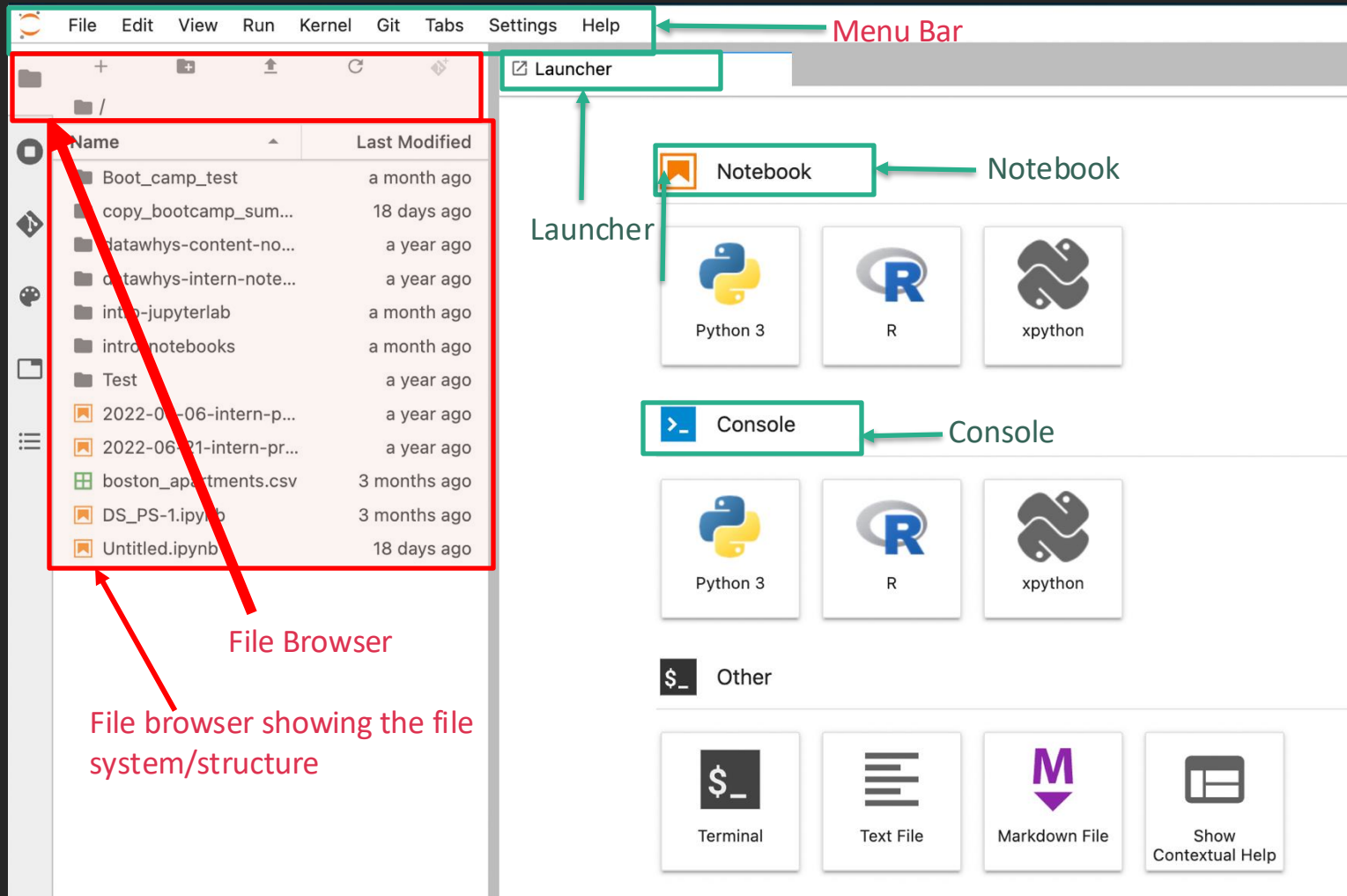


File Management

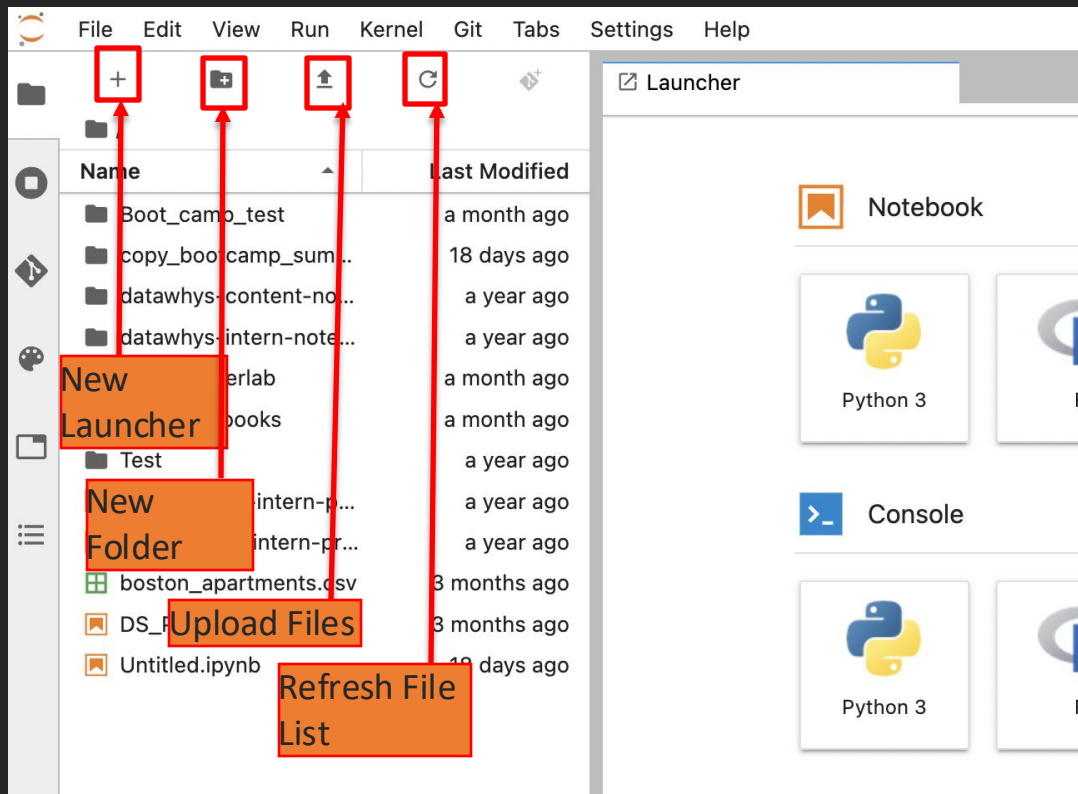
A guide to manage files in Jupyterlab user interface

Objectives

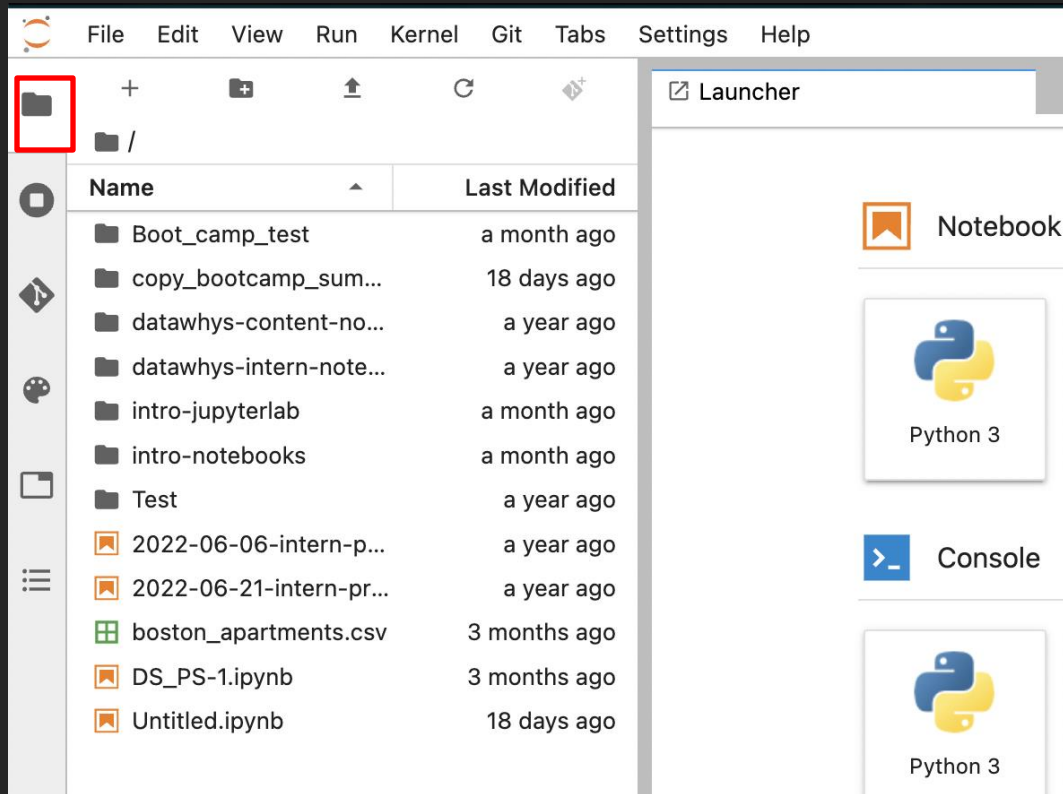
- Identify and name the file browser in JupyterLab and explain its UI elements.
- Perform general file management tasks



