

# jupyter\_docker\_install

## Install Docker + Jupyter Lab

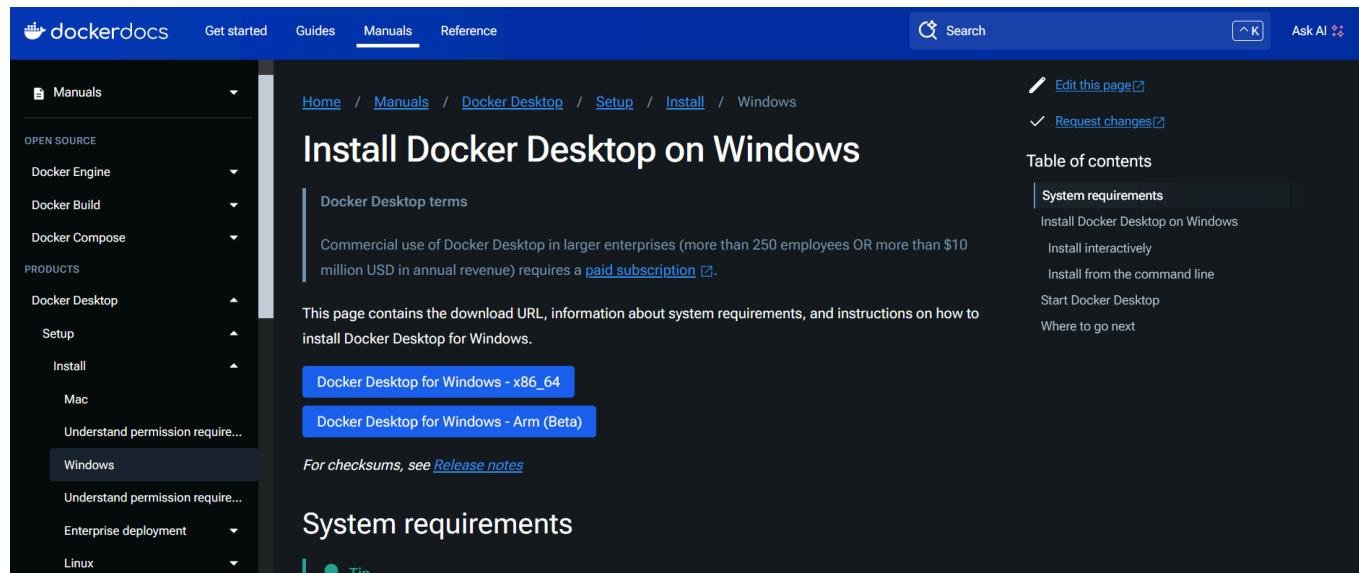
### Updates:

- new image `borsattifr/ml_notebook` and not `jupyter/datascience-notebook`.
- you don't need to clone the repository if you use the new image.
- **⚠** Note that if you modify the notebooks that we use during the lectures, you will lose the changes when you close docker. Please download the notebooks and upload them again if you want to save the changes. (right click on the notebook in the jupyter-lab file explorer and download it)

Search on the web for: "install docker desktop" + "windows" or "mac os" depending on the computer you have.

- For Mac:
  - Link: <https://docs.docker.com/desktop/setup/install/mac-install/>
  - If you have an Apple Silicon CPU, download the version with Apple Silicon in the link, otherwise download the Intel version (blue button).
- For Windows:
  - Link: <https://docs.docker.com/desktop/setup/install/windows-install/>
  - If you have an Intel/AMD CPU, download `x86_64`, otherwise, if you have ARM, download ARM (blue button).

### Windows



The screenshot shows the Docker Docs website with the URL <https://docs.docker.com/desktop/install/windows-install/>. The page is titled "Install Docker Desktop on Windows". The sidebar on the left has a "Manuals" section and links for "Docker Engine", "Docker Build", "Docker Compose", "Docker Desktop", "Setup", "Install", "Mac", "Windows" (which is selected), "Enterprise deployment", and "Linux". The main content area has a "Docker Desktop terms" section, a note about commercial use, and two blue download buttons for "Docker Desktop for Windows - x86\_64" and "Docker Desktop for Windows - Arm (Beta)". On the right, there are "Edit this page" and "Request changes" buttons, a "Table of contents" section with a "System requirements" link, and links for "Install Docker Desktop on Windows", "Install interactively", "Install from the command line", "Start Docker Desktop", and "Where to go next".

Mac OS:



The screenshot shows the Docker Docs website with the following navigation bar:

- Get started
- Guides
- Manuals** (selected)
- Reference

The page title is "Install Docker Desktop on Mac". The breadcrumb navigation shows: Home / Manuals / Docker Desktop / Setup / Install / Mac.

