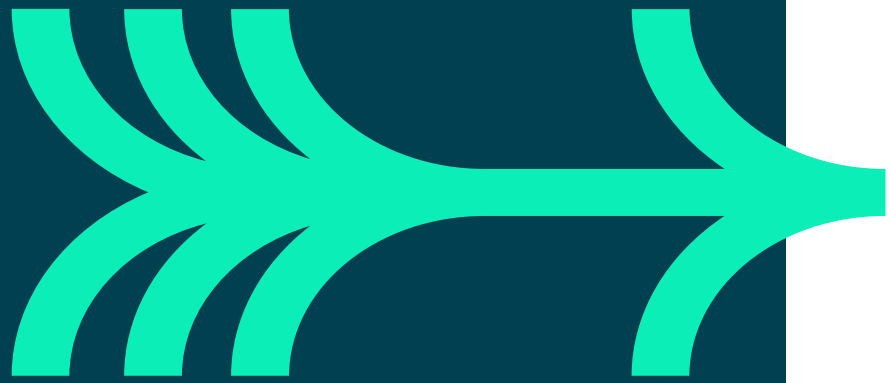
MODULE 3:

INTRODUCTION TO JUPYTER NOTEBOOKS

In this module we will look aty the functionality and uses of Jupyter Notebooks

- Intro to Anaconda and Jupyter
- Working with Jupyter Notebooks



ANACONDA AND JUPYTER

What is Anaconda?

Anaconda is a collection of python packages, programs and other software for data analysis & data science.

What is jupyter notebook?

A notebook is a documentation or commentary-first style of programming, where the key elements are explanations & comments. The code is less important, and often only small amounts.

OBJECTIVES

Python for Data Science & Analysis

Notes 1.0, Jupyter

Objectives

- **Start jupyter notebook**
- **Create a new notebook**
- **Rename a notebook**
- **Add a text cell**
- **Add a code cell**
- **Run cells**

INTRODUCTION TO DATA SCIENCE

How do I start Anaconda?

Start Menu > Anaconda Navigator

How do I start Jupyter notebook?

In Anaconda Navigator, press LAUNCH underneath the Jupyter notebook icon...

OPENING JUPYTER

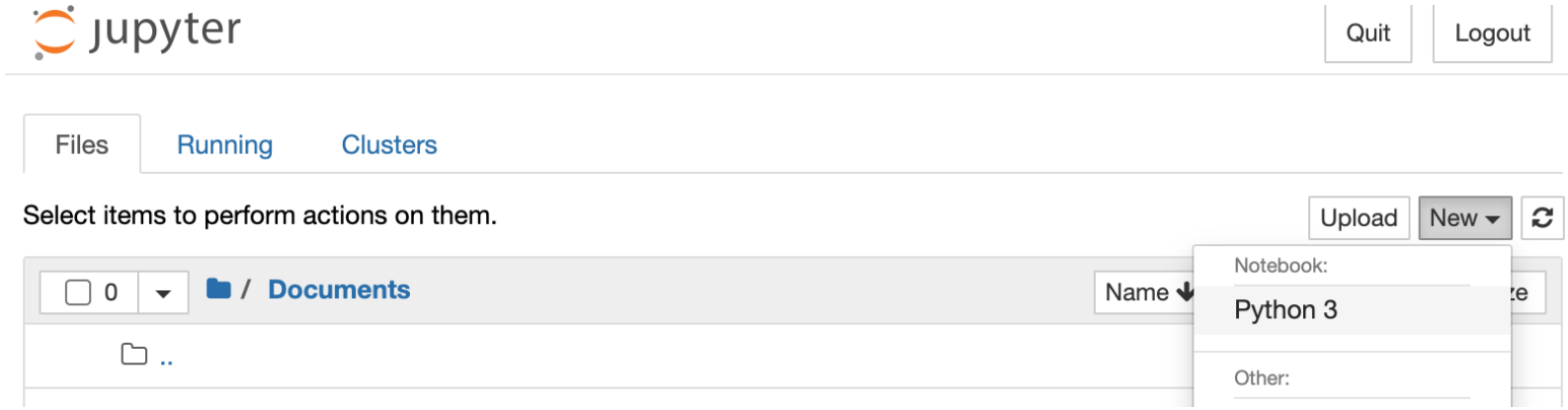
How do I use the file browser?

Jupyter notebook starts with a file browser that displays files on your system.

eg., browse to your documents folder in Jupyter.

How do I create notebooks?

In your documents folder, go to the NEW button, and press Python3.

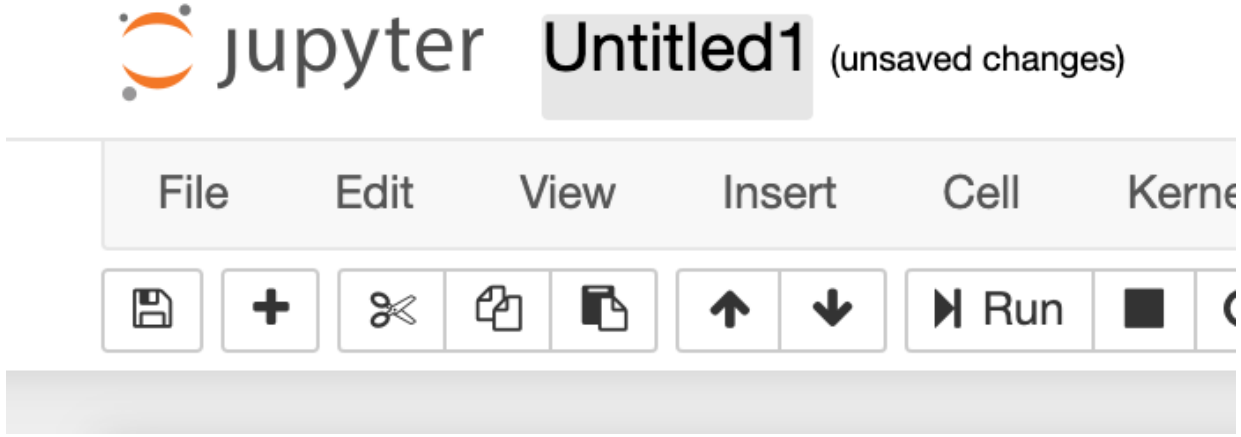


Jupyter will create a new notebook called `Untitled`.