File Browser Details

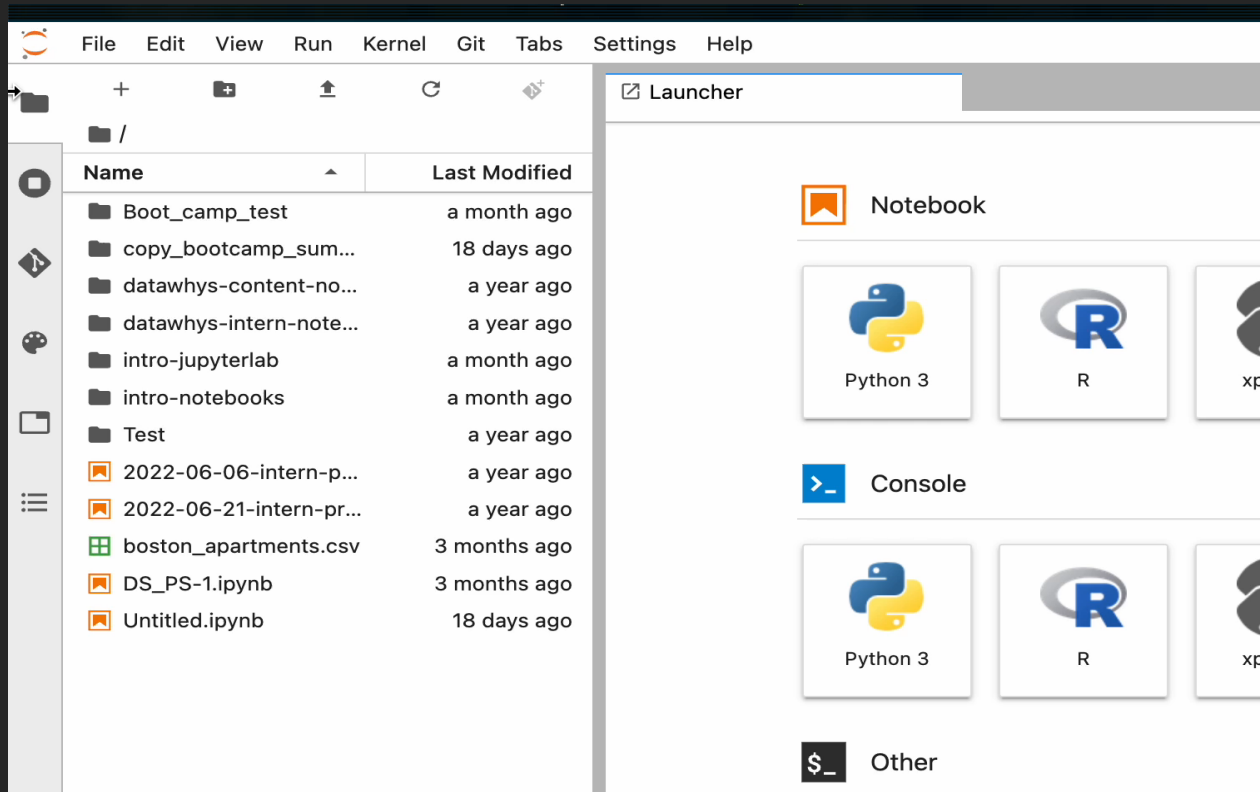


Hide/Unhide File Browser Details



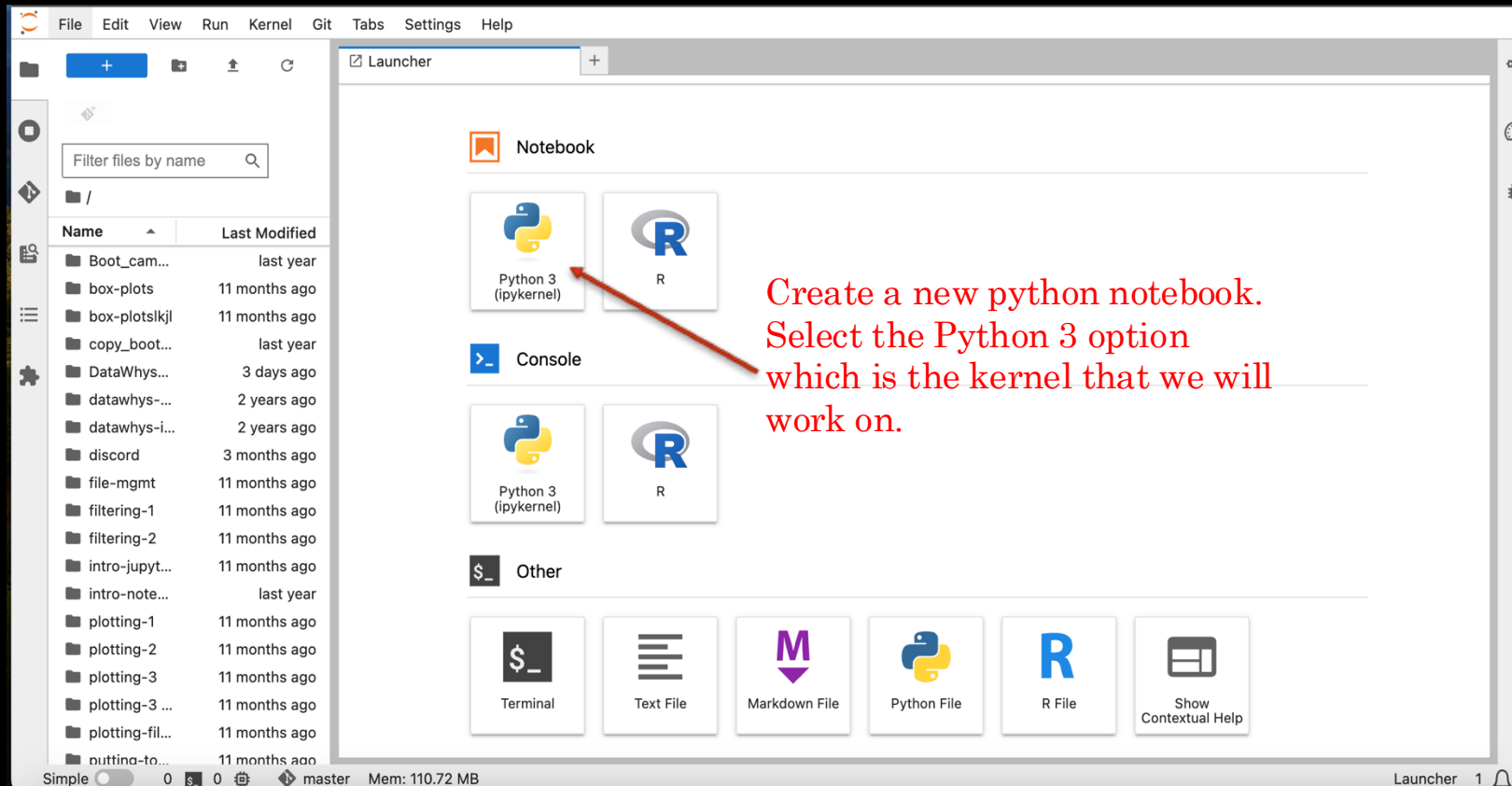
Click on the File Browser to hide/unhide the file browser details

Hide/Unhide File Browser Details



Click on the File Browser to hide/unhide the file browser details

Creating python file from launcher



The screenshot shows the Jupyter Launcher application. On the left is a sidebar with a file browser. The main area is titled 'Launcher' and contains three sections: 'Notebook', 'Console', and 'Other'. The 'Notebook' section has two options: 'Python 3 (ipykernel)' and 'R'. A red arrow points to the 'Python 3 (ipykernel)' option. To the right of the arrow, a red text box contains the following text:

Create a new python notebook.
Select the Python 3 option
which is the kernel that we will
work on.

The 'Console' section also has 'Python 3 (ipykernel)' and 'R' options. The 'Other' section includes 'Terminal', 'Text File', 'Markdown File', 'Python File', 'R File', and 'Show Contextual Help'.

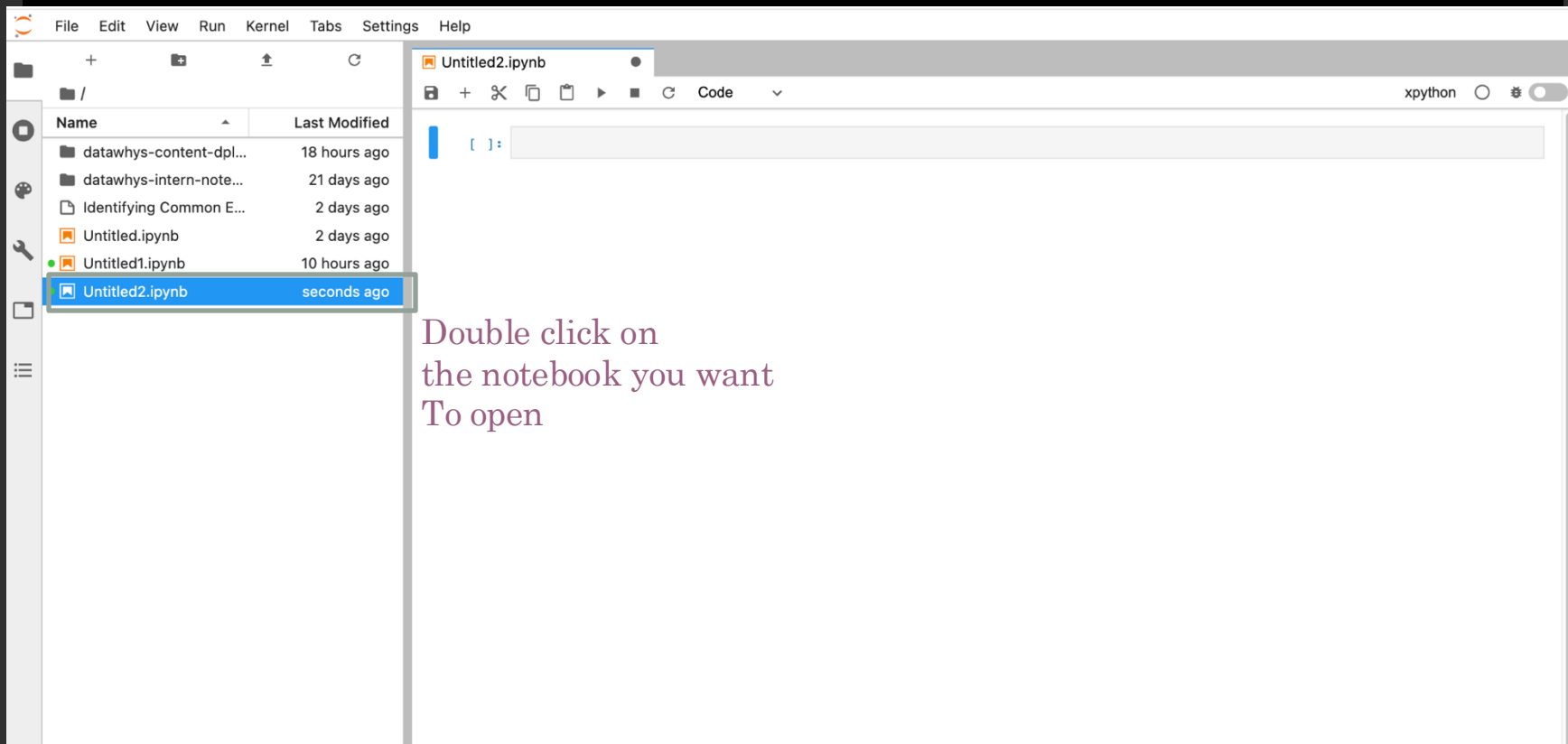
File Browser Sidebar:

| Name | Last Modified |
|------------------|---------------|
| Boot_cam... | last year |
| box-plots | 11 months ago |
| box-plotsklj | 11 months ago |
| copy_boot... | last year |
| DataWhys... | 3 days ago |
| datawhys-... | 2 years ago |
| datawhys-i... | 2 years ago |
| discord | 3 months ago |
| file-mgmt | 11 months ago |
| filtering-1 | 11 months ago |
| filtering-2 | 11 months ago |
| intro-jupyter... | 11 months ago |
| intro-note... | last year |
| plotting-1 | 11 months ago |
| plotting-2 | 11 months ago |
| plotting-3 | 11 months ago |
| plotting-3 ... | 11 months ago |
| plotting-fil... | 11 months ago |
| putting-to... | 11 months ago |

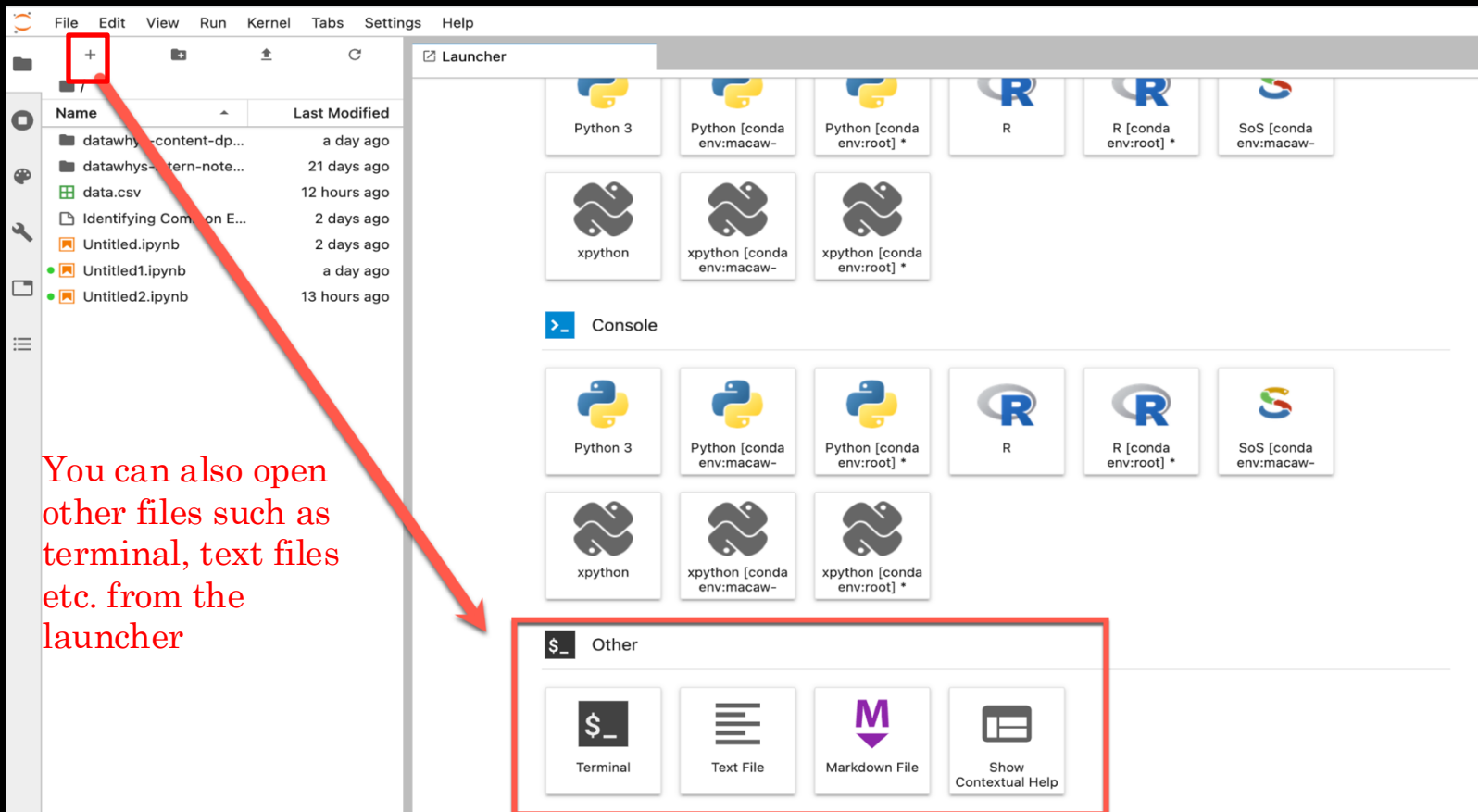
Bottom Status Bar:

Simple 0 0 master Mem: 110.72 MB Launcher 1

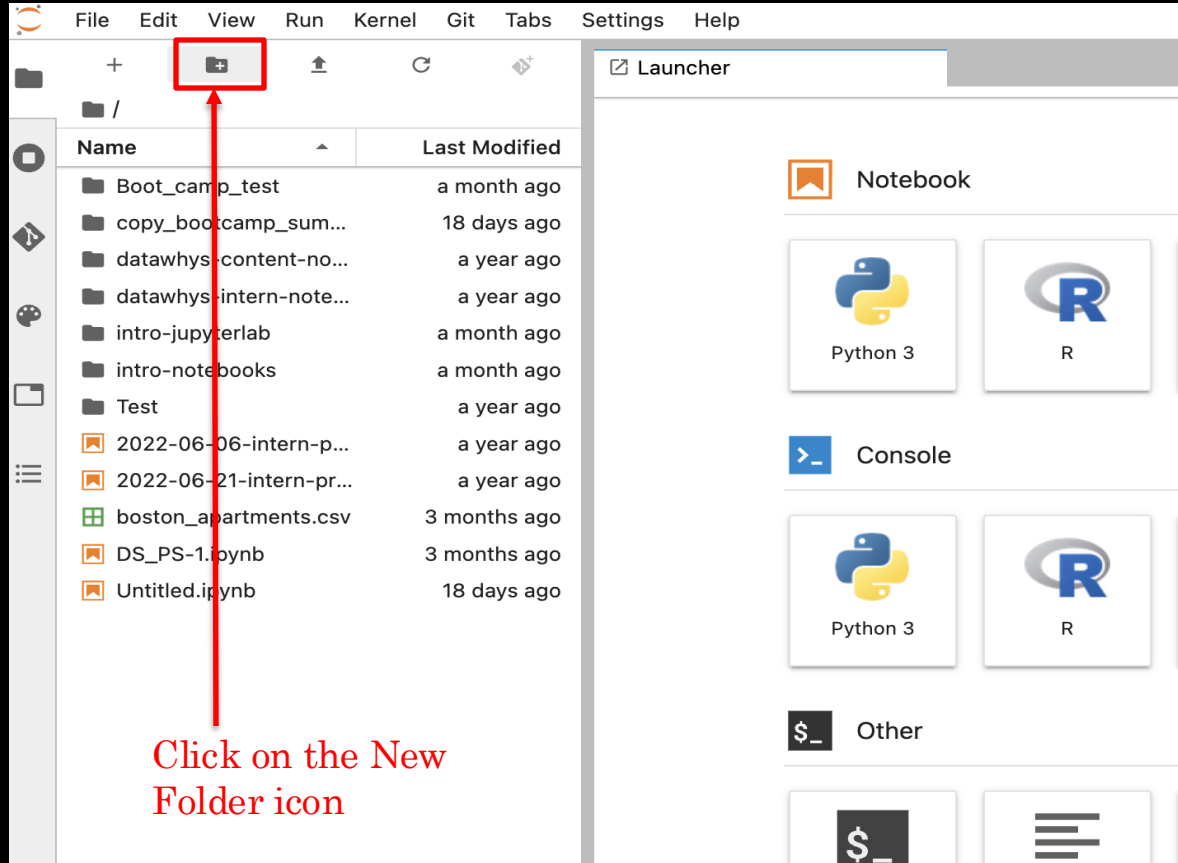
Open created python file



Opening other file types

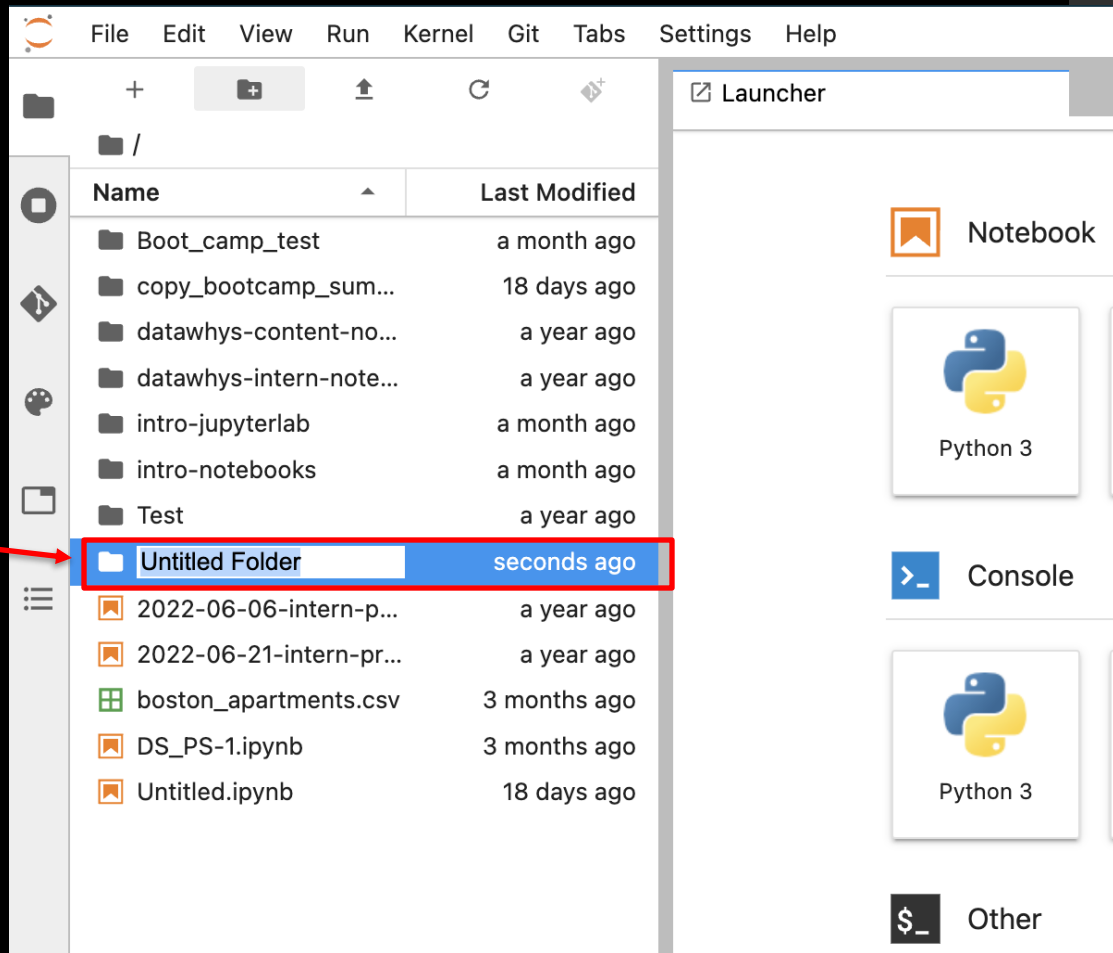


Creating a Folder



Creating a Folder

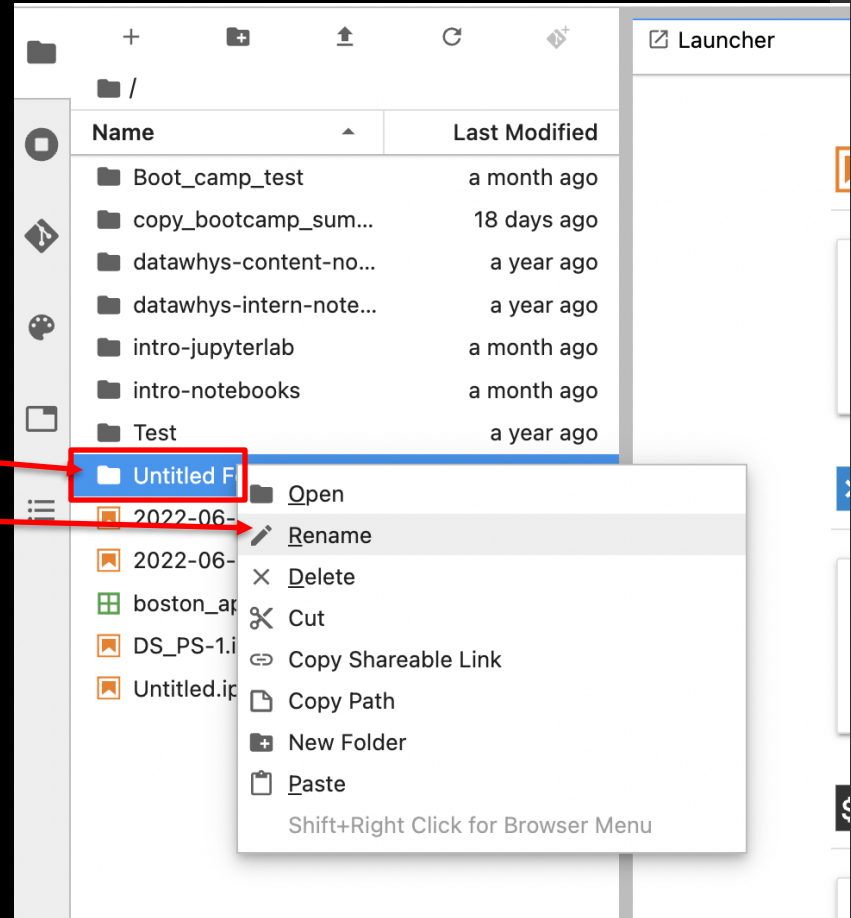
"Untitled Folder"
created



Renaming a Folder

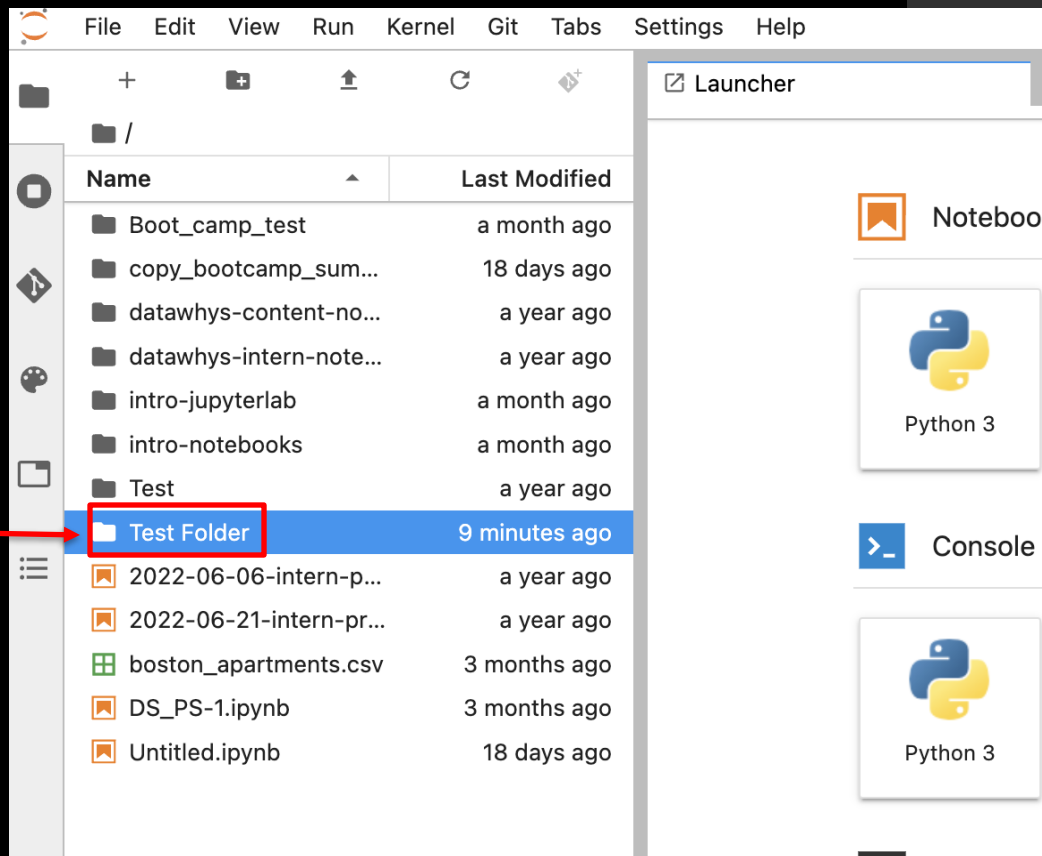
Right click on the
folder name

Click on Rename and
provide desired name
and press "Enter" or
Click anywhere

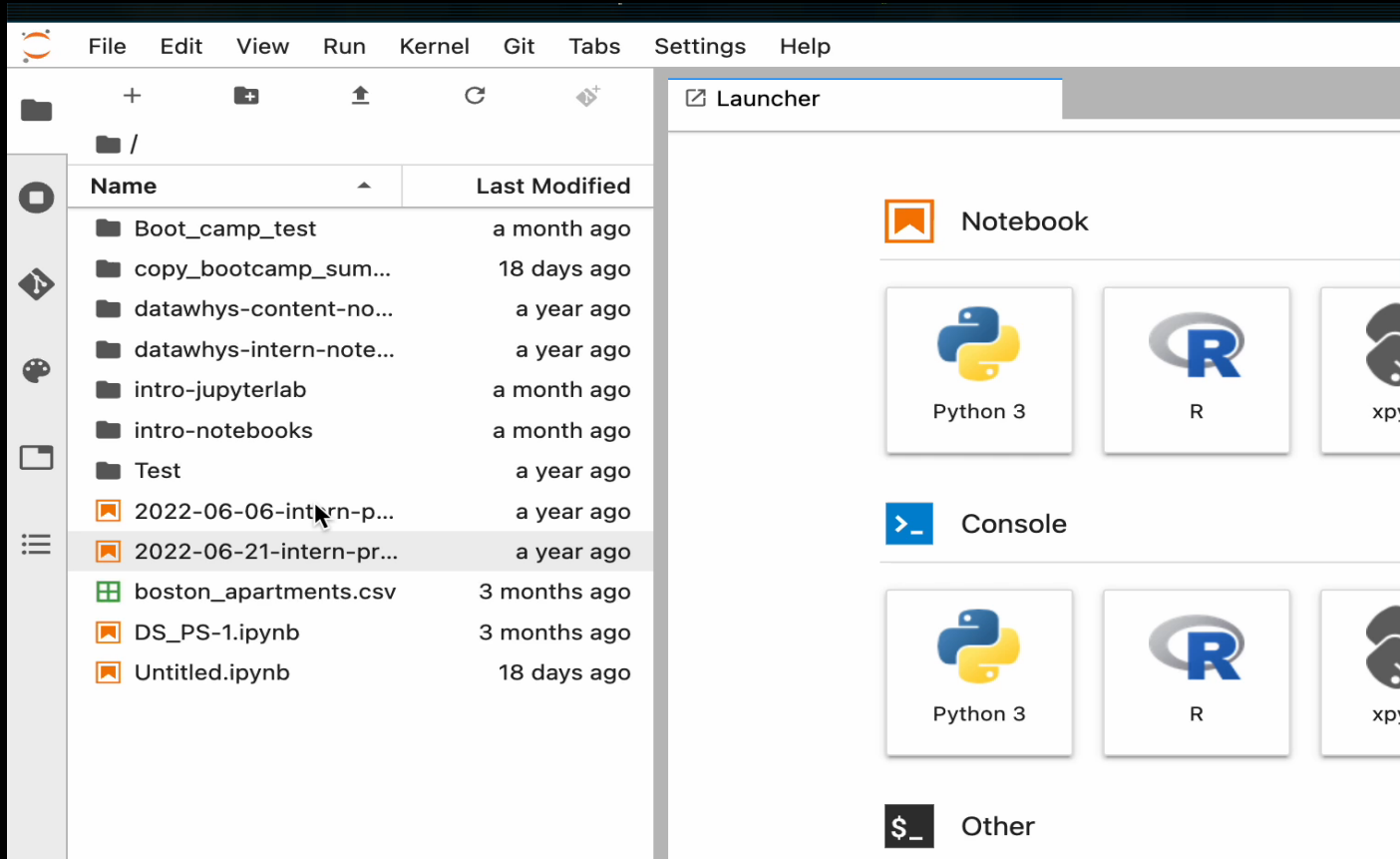


Renaming a Folder

Folder has been
renamed



Creating and Renaming a Folder



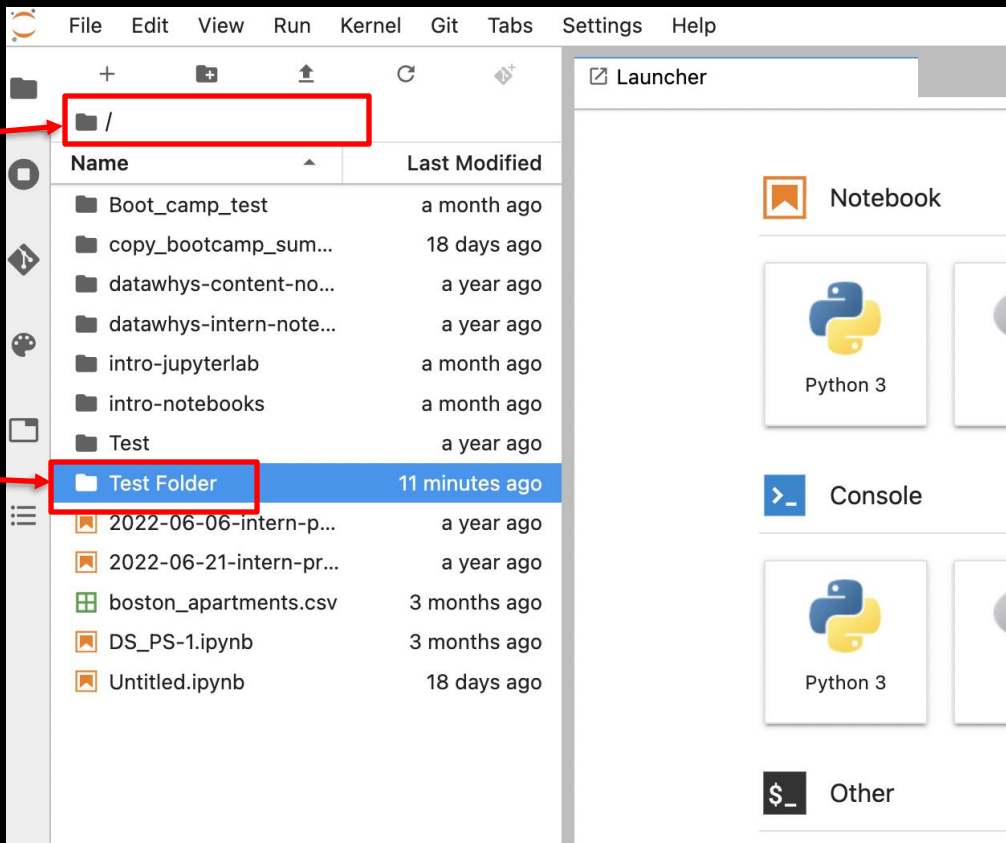
The screenshot displays the JupyterLab application window. The top menu bar includes File, Edit, View, Run, Kernel, Git, Tabs, Settings, and Help. Below the menu is a toolbar with icons for creating a new file, opening a recent file, uploading, refreshing, and deleting. The left sidebar contains a file browser view showing a directory structure. The main area is divided into two tabs: 'Launcher' and 'Notebook'. The 'Launcher' tab is active, showing a grid of icons for