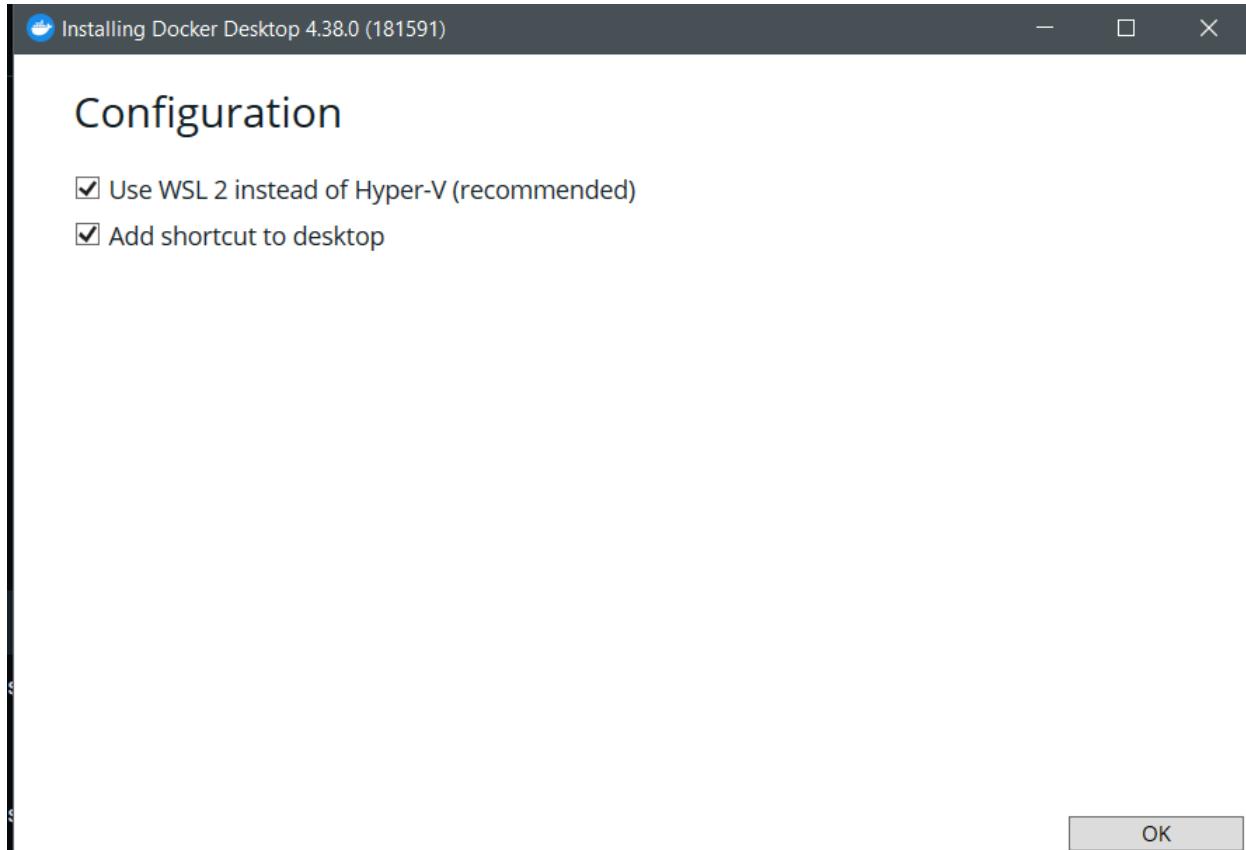
The main content area includes:

- Docker Desktop terms**: A note about commercial use.
- This page contains download URLs, information about system requirements, and instructions on how to install Docker Desktop for Mac.**
- Docker Desktop for Mac with Apple silicon** (button)
- Docker Desktop for Mac with Intel chip** (button)
- For checksums, see [Release notes](#).*
- ⚠ Warning**: A note about malware detection.

The sidebar on the left has the following sections:

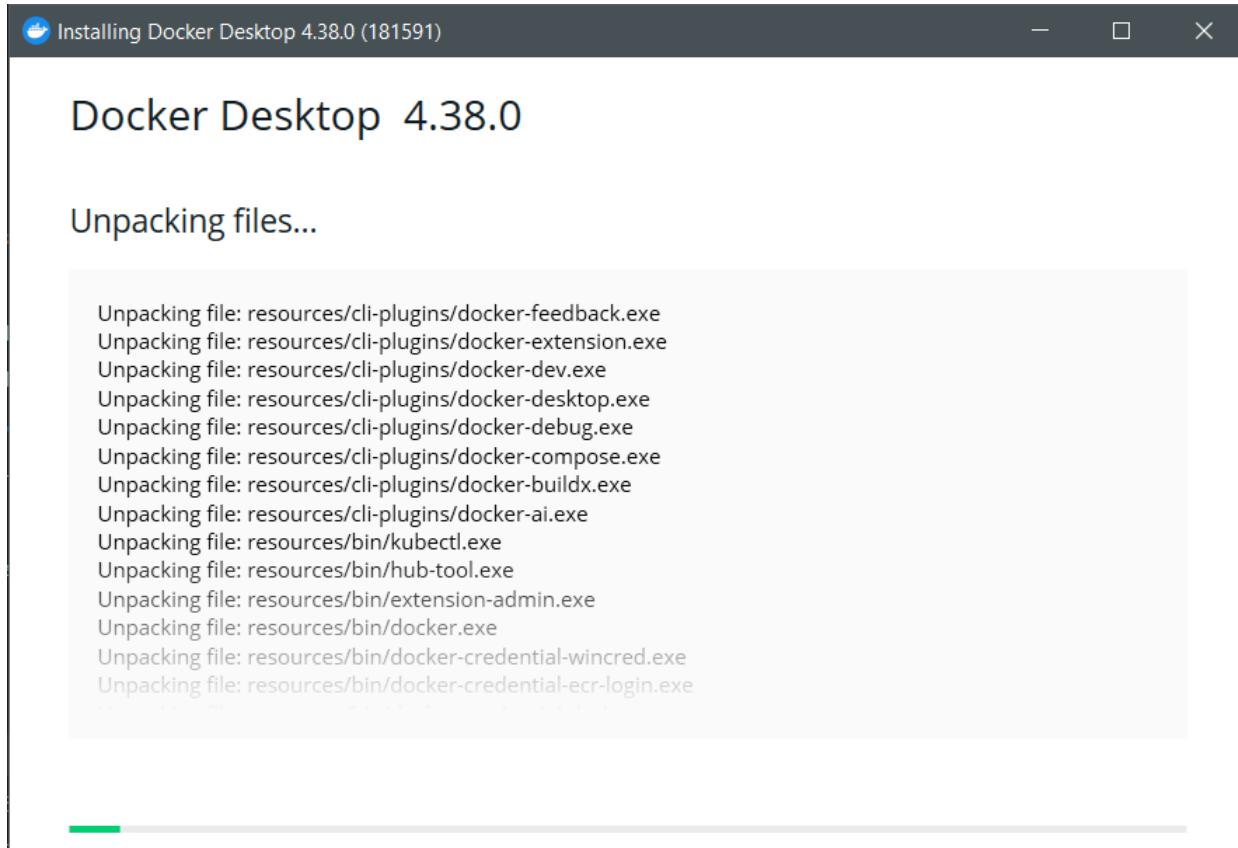
- Manuals
- OPEN SOURCE
  - Docker Engine
  - Docker Build
  - Docker Compose
- PRODUCTS
  - Docker Desktop
    - Mac (selected)
    - Understand permission require...
    - Windows
    - Understand permission require...
    - Enterprise deployment
    - Linux
  - Run Docker Desktop for Windows...