RENAMING NOTEBOOKS

How do I rename a notebook?

Click on the title and a renaming box will appear, choose, eg., `MyNotes`.



WORKING WITH CELLS

How do I add and modify cells?

command mode: ESC (blue bar)

- `arrows` move around notebook
- `m` -- markdown / text cell
- `y` -- code cell / python cell
- `a` -- insert cell above
- `b` -- insert cell below
- `dd` -- delete cell
- `z` -- undo delete
- `CTRL+ENTER` to run
- `SHITT+ENTER` to run & move one cell below

WORKING WITH CELLS

How do I edit the contents of cells?

edit mode: ENTER (green bar)

- type
- arrows to move around text
- CTRL+ENTER run cell
- SHIFT+ENTER run cell & move one cell below

WORKING WITH CELLS

How do I add python code to a notebook?

- Add a cell (eg., press `b`) and press `ENTER` to edit...

How do I run a python code cell?

- Press CTRL + ENTER or the RUN button

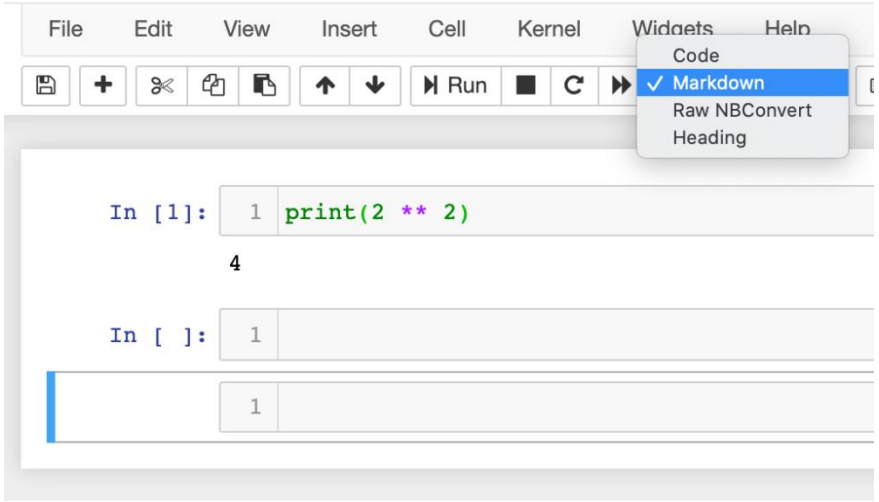
What happens when I run a code cell in jupyter?

- Hopefully you don’t get any errors!... and
- Jupyter always `print()`s the last line...
- In an usual Python IDEs, you have `print()` everything you wish to show on the screen. (what does IDE stand for?)

WORKING WITH CELLS

How do I add a text cell?

- Add a cell, change type to markdown**, or**
- or press `m` in COMMAND MODE.



How do I get help?

- `command?`
- `command??`
- `help(command)`

WORKING WITH CELLS

How do I find the arguments of a function?

- import statistics
- statistics.mean?

How do I stop jupyter from printing the last line of a cell?

Use `;`

How do I run command line programs within jupyter?

- Exclamation mark
- !dir

How do I install python packages with jupyter?

- !conda install plotly pyspark

WORKING WITH SUPPLIED NOTEBOOKS

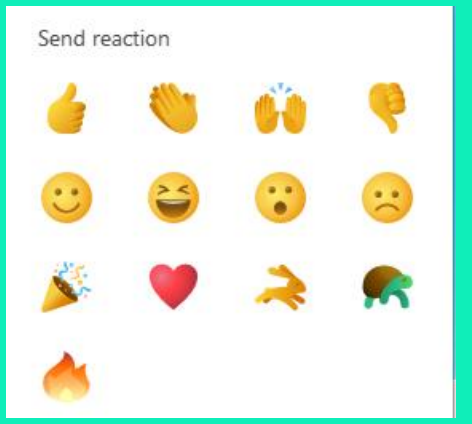
Steps:

1. Open the notebook
2. Select *“File”* in the top left then “*Make a Copy”*
3. You can rename this new file by clicking on the file name at the top
4. **Then work from this new Notebook,**
    1. **this will retain all of the original code in case you accidentally edit or delete and**
    2. **it will save some guidance outputs that may be inadvertently overwritten**

LEARNING CHECK

Think about your answers to these questions

- What have you learnt from this session?
- What is data science? What are data scientists?
- Do you think being a data scientist is challenging?



END OF MODULE

- What is Anaconda?
- What are Jupyter Notebooks?
- How can you change between entering markdown or code in each cell?
- How can you enter command line arguments in Jupyter?

REMINDER: TAKE A BREAK!

11.00 – 11.15
12.30 – 13.30
15.00 – 15.15