different environments: Python 3, R, and xpy. The 'Notebook' tab is also visible, showing a similar grid of icons. The file browser on the left lists various files and folders, including 'Boot_camp_test', 'copy_bootcamp_sum...', 'datawhys-content-no...', 'datawhys-intern-note...', 'intro-jupyterlab', 'intro-notebooks', 'Test', '2022-06-06-intern-p...', '2022-06-21-intern-pr...', 'boston_apartments.csv', 'DS_PS-1.ipynb', and 'Untitled.ipynb'.

| Name | Last Modified |
|-------------------------|---------------|
| Boot_camp_test | a month ago |
| copy_bootcamp_sum... | 18 days ago |
| datawhys-content-no... | a year ago |
| datawhys-intern-note... | a year ago |
| intro-jupyterlab | a month ago |
| intro-notebooks | a month ago |
| Test | a year ago |
| 2022-06-06-intern-p... | a year ago |
| 2022-06-21-intern-pr... | a year ago |
| boston_apartments.csv | 3 months ago |
| DS_PS-1.ipynb | 3 months ago |
| Untitled.ipynb | 18 days ago |

Open Folder

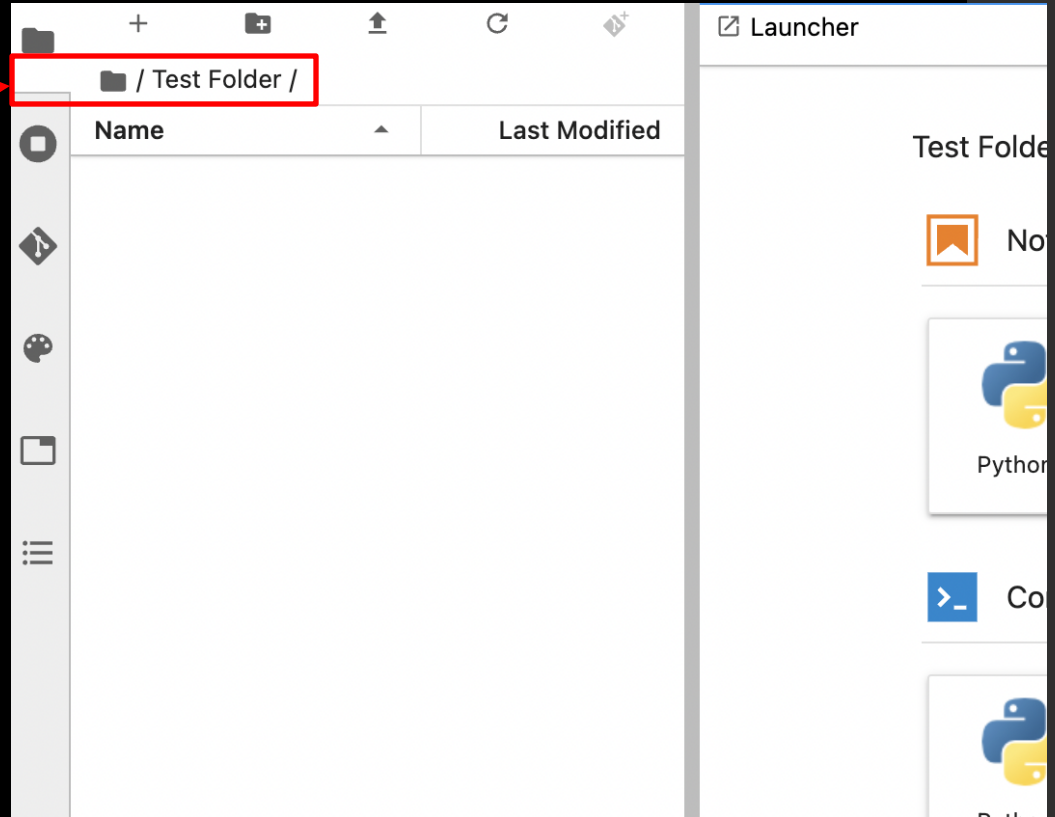
Before opening a new folder notice this.
This shows
our current location in
the file system.