Run the installer (I'm doing it on Windows, for example)



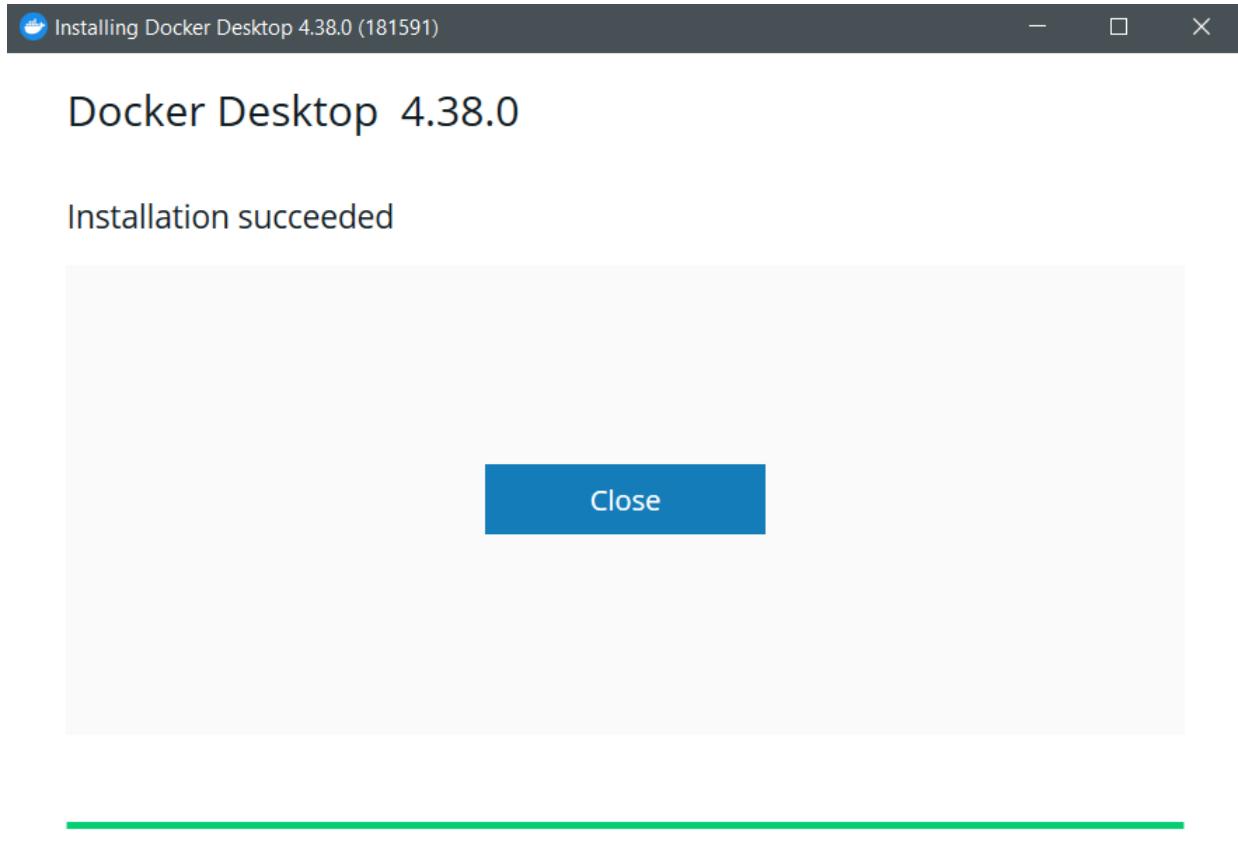
→ Click on "Ok"

