

Intro to Jupyterlab

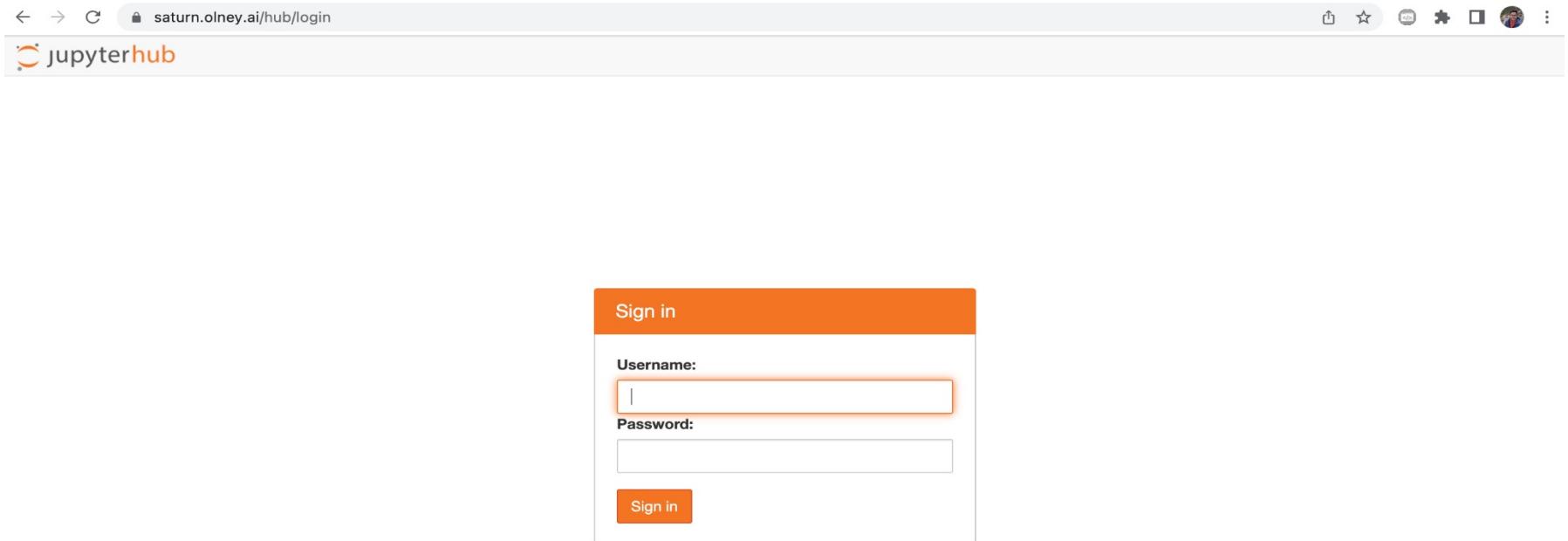
A guide to the jupyterlab user interface

Objectives :

- Learn about the Jupyterlab environment
- Practice basic tasks in Jupyterlab

Login to Jupyterlab

- Logging In to Jupyterlab at [saturn.olney.ai](https://saturn.olney.ai/hub/login)



saturn.olney.ai/user/hmshrque/lab/workspaces/cache

File Edit View Run Kernel Tabs Settings Help

Launcher

Notebook

- Python 3
- Python [conda env:macaw-]
- Python [conda env:root] *
- R
- R [conda env:root] *
- SoS [conda env:macaw-]