Double click to open a
folder



Open Folder

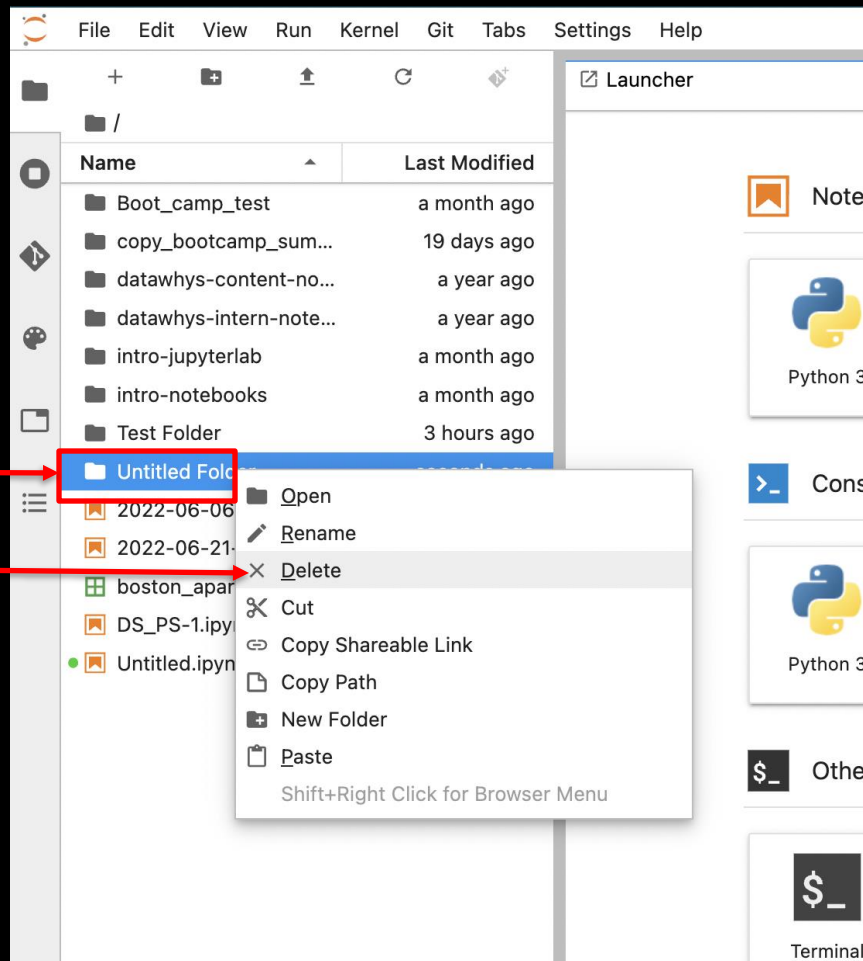
Indicates we are in
Test Folder



Deleting a Folder

Right click on the
folder name you want
to delete

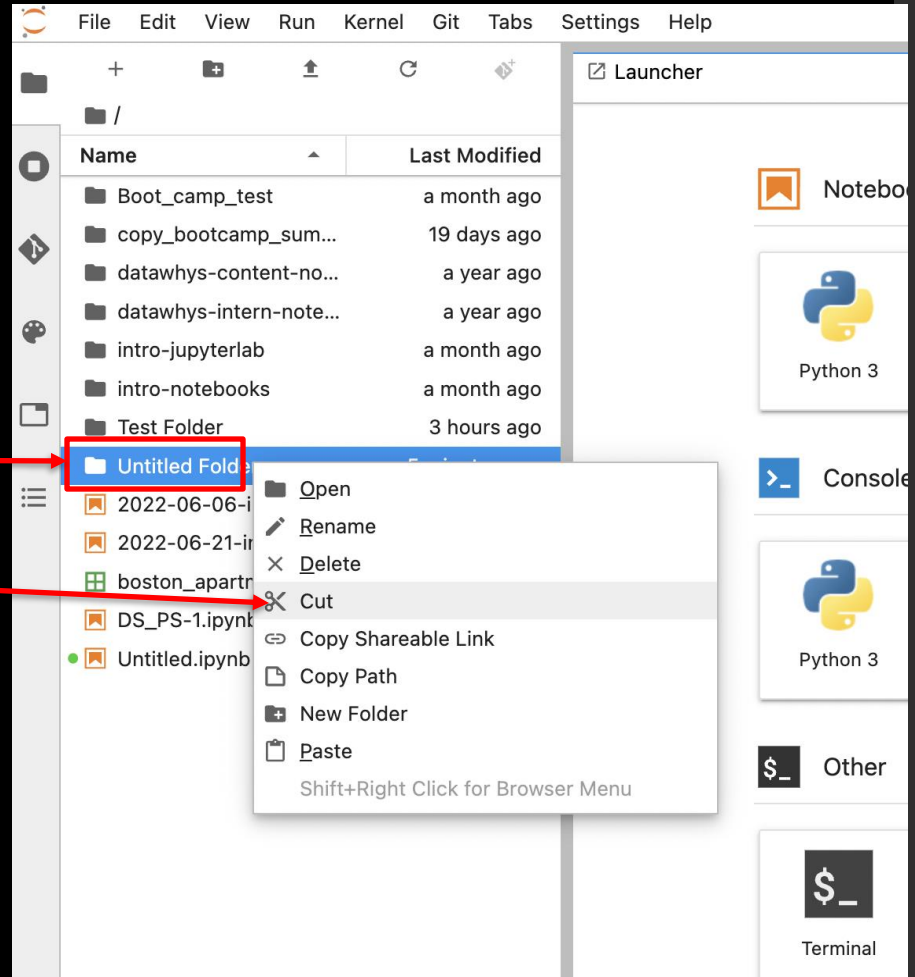
Click on Delete



Cut a Folder

Right click on the
folder name you want
to cut

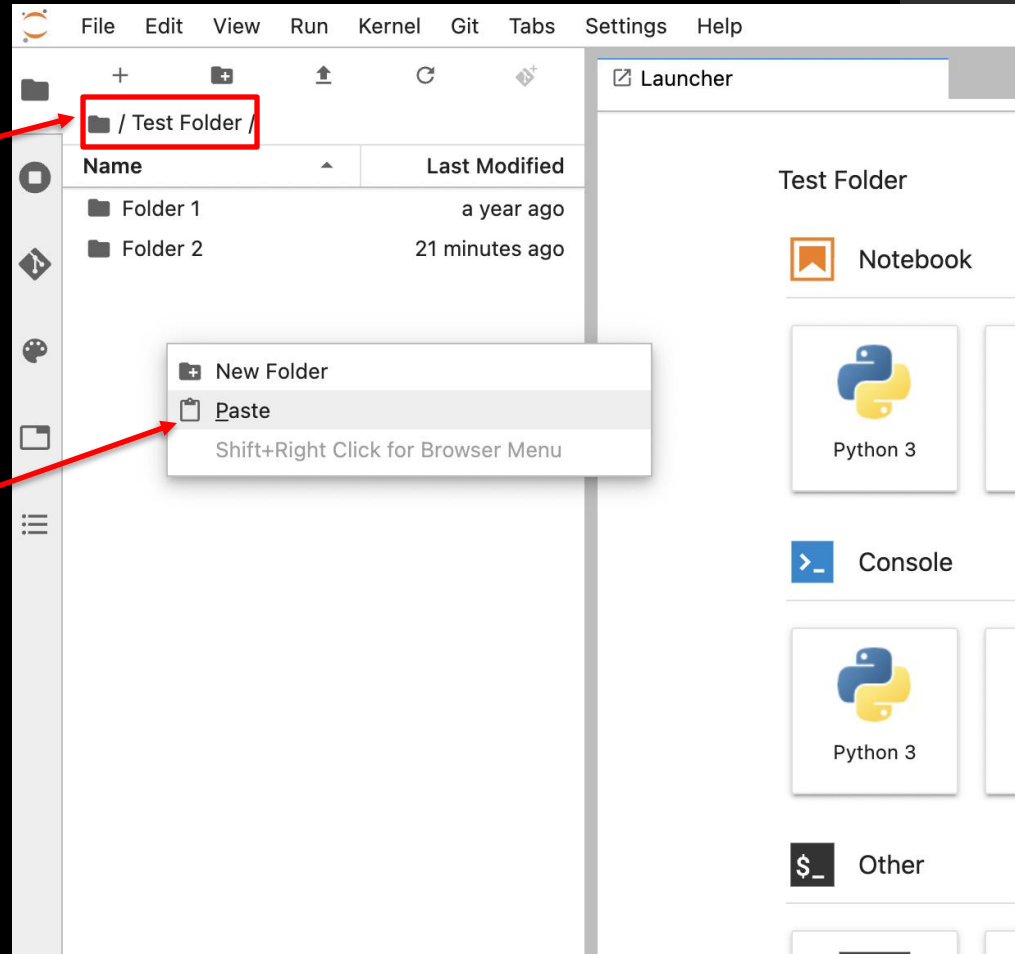
Click on Cut



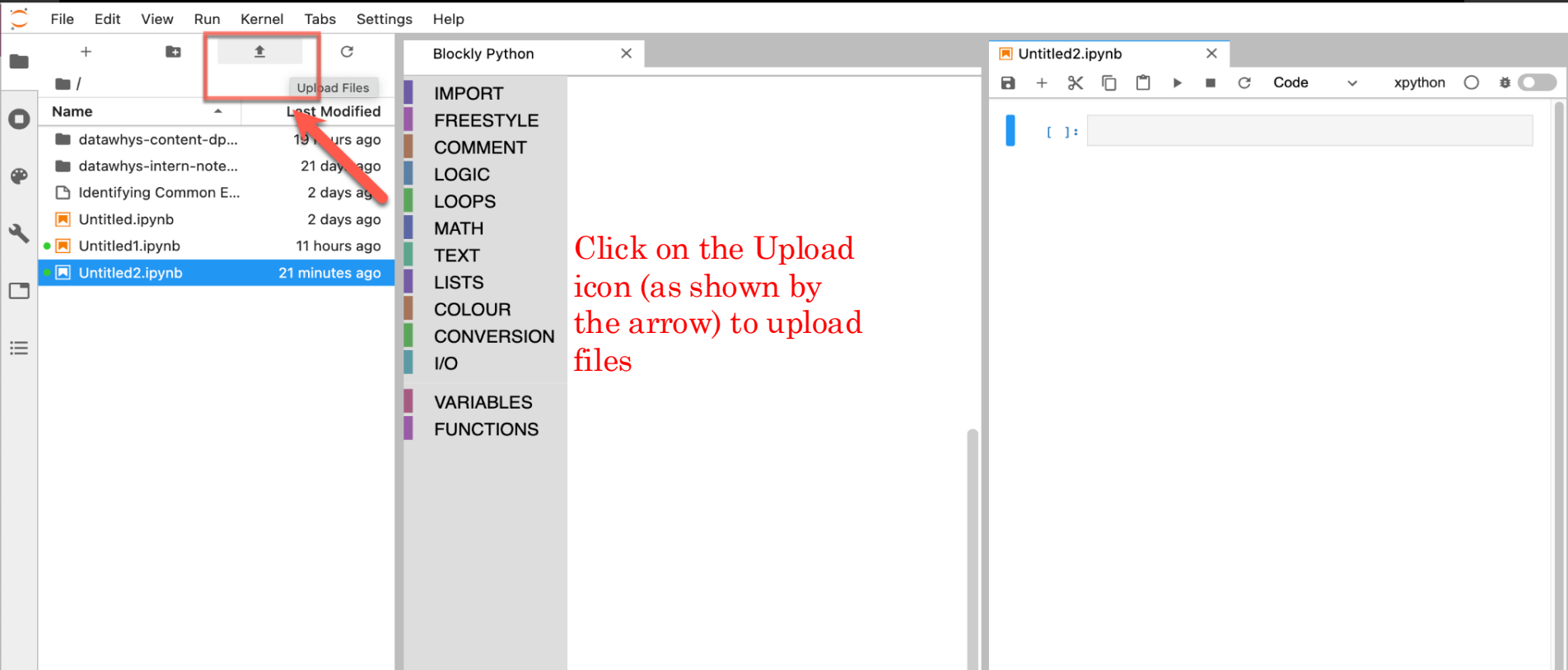
Cut a Folder

Open the folder where
you want to Paste

Right click and
select Paste



Uploading a file in Jupyterlab (1)