You should see something like this:

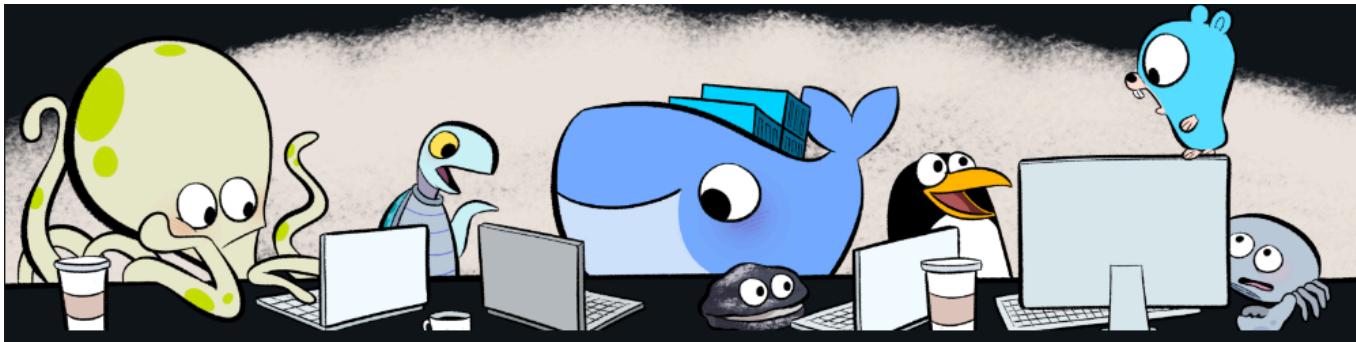


On my PC, it took a couple of minutes, it also depends on your internet connection speed.

We can close the installer.



Accept the terms.



## Docker Subscription Service Agreement

By selecting **accept**, you agree to the [Subscription Service Agreement](#), the [Docker Data Processing Agreement](#), and the [Data Privacy Policy](#).

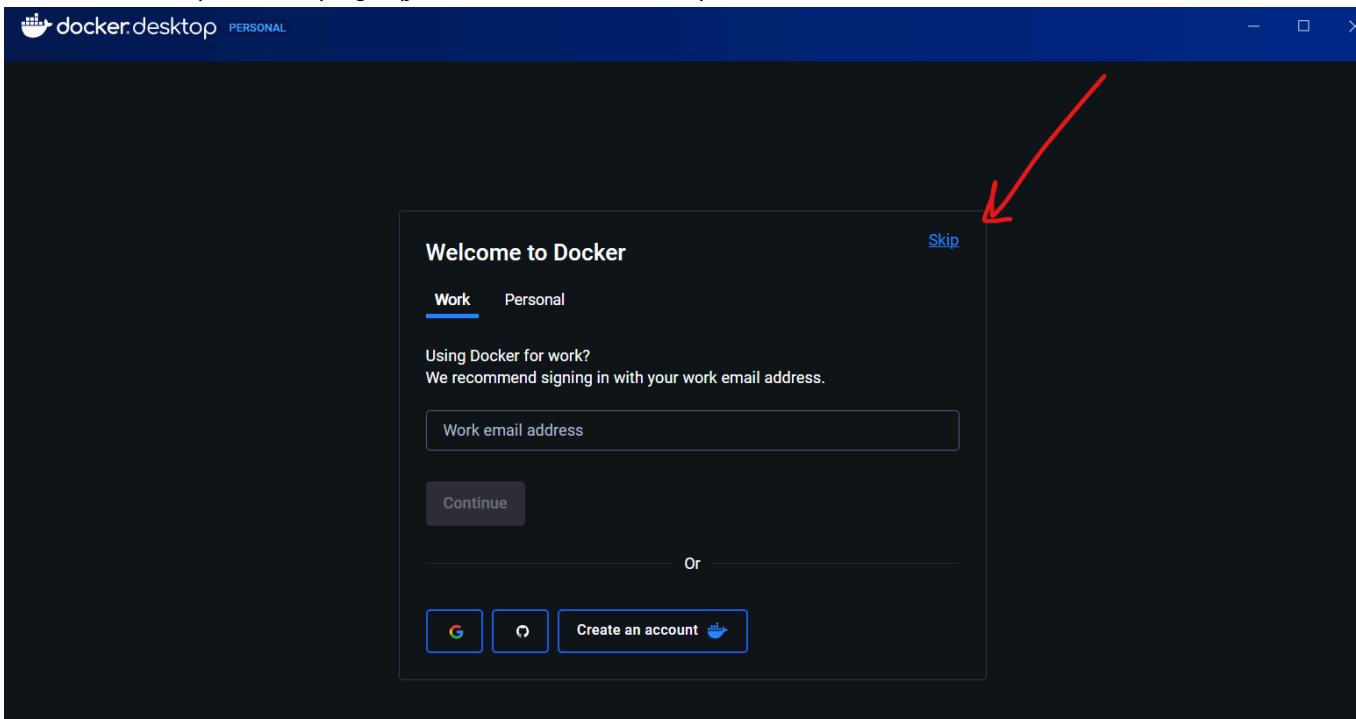
Commercial use of Docker Desktop at a company of more than 250 employees OR more than \$10 million in annual revenue requires a paid subscription (Pro, Team, or Business). [See subscription details](#)

[View Full Terms](#)