- xpython
- xpython [conda env:macaw-]
- xpython [conda env:root] *

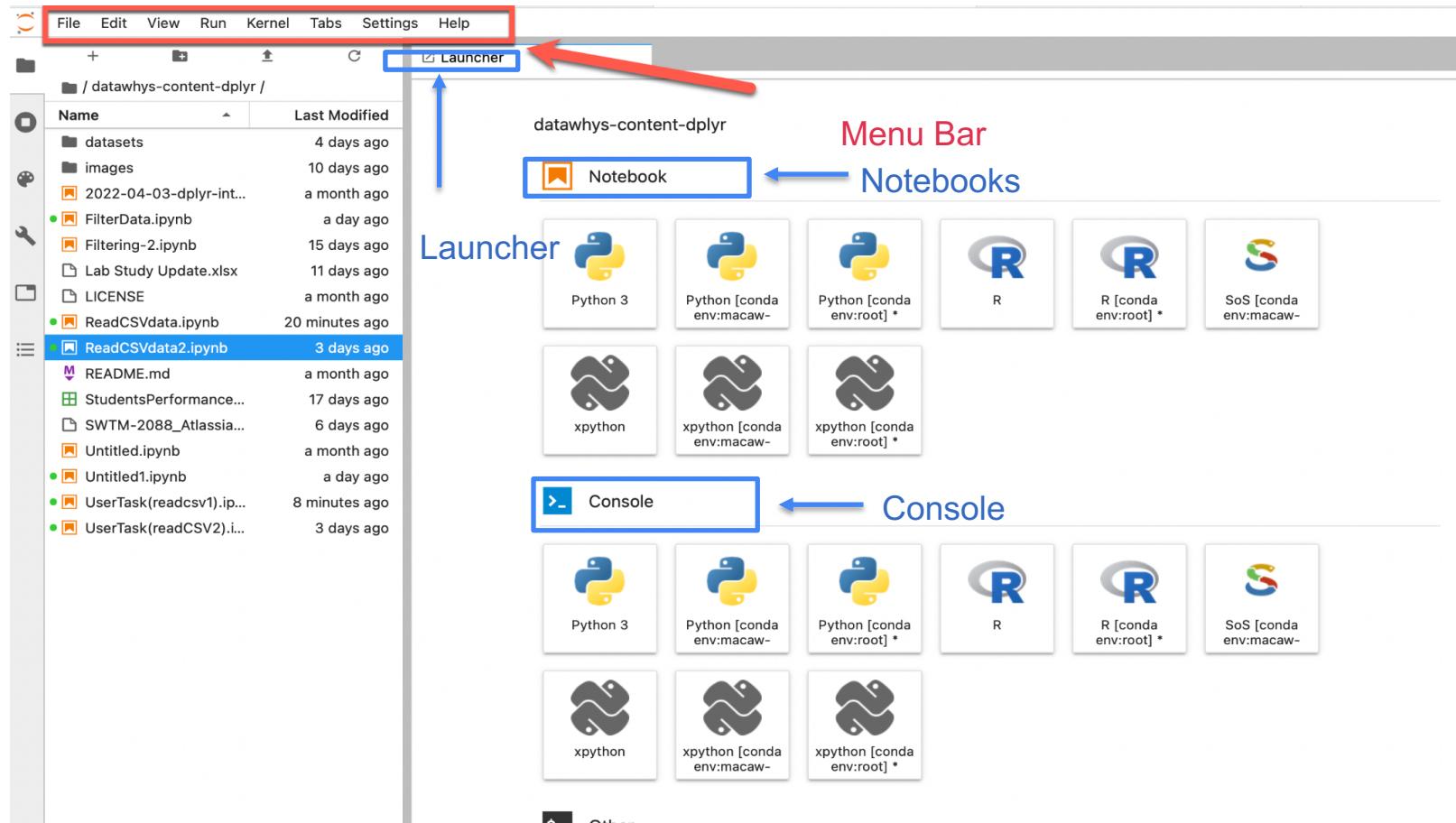
Console

- Python 3
- Python [conda env:macaw-]
- Python [conda env:root] *
- R
- R [conda env:root] *
- SoS [conda env:macaw-]

- xpython
- xpython [conda env:macaw-]
- xpython [conda env:root] *

Other

The Menu Bar



The toolbar

The screenshot shows a Jupyter Notebook interface with the following components:

- Toolbar:** Located at the top, it includes icons for Back, Forward, Refresh, and several other settings. A red circle highlights the first five icons (Back, Forward, Refresh, New Launcher, and Upload Files).
- File Browser:** A sidebar on the left showing a list of files and folders. It includes columns for Name, Last Modified, and a preview icon. A red arrow points to the Refresh File List button.
- Launcher:** A central area displaying a grid of icons for different kernels. The sections include:
 - Notebook:** Python 3, Python [conda env:macaw-], Python [conda env:root] *, R, R [conda env:root] *, SoS [conda env:macaw-]
 - Console:** Python 3, Python [conda env:macaw-], Python [conda env:root] *, R, R [conda env:root] *, SoS [conda env:macaw-]
 - Other:** xpython, xpython [conda env:macaw-], xpython [conda env:root] *

Annotations with blue arrows and text labels point to specific features:

- New Launcher
- Upload Files
- Refresh File List
- New Folder

The Left Panel(side bar)

The image shows a screenshot of a Jupyter Notebook interface. On the left, there is a vertical sidebar with several icons: a folder (highlighted with a red box), a circle, a paint palette, and a list (highlighted with a red box). A red arrow points from the bottom of the sidebar towards the 'Table of Content' icon. The main area is divided into sections:

- File Browser**: Shows a list of files and notebooks in the current directory. One file, 'Untitled4.ipynb', is highlighted.
- Commands**: A grid of icons for different kernels: Python 3, Python [conda env:macaw-], Python [conda env:root] *, R, R [conda env:root] *, and SoS [conda env:macaw-].
- Open Tabs**: A grid of icons for currently open notebooks: xpython, xpython [conda env:macaw-], and xpython [conda env:root] *.
- Table of Content**: An icon represented by three horizontal lines.
- Console**: An icon with a blue square and a white minus sign.
- Other**: A section containing icons for Python 3, Python [conda env:macaw-], Python [conda env:root] *, R, R [conda env:root] *, and SoS [conda env:macaw-].

Folder Structure in Jupyterlab

saturn.olney.ai/user/hmshrque/lab/workspaces/cache

File Edit View Run Kernel Tabs Settings Help

Launcher

File Structure

Name	Last Modified
datawhys-content-dpl...	8 hours ago
datawhys-intern-note...	20 days ago
Identifying Common E...	a day ago
Untitled.ipynb	a day ago
Untitled1.ipynb	12 minutes ago

Notebook

Python 3 Python [conda env:macaw-] Python [conda env:root] * R R [conda env:root] * SoS [conda env:macaw-

xpython xpython [conda env:macaw-] xpython [conda env:root] *

Console

Python 3 Python [conda env:macaw-] Python [conda env:root] * R R [conda env:root] * SoS [conda env:macaw-

xpython xpython [conda env:macaw-] xpython [conda env:root] *

Other

The screenshot shows the JupyterLab interface. On the left is a file browser with a red box highlighting the 'File Structure' section. It lists several files and folders with their names and last modified times. To the right are three sections: 'Notebook' (listing Python, R, and SoS kernels), 'Console' (listing Python, R, and SoS kernels), and 'Other' (listing xpython variants). The 'File Structure' section has a heading 'File Structure' and a small orange icon.

The Blockly Palette

The screenshot shows the Jupyter Notebook interface with the following elements:

- Toolbar:** File, Edit, View, Run, Kernel, Git, Tabs, Settings, Help.
- Search Bar:** SEARCH.
- Left Sidebar:** Contains icons for file operations (New, Open, Save, etc.) and a search bar. Below these are sections for **BLOCKLY** and **CONSOLE**. The **BLOCKLY** section includes "Blockly Polyglot" (highlighted with a red arrow) and "Insert Line Break". The **CONSOLE** section includes "Change Kernel...", "Clear Console Cells", "Interrupt Kernel", "New Console", "Prompt to bottom", "Prompt to left", "Prompt to right", "Prompt to top", "Restart Kernel...", "Run Cell (forced)", "Run Cell (unforced)", and "Show All Kernel Activity". The **DEBUGGER** section includes "Breakpoints on exception", "Evaluate Code", and a table of keyboard shortcuts for navigation.
- Central Area:** Displays the path "BootCamp_2025/datawhys-bootcamp/instructor". It shows three sections: **Notebook**, **Console**, and **Other**. Each section lists kernels: Python 3 (ipykernel) and R. The **Other** section also includes Terminal, Text File, Markdown File, Python File, R File, and Show Contextual Help.
- Bottom Status Bar:** Shows the current kernel and session information.