The screenshot displays the Jupyterlab interface. On the left is the file browser, which has a table with two columns: 'Name' and 'Last Modified'. The table lists several files and folders, with 'Untitled2.ipynb' selected and highlighted in blue. A red box highlights the 'Upload Files' button (represented by an upward arrow icon) in the top toolbar of the file browser. A red arrow points from this button towards the center of the image. In the center, there is a red text overlay that reads: 'Click on the Upload icon (as shown by the arrow) to upload files'. To the right of the file browser is the 'Blockly Python' pane, which contains a list of code blocks such as 'IMPORT', 'FREESTYLE', 'COMMENT', 'LOGIC', 'LOOPS', 'MATH', 'TEXT', 'LISTS', 'COLOUR', 'CONVERSION', 'I/O', 'VARIABLES', and 'FUNCTIONS'. On the far right is the code editor, which shows a file named 'Untitled2.ipynb' with a toolbar at the top and a code area below.

| 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 | 21 minutes ago |

Click on the Upload icon (as shown by the arrow) to upload files

Uploading a file in Jupyterlab (2)

The screenshot displays the Jupyterlab interface. On the left, a file browser shows a directory structure with files like 'data.csv' (highlighted with a red box) and several 'Untitled.ipynb' files. The central area features a 'Blockly Python' widget with a list of code blocks: IMPORT, FREESTYLE, COMMENT, LOGIC, LOOPS, MATH, TEXT, LISTS, COLOUR, CONVERSION, I/O, VARIABLES, and FUNCTIONS. The right sidebar contains a file browser for 'Untitled2.ipynb'.

File Browser (Left):

| Name | Last Modified |
|-------------------------|----------------|
| datawhys-content-dp... | 19 hours ago |
| datawhys-intern-note... | 21 days ago |
| data.csv | seconds ago |
| Identifying Common E... | 2 days ago |
| Untitled.ipynb | 2 days ago |
| Untitled1.ipynb | 11 hours ago |
| Untitled2.ipynb | 25 minutes ago |

Blockly Python (Center):

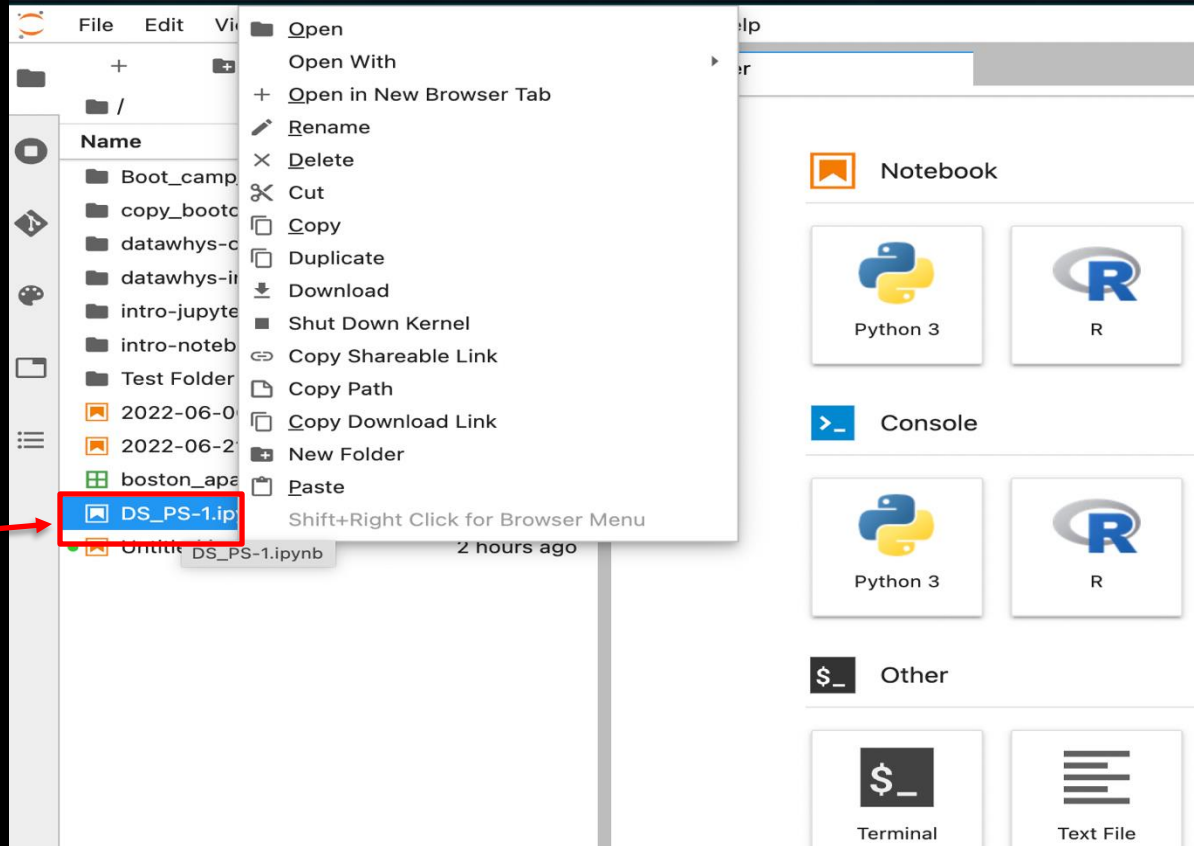
- IMPORT
- FREESTYLE
- COMMENT
- LOGIC
- LOOPS
- MATH
- TEXT
- LISTS
- COLOUR
- CONVERSION
- I/O
- VARIABLES
- FUNCTIONS

Untitled2.ipynb (Right):

Code editor showing a single line of code: `[]:`

File operations

Right Click on any file
to perform rename,
copy, cut, delete,
download etc.