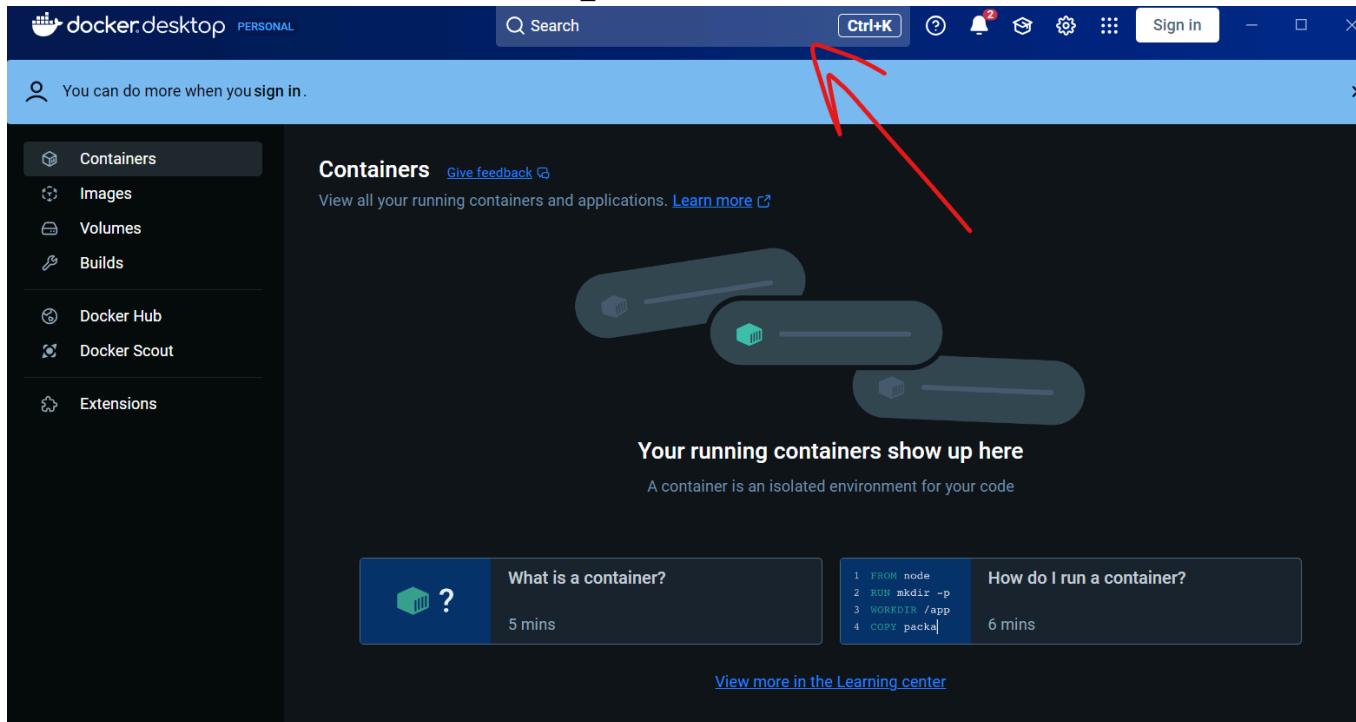
[Accept](#)

[Close](#)

You can click "skip" at the top right (you don't need an account).



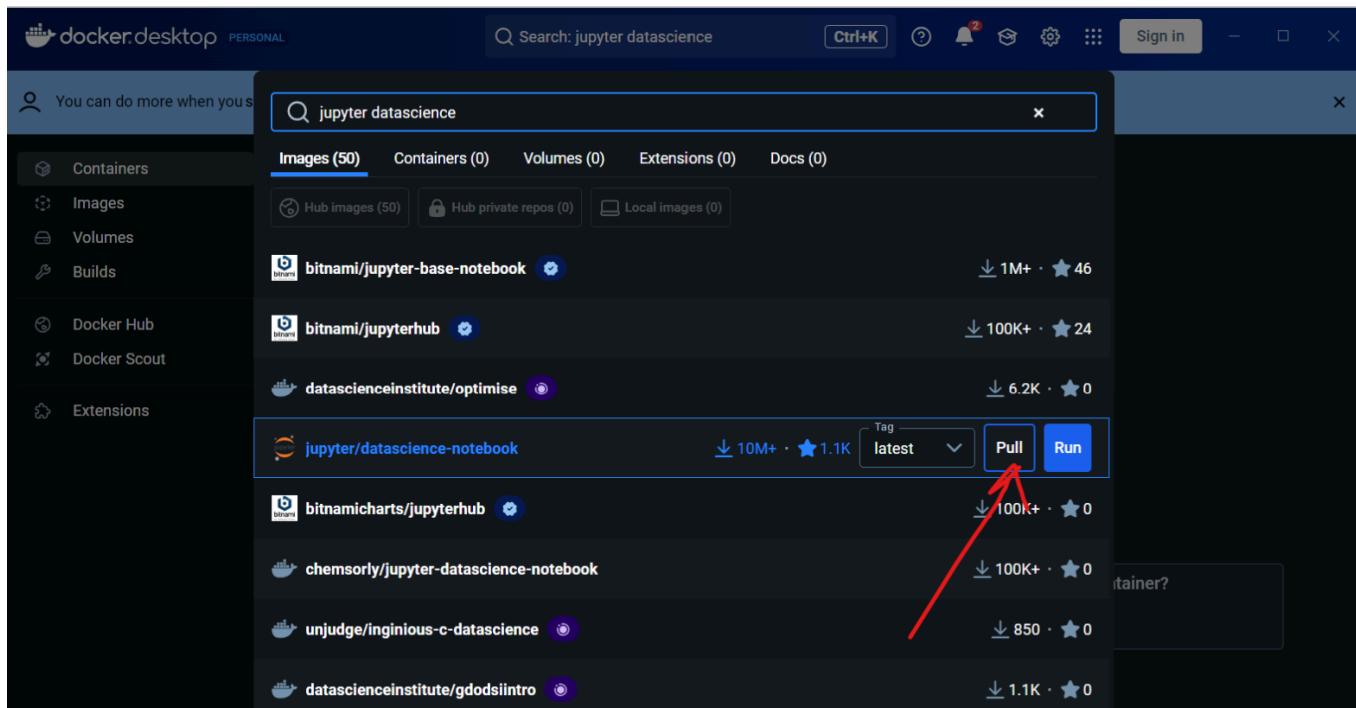
Click on the search bar and search for "borsattifr/ml\_notebook".