A large red arrow points from the text "Select on the Blockly Command Pallette to Open Blockly Polyglot" to the "Blockly Polyglot" option in the sidebar.

Select on the Blockly Command Pallette to Open Blockly Polyglot

Opening python file from launcher (1)

The screenshot shows the Jupyter Notebook interface with the 'Launcher' tab selected. A red arrow points from the 'Create New' button in the top-left corner of the main workspace to the 'xpython' kernel icon in the 'Notebook' section of the launcher. Another red box highlights the 'xpython' icon.

Create a new python notebook.
Select the **xpython** option which
is the kernel that we will work on.

Name	Last Modified
datawhys-content...	18 hours ago
datawhys-intern-note...	21 days ago
Identifying Common E...	2 days ago
Untitled.ipynb	2 days ago
Untitled1.ipynb	10 hours ago

Launcher

Notebook

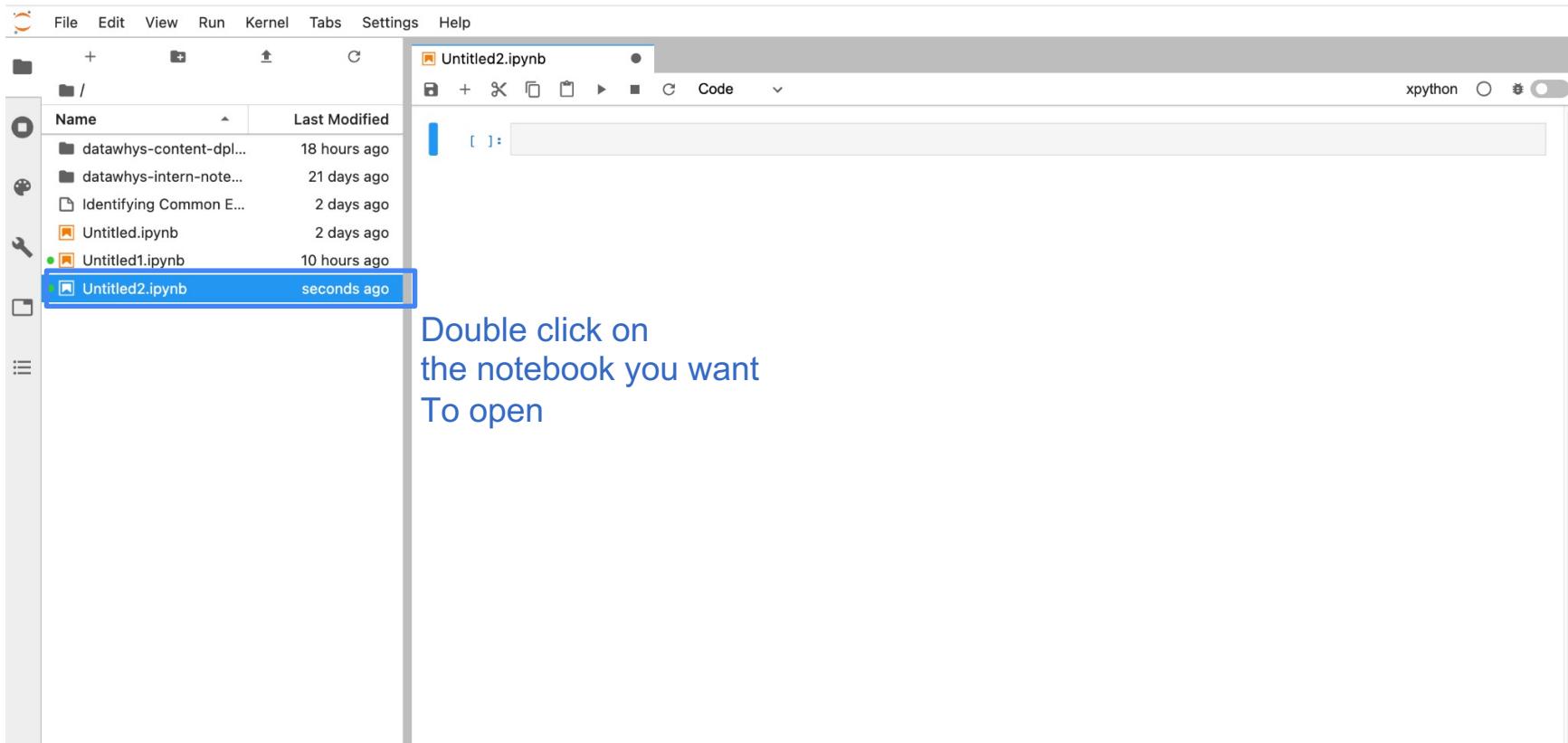
- Python 3
- Python [conda env:macaw-]
- Python [conda env:root] *
- R
- R [conda env:root] *
- SoS [conda env:macaw-]