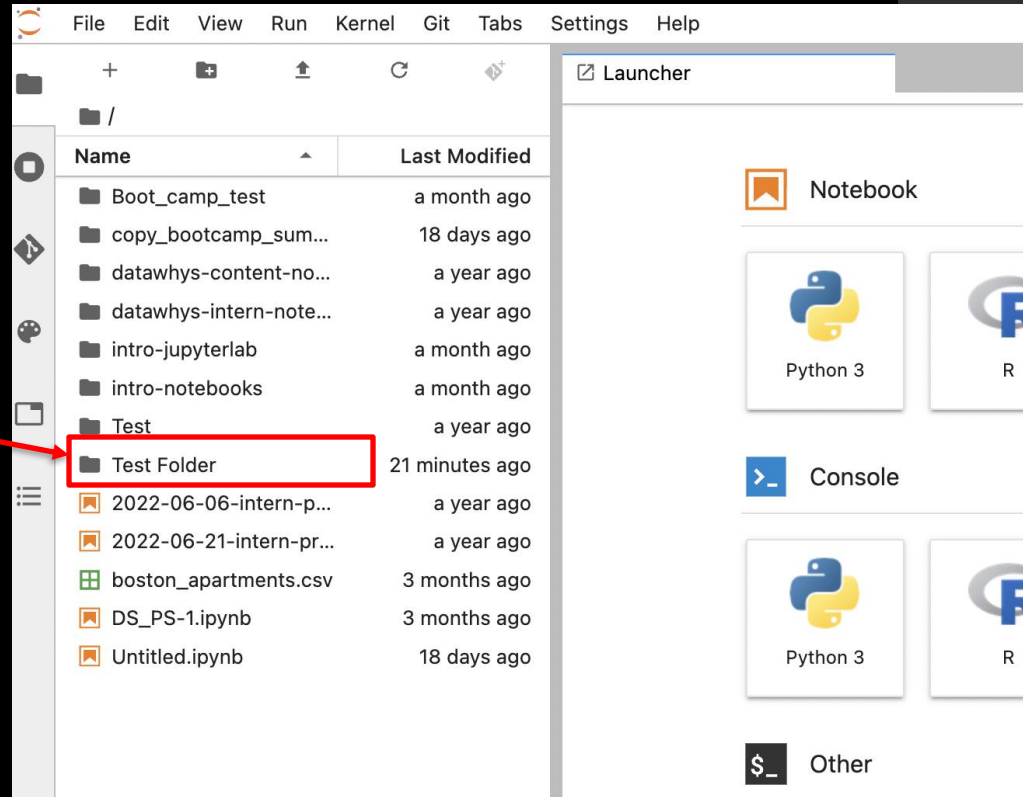


Upload a file in any specific folder

Suppose we want to upload a file in Test Folder. We've to

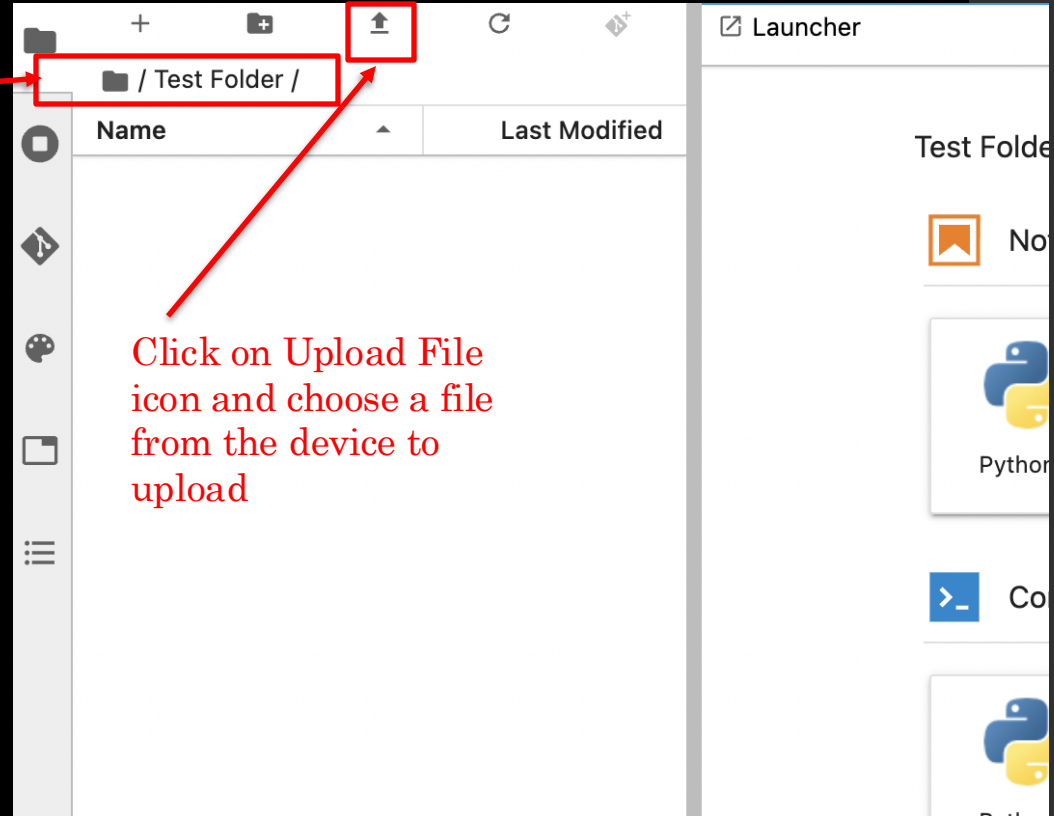
- Open Test folder
- Upload the file

Open Test Folder by
double clicking



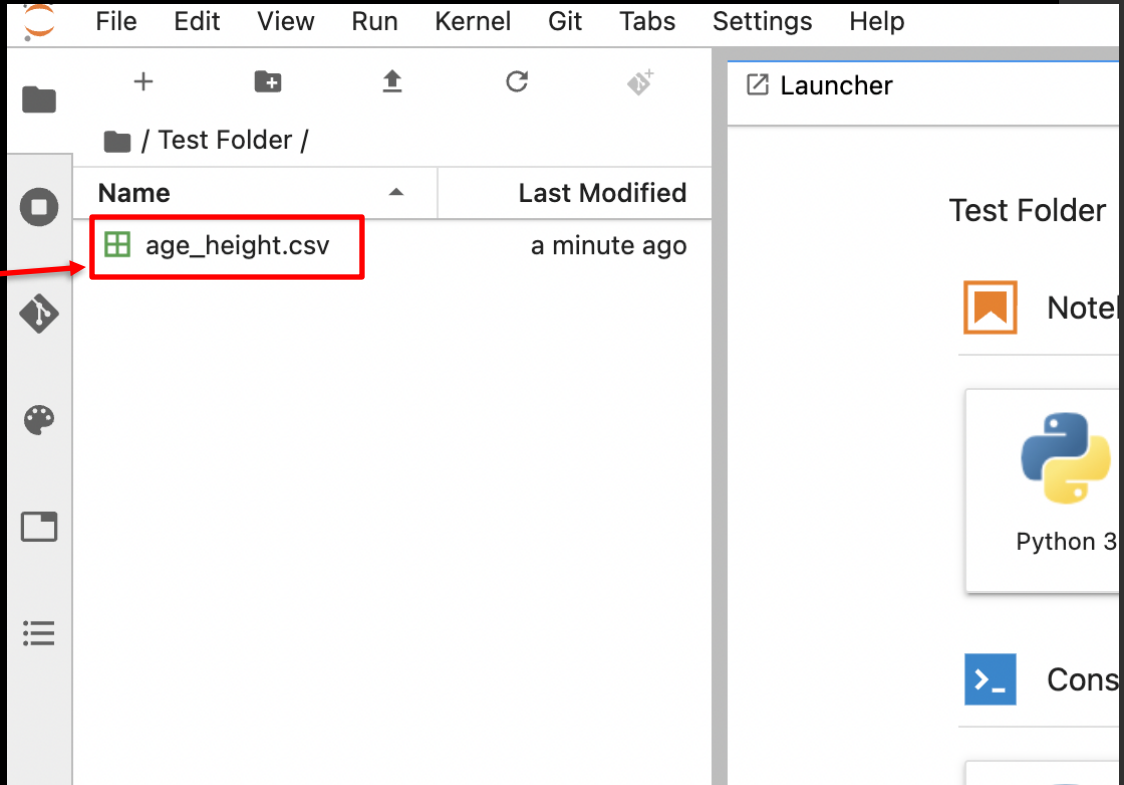
Upload a file in any specific folder

Indicates we are in
Test Folder



Upload a file in any specific folder

A file has been
uploaded



File Path

- A file path specifies the location of a file in a file system/structure.
- They can be used to locate files.

- Example: `"/home/username/Documents/File1.txt"`.

In file system each folder is also known as "directory" and in each directory are separated with separator `"/"`

File Path

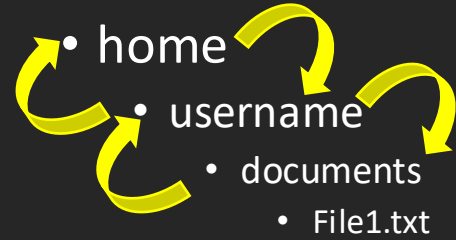
Path: `"/home/username/Documents/File1.txt"`.

- This path indicates that in our "home" directory or folder we have "username" folder.
- Within the "username" folder we have "Documents" folder.
- Within the "Documents" folder we have our targeted file "File.txt".

- home
 - username
 - Documents
 - File1.txt

File Path

Path: `"/home/username/Documents/File1.txt"`.



- `"home"` is the **parent directory** of `"username"`
- `"username"` is the **parent directory** of `"documents"`

Alternatively, we can say

- `"username"` is the **child directory** of `"home"`
- `"documents"` is the **child directory** of `"username"`