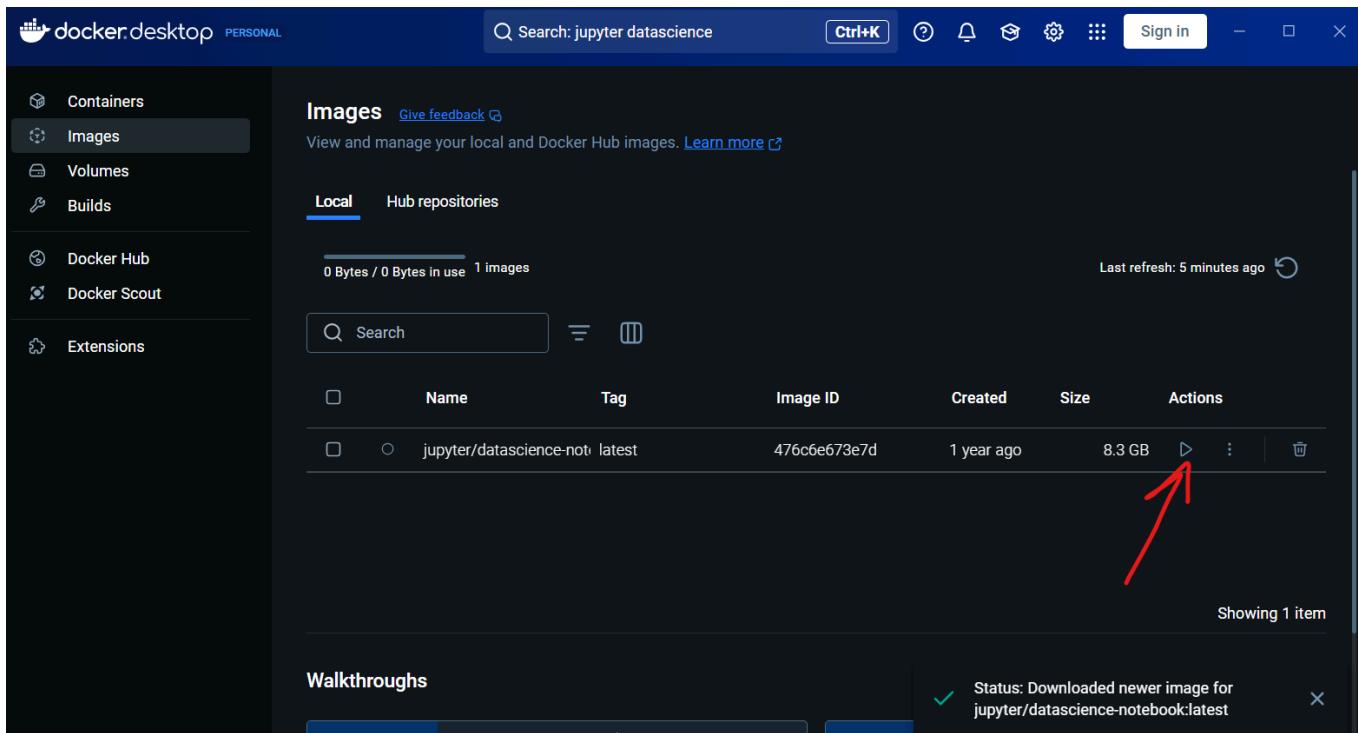
Click "pull" on the correct image, the one with the Jupyter icon called "borsattifr/ml\_notebook".

⚠ Note that the latest image is `borsattifr/ml_notebook` and not `jupyter/datascience-notebook` as shown in the image below.

⚠ You should select the `borsattifr/ml_notebook` image.