Console

- Python 3
- Python [conda env:macaw-]
- Python [conda env:root] *
- R
- R [conda env:root] *
- SoS [conda env:macaw-]

- xpython
- xpython [conda env:macaw-]
- xpython [conda env:root] *

Opening python file from launcher(2)



Opening other file types

The screenshot shows the Jupyter Notebook interface. On the left is a file browser pane with a red arrow pointing from it towards the launcher. The file browser lists several files and notebooks:

Name	Last Modified
datawhys-content-dp...	a day ago
datawhys-terminal-note...	21 days ago
data.csv	12 hours ago
Identifying Comon E...	2 days ago
Untitled.ipynb	2 days ago
Untitled1.ipynb	a day ago
Untitled2.ipynb	13 hours ago

The main area contains two sections: 'Launcher' and 'Console'. The 'Launcher' section displays icons for various kernels:

- Python 3
- Python [conda env:macaw-]
- Python [conda env:root] *
- R
- R [conda env:root] *
- SoS [conda env:macaw-]

The 'Console' section also displays icons for the same kernels:

- Python 3
- Python [conda env:macaw-]
- Python [conda env:root] *
- R
- R [conda env:root] *
- SoS [conda env:macaw-]

A red box highlights the 'Other' section at the bottom of the launcher, which contains icons for:

- Terminal
- Text File
- Markdown File
- Show Contextual Help

You can also open other files such as terminal, text files etc. from the launcher

Viewing Blockly and python file side by side

The screenshot shows the Blockly Python interface integrated into a Jupyter Notebook environment. On the left, there is a sidebar with various icons: a circular arrow, a file folder, a file icon, a magnifying glass, a gear, and a wrench. The wrench icon is highlighted with a blue box and has a blue arrow pointing towards it from the bottom-left. Below the sidebar is a file list:

Name	Last Modified
datawhys-content-dp...	18 hours ago
datawhys-intern-note...	21 days ago
Identifying Common E...	2 days ago
Untitled.ipynb	2 days ago
Untitled1.ipynb	10 hours ago
Untitled2.ipynb	9 minutes ago

To the right of the file list is a vertical sidebar containing a list of Blockly categories: IMPORT, FREESTYLE, COMMENT, LOGIC, LOOPS, MATH, TEXT, LISTS, COLOUR, CONVERSION, I/O, VARIABLES, and FUNCTIONS. At the bottom of this sidebar are two buttons: "Blocks to Code" and "Code to Blocks".

