binder, you'll have to do some stuff.

[Details on how to make your own Github repo Binder-friendly are here](#)

Nevermind, IDK where they are. Do pip freeze, from the resulting file select the libraries your notebook needs to run, and then name that file as "requirements.txt". Put that file on Github and that will make Binder work?

Or follow the instructions here:

<https://docs.conda.io/projects/conda/en/latest/user-guide/tasks/manage-environments.html#sharing-an-environment>

# Jupyter Widgets

<https://ipywidgets.readthedocs.io/en/stable/>

<https://towardsdatascience.com/interactive-controls-for-jupyter-notebooks-f5c94829ae6>