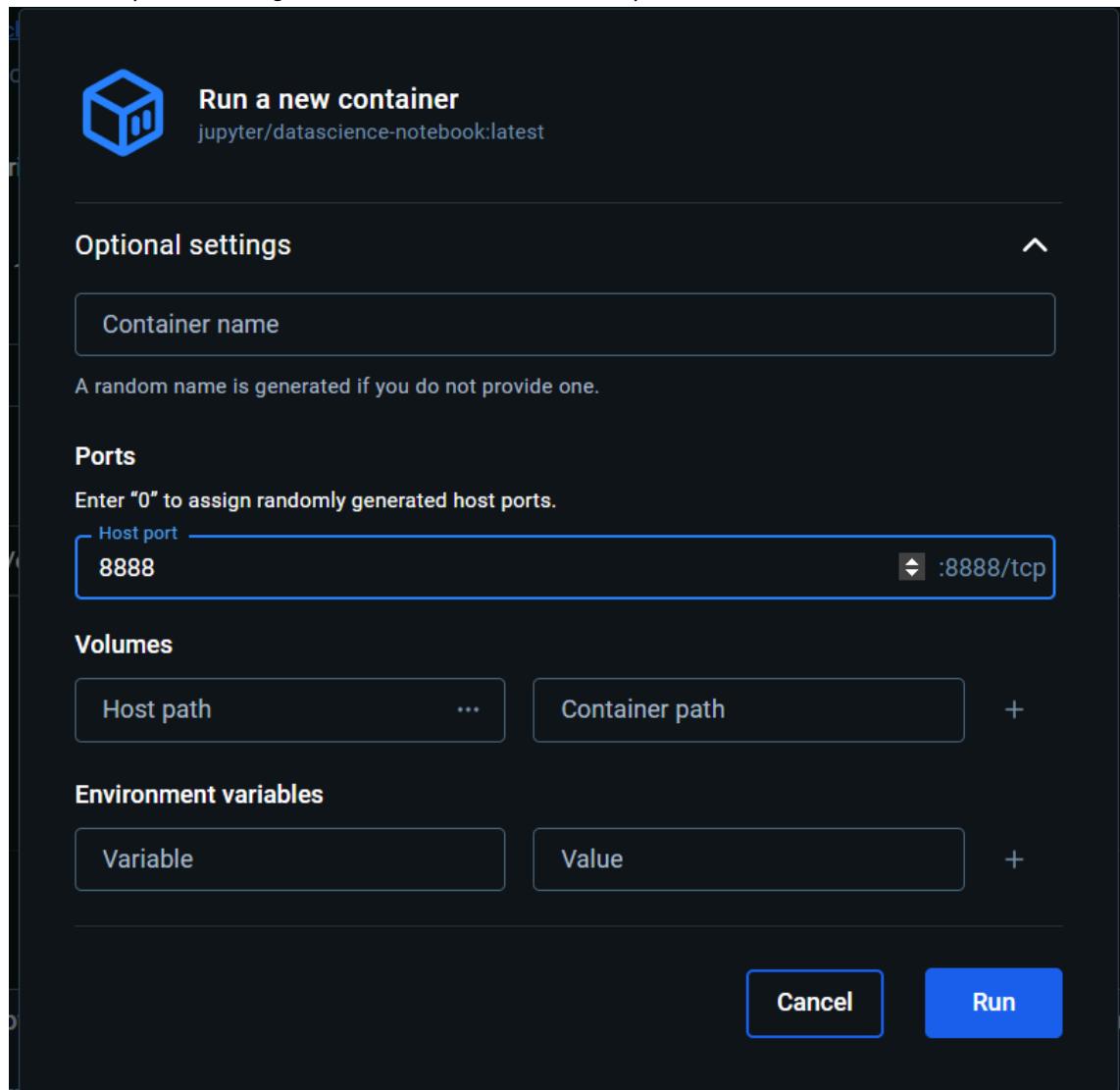


After a few minutes (again, depending on your internet connection speed), you should see the image among the available ones, so click on Run (▶ icon).



A screenshot of the Docker Desktop application. The left sidebar shows navigation options: Containers, Images (selected), Volumes, Builds, Docker Hub, Docker Scout, and Extensions. The main area is titled 'Images' with a 'Local' tab selected. It shows 1 image: 'jupyter/datasience-notebook:latest' (476c6e673e7d, 1 year ago, 8.3 GB). A red arrow points to the 'Actions' column for this image. Below the table, a status message says 'Status: Downloaded newer image for jupyter/datasience-notebook:latest'.