On the far right, there is a Jupyter Notebook tab titled "Untitled2.ipynb" with a code cell containing some Python code. At the top of the screen, there is a menu bar with File, Edit, View, Run, Kernel, Tabs, Settings, and Help.

Open a Notebook then Click on the Command and Select "Blockly Polyglot" to view blocky and python side by side

File Operations

The screenshot shows the Jupyter Notebook interface with a sidebar on the left containing icons for file operations like creating new files, opening existing ones, and deleting them. The main area displays a list of files in the current directory, including 'datawhys-content-dp...', 'datawhys-intern-note...', 'Identifying Common E...', 'Untitled.ipynb', 'Untitled1.ipynb', and 'Untitled2.ipynb'. A context menu is open over 'Untitled2.ipynb', listing options such as Open, Rename, Delete, Cut, Copy, Duplicate, Download, Shut Down Kernel, Copy Shareable Link, Copy Path, Copy Download Link, New Folder, Paste, and Shift+Right Click for Browser Menu. To the right of the menu, a large red text overlay reads: "Right Click on the file you wish to open / rename / copy etc". At the bottom of the screen, there are buttons for 'Blocks to Code', 'Code to Blocks', 'Report Bug', and 'Notebook Sync'.

File Edit View Run Kernel Tabs Settings Help

Name Last Modified

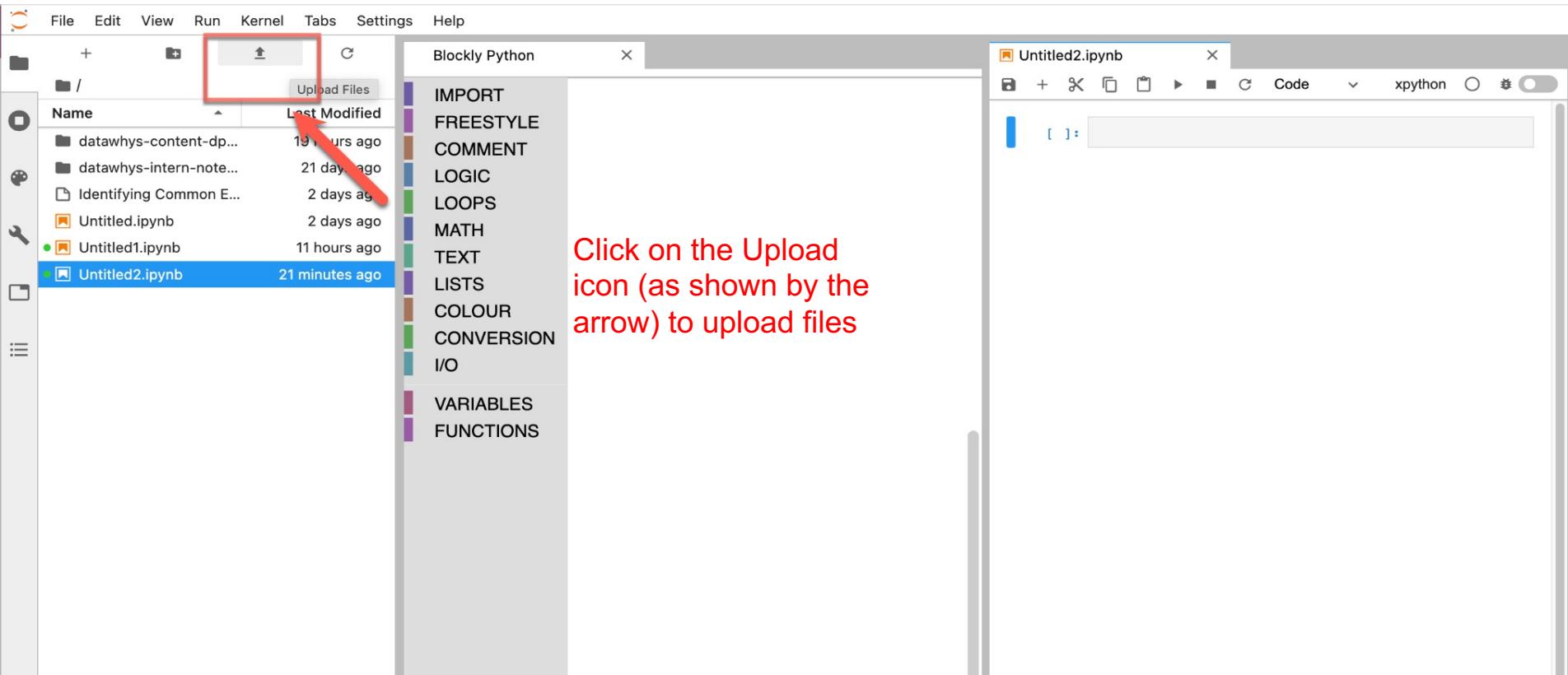
- datawhys-content-dp... 19 hours ago
- datawhys-intern-note... 21 days ago
- Identifying Common E... 2 days ago
- Untitled.ipynb 2 days ago
- Untitled1.ipynb 11 hours ago
- Untitled2.ipynb 12 minutes ago