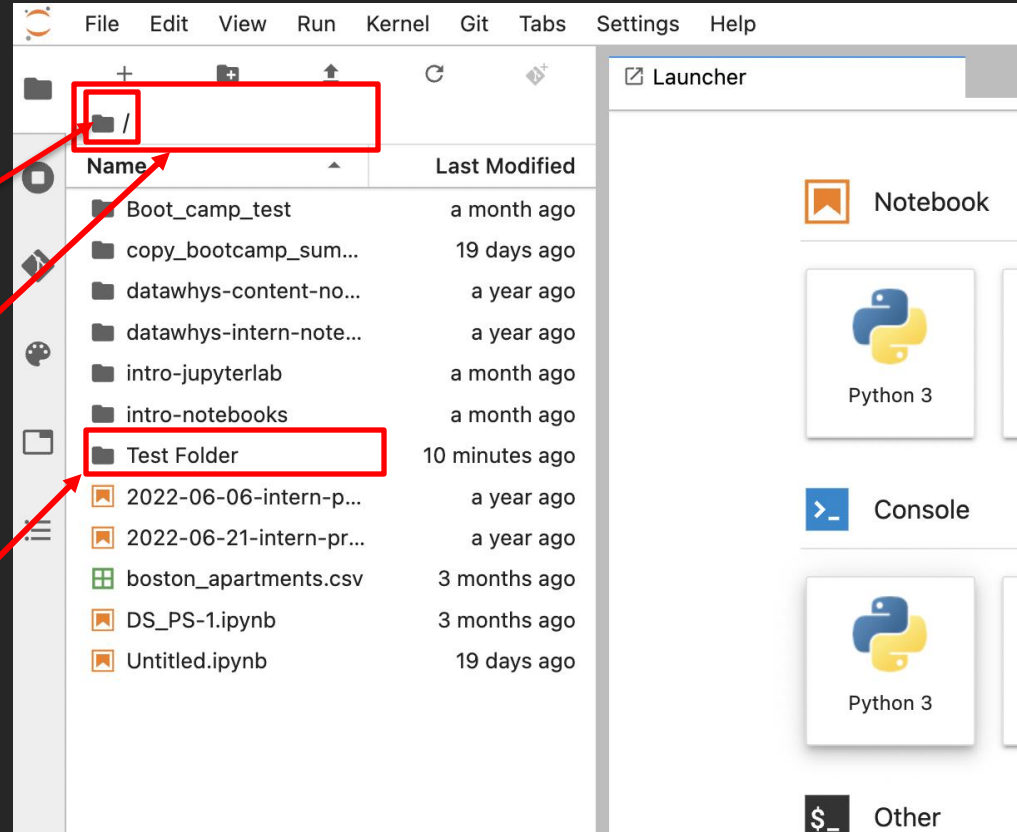
File Path in Jupyter Lab

- After Login the interface shows like this

This "folder/" icon indicates root folder/directory for each user

In JupyterLab current directory is shown in this area

Let's open this folder and see

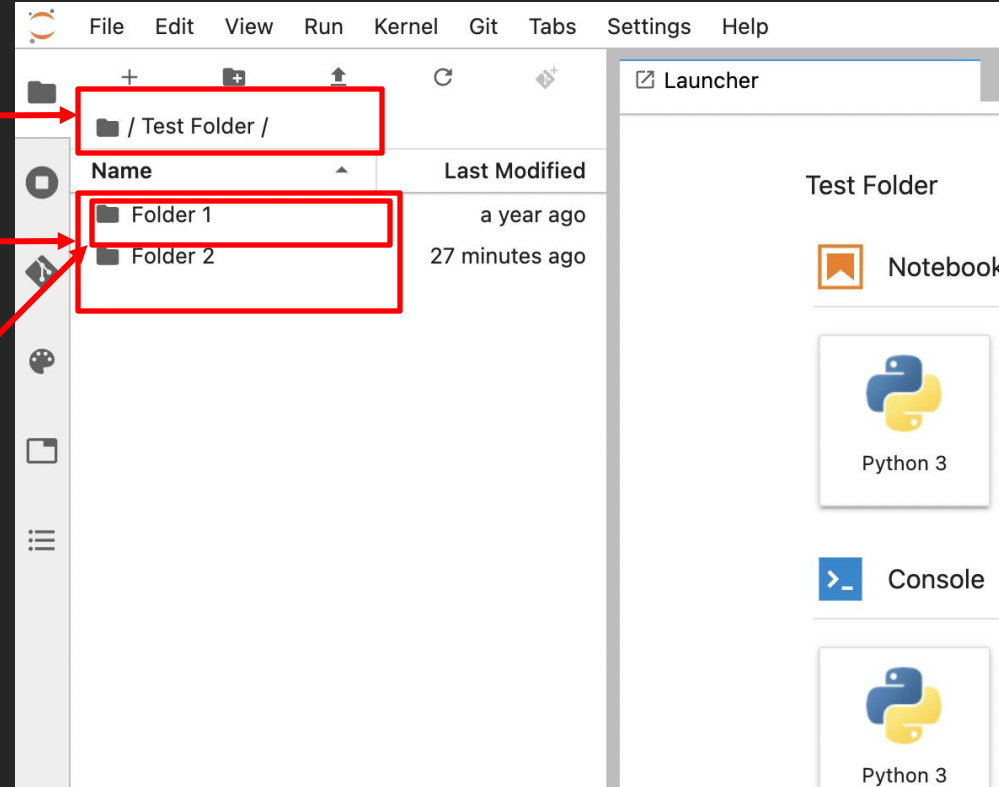


File Path in Jupyter Lab

Indicates that we are within Test Folder and current directory is Test Folder

Shows the file system of Test Folder

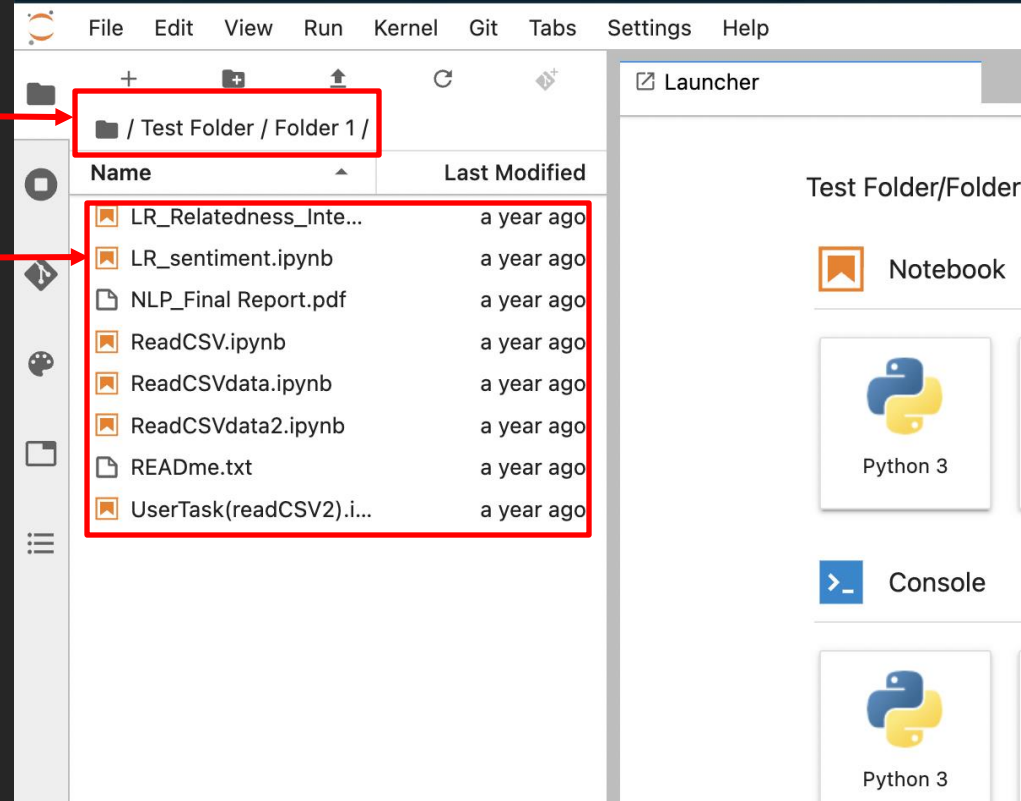
Let's open Folder 1 and see



File Path in Jupyter Lab

Indicates that we are within Folder 1
and current directory is Folder 1

Shows the
files within Folder 1



Types of File Path

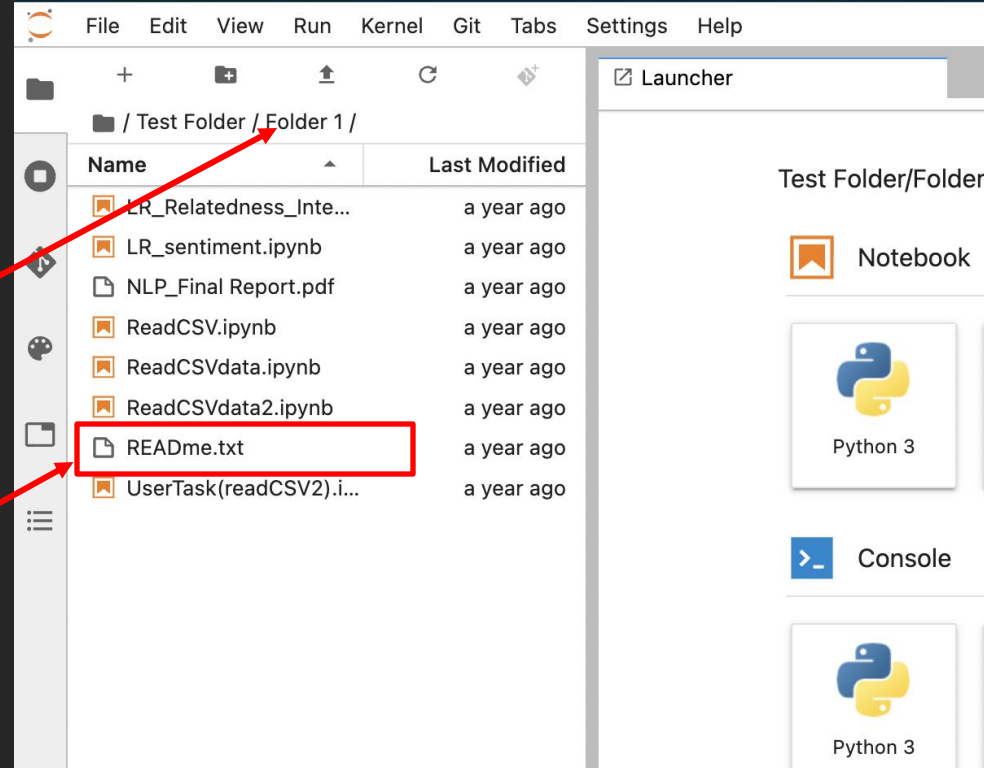
- Relative Path
- Absolute Path

Relative Path

- A relative path specifies the location of a file or folder **relative to the current working directory**.

Current directory is Folder 1

README.txt file is located
in current directory.
The relative path of this file is
"README.txt"




Relative Path

- Suppose we have this file structure under our root directory. And our **current directory is Folder 1**.
- What is the relative path of Universities.csv?

Ans: "Universities.csv"

- Test Folder
 - Folder 1
 - **Universities.csv**
 - Folder 3
 - Students.csv
 - Folder 2
 - Teachers.csv



Given file
structure

Relative Path

- Suppose we have this file structure under our root directory. And our **current directory is Folder 1**.
- What is the relative path of Students.csv?

- Test Folder
 - Folder 1
 - Universities.csv
 - Folder 3
 - **Students.csv**
 - Folder 2
 - Teachers.csv

Relative Path

- Suppose we have this file structure under our root directory. And our **current directory is Folder 1**.
- What is the relative path of Students.csv?
 - Notice that Students.csv is under Folder 3
 - Folder 3 is the **child directory** of Folder 1
 - The relative path of this Students.csv will be **"Folder 3/Students.csv"**

By this we
go to Folder 3
as Folder 3 is
child directory
of Folder 1

- Test Folder
 - Folder 1
 - Universities.csv
 - Folder 3
 - Students.csv
 - Folder 2
 - Teachers.csv

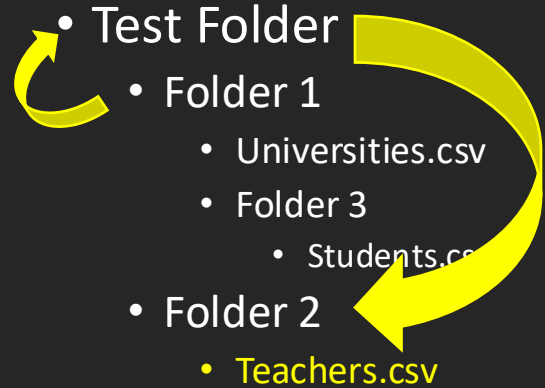
Relative Path

- Suppose we have this file structure under our root directory. And our **current directory is Folder 1**.
- What is the relative path of Teachers.csv?

- Test Folder
 - Folder 1
 - Universities.csv
 - Folder 3
 - Students.csv
 - Folder 2
 - **Teachers.csv**

Relative Path

- Suppose we have this file structure under our root directory. And our **current directory is Folder 1**.
- What is the relative path of Teachers.csv?
- To navigate to Teachers.csv
 - First ,we have to go the parent directory Folder 1 which is Test Folder. For this we use "../"
 - Then we go to Folder 2 which is a child directory of Test Folder. For this we use "Folder2/"
 - Path will be **"../Folder2/Teachers.csv"**



Absolute Path

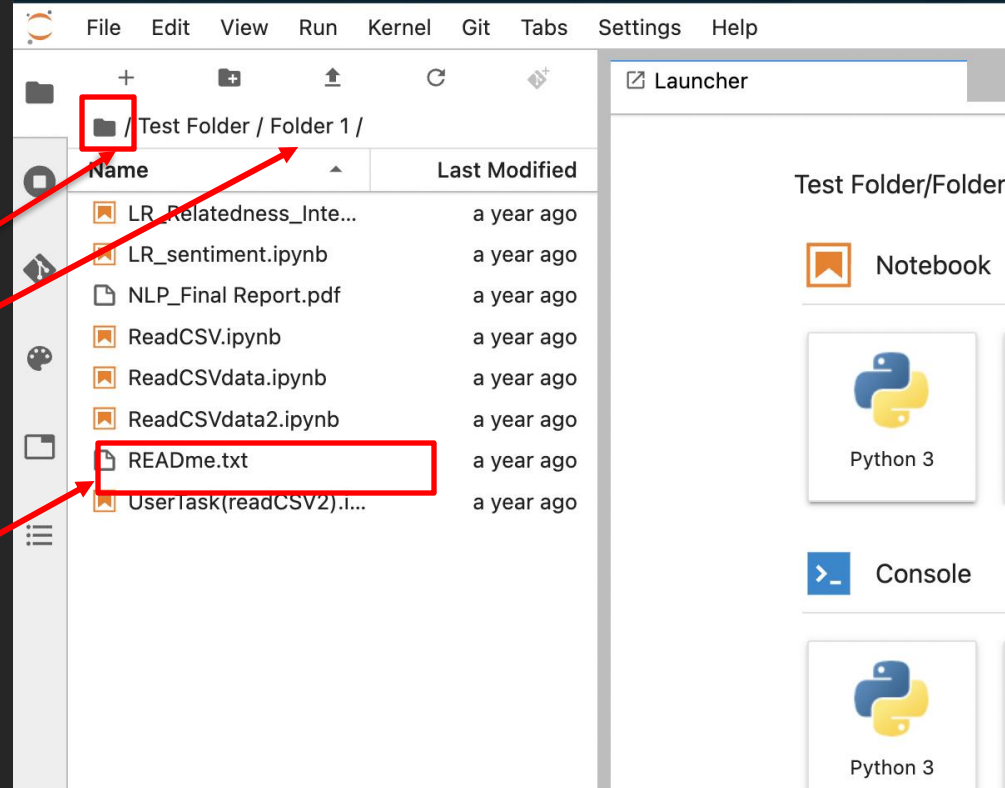
- An absolute path provides the complete location of a file or folder starting **from the root directory**

This "folder/" icon indicates root directory for each user

Current directory is Folder 1

The absolute path of this file is
"Test Folder/Folder 1/READme.txt"

- An absolute path doesn't depend on current directory

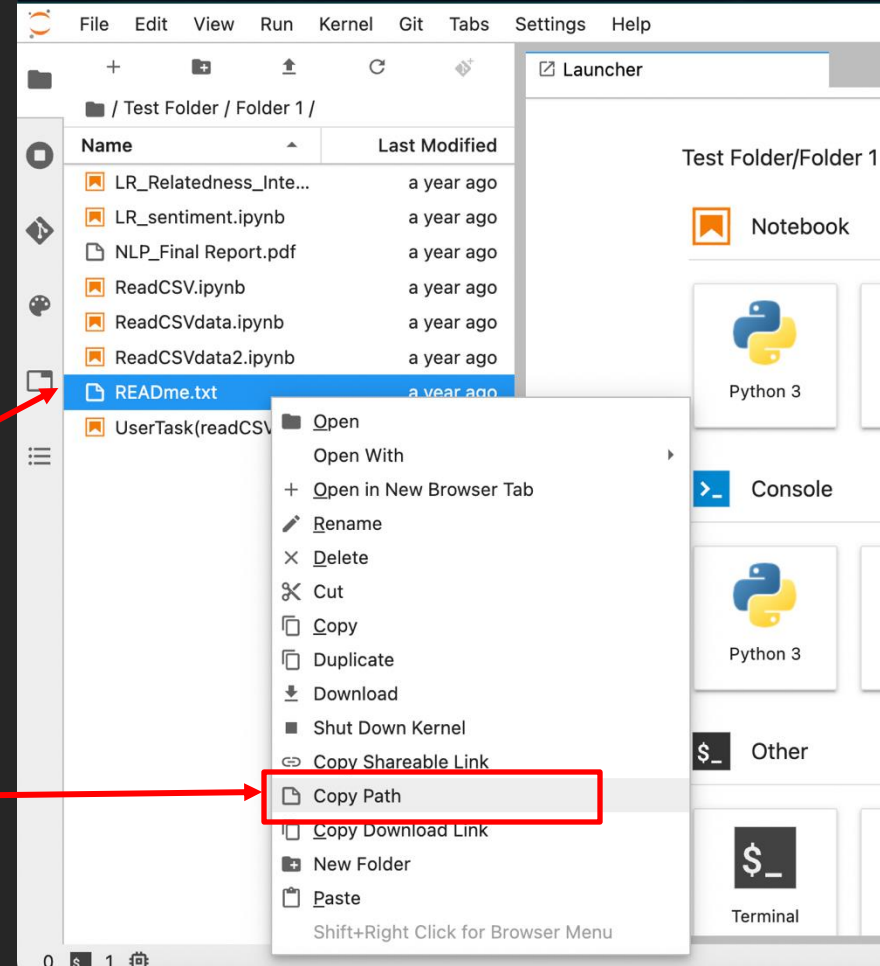


Absolute Path in JupyterLab

- In JupyterLab absolute path can be obtained by "Copy Path"

Right click on a file

Clicking on "Copy Path" will copy the absolute path in the clipboard. You can paste this in any text



Absolute Path

Suppose we have this file structure under our root directory.

- What is the absolute path of Students.csv if our current directory is Folder 1?
- What is the absolute path of Students.csv if our current directory is Folder 2?

- Test Folder
 - Folder 1
 - Universities.csv
 - Folder 3
 - Students.csv
 - Folder 2
 - Teachers.csv

Absolute Path

Suppose we have this file structure under our root directory.

- What is the absolute path of Students.csv if our **current directory is Folder 1**?
- What is the absolute path of Students.csv if our **current directory is Folder 2**?

- Test Folder
 - Folder 1
 - Universities.csv
 - Folder 3
 - Students.csv
 - Folder 2
 - Teachers.csv

Absolute path doesn't depend on current directory. For both cases they are the same which is "Test Folder/Folder1/Folder3/Students.csv"

Activity

- Open the Activity document and proceed with the tasks