IMPORT
FREESTYLE
COMMENT
LOGIC
LOOPS
MATH
TEXT
TS
OUR
NVERSION
VARIABLES
UNCTIONS

Right Click on the file you wish to open / rename / copy etc

Blocks to Code | Code to Blocks | Report Bug | Notebook Sync

Uploading a file in Jupyterlab (1)

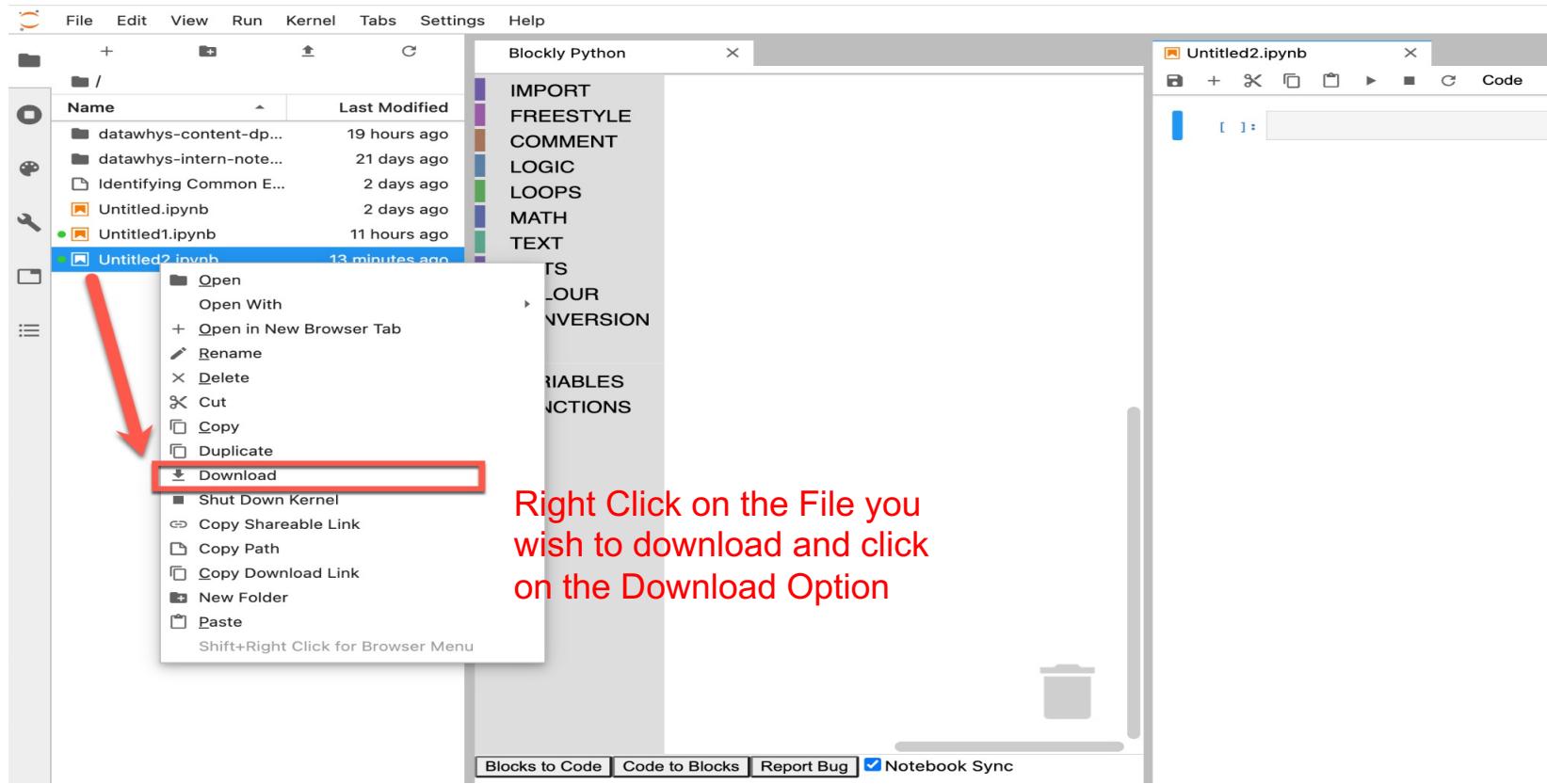


Uploading a file in Jupyterlab (2)

The screenshot shows the JupyterLab interface with the following components:

- File Explorer:** On the left, it displays a file tree with the following contents:
 - dataphys-content-dp...
 - dataphys-intern-note...
 - data.csv** (highlighted with a red box)
 - Identifying Common E...
 - Untitled.ipynb
 - Untitled1.ipynb
 - Untitled2.ipynb
- Blockly Python Editor:** In the center, titled "Blockly Python", it contains a sidebar with categories and a main workspace.
 - Categories: IMPORT, FREESTYLE, COMMENT, LOGIC, LOOPS, MATH, TEXT, LISTS, COLOUR, CONVERSION, I/O, VARIABLES, FUNCTIONS.
 - Workspace: An empty area where blocks can be placed.
- Code Editor:** On the right, titled "Untitled2.ipynb", it shows a code cell starting with "[]:".

Downloading a file from Jupyterlab



Practice Task:

- Login into the Jupyterlab(<https://saturn.olney.ai/>) system with username and password.
- Go to “Intro to Jupyterlab” folder
- There should be test.ipynb file
- Rename the file test.ipynb as “testrenamed.ipynb”
- Open a xpython file from launcher and name it “createfile.ipynb”
- Open a blockly palette from the side panel
- Open the “createfile.ipynb” file and view the blockly palette side by side
- Download the “createfile.ipynb” file
- Rename the downloaded file as “upload.ipynb”
- Upload the ‘upload.ipynb’ file to jupyterlab
- Delete file “testrenamed.ipynb”
- Check which files are open from the ‘Kernel’ tab and take a screenshot. Paste the screenshot in your pod text channel

Self Practice:

- Login into the Jupyterlab system (wd username and password.)
 - Go to “Intro to Jupyterlab” folder
 - There should be newtest.ipynb file
 - Rename that file “newtestrenamed.ipynb”
 - Open a xpython file from launcher and name it “createfile.ipynb”
 - Open a block palette from the side panel
 - View the blocks and “createfile.ipynb” file side by side
 - Download the “createfile.ipynb” file
 - Rename the downloaded file “upload.ipynb”
 - Upload the ‘upload.ipynb’ file to jupyterlab
 - Delete the “newtestrenamed.ipynb” file
 - Check which files are open from the ‘Kernel’ tab and take a screenshot.
- Paste the screenshot in your pod text channel