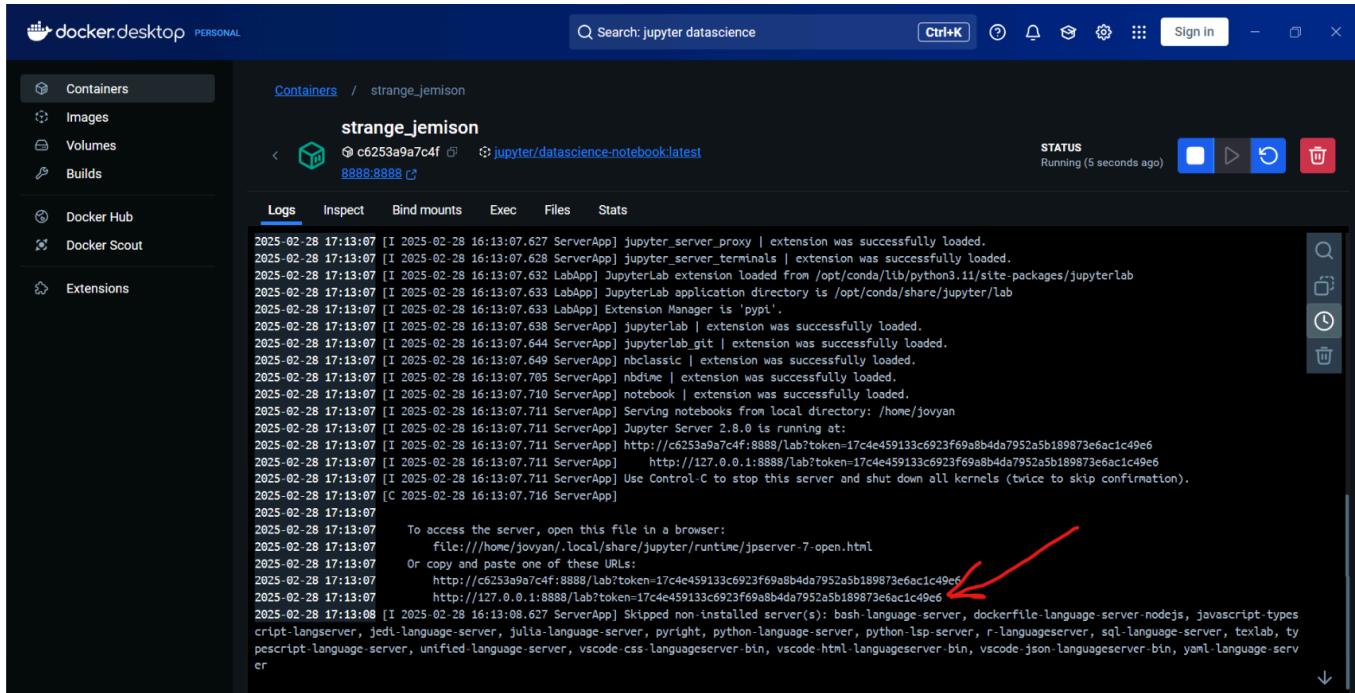
Click on "Optional settings" and write "8888" in the "Host port" field.



A screenshot of the 'Run a new container' dialog. It shows the 'Run a new container' heading and the image 'jupyter/datasience-notebook:latest'. The 'Optional settings' section is expanded, showing a 'Container name' input field and a note that a random name is generated if none is provided. The 'Ports' section shows a 'Host port' input field with '8888' entered, and a 'Container port' field with ':8888/tcp'. The 'Volumes' section has 'Host path' and 'Container path' input fields with a '+' button. The 'Environment variables' section has 'Variable' and 'Value' input fields with a '+' button. At the bottom are 'Cancel' and 'Run' buttons.

Then click on the "Run" button.

You will see output similar to this, click on the last link.



Docker Desktop PERSONAL

Containers / strange\_jemison

Logs

Logs / c6253a9a7c4f jupyter/datasience-notebook.latest 8888:8888

STATUS: Running (5 seconds ago)

Logs

2025-02-28 17:13:07 [I 2025-02-28 16:13:07.627 ServerApp] jupyter\_server\_proxy | extension was successfully loaded.

2025-02-28 17:13:07 [I 2025-02-28 16:13:07.628 ServerApp] jupyter\_server\_terminals | extension was successfully loaded.

2025-02-28 17:13:07 [I 2025-02-28 16:13:07.632 LabApp] JupyterLab extension loaded from /opt/conda/lib/python3.11/site-packages/jupyterlab

2025-02-28 17:13:07 [I 2025-02-28 16:13:07.633 LabApp] JupyterLab application directory is /opt/conda/share/jupyter/lab

2025-02-28 17:13:07 [I 2025-02-28 16:13:07.633 LabApp] Extension Manager is 'pyyaml'.

2025-02-28 17:13:07 [I 2025-02-28 16:13:07.638 ServerApp] jupyterlab | extension was successfully loaded.

2025-02-28 17:13:07 [I 2025-02-28 16:13:07.644 ServerApp] jupyterlab\_git | extension was successfully loaded.

2025-02-28 17:13:07 [I 2025-02-28 16:13:07.649 ServerApp] nbclassic | extension was successfully loaded.

2025-02-28 17:13:07 [I 2025-02-28 16:13:07.705 ServerApp] nbdfw | extension was successfully loaded.

2025-02-28 17:13:07 [I 2025-02-28 16:13:07.710 ServerApp] notebook | extension was successfully loaded.

2025-02-28 17:13:07 [I 2025-02-28 16:13:07.711 ServerApp] Serving notebooks from local directory: /home/jovyan

2025-02-28 17:13:07 [I 2025-02-28 16:13:07.711 ServerApp] Jupyter Server 2.8.0 is running at:

2025-02-28 17:13:07 [I 2025-02-28 16:13:07.711 ServerApp] http://c6253a9a7c4f:8888/lab?token=17c4e459133c6923f69a8b4d7952a5b189873e6ac1c49e6

2025-02-28 17:13:07 [I 2025-02-28 16:13:07.711 ServerApp] http://127.0.0.1:8888/lab?token=17c4e459133c6923f69a8b4d7952a5b189873e6ac1c49e6

2025-02-28 17:13:07 [I 2025-02-28 16:13:07.711 ServerApp] Use Control-C to stop this server and shut down all kernels (twice to skip confirmation).

2025-02-28 17:13:07 [C 2025-02-28 16:13:07.716 ServerApp]

2025-02-28 17:13:07 To access the server, open this file in a browser:

2025-02-28 17:13:07 file:///home/jovyan/.local/share/jupyter/runtime/jpserver-7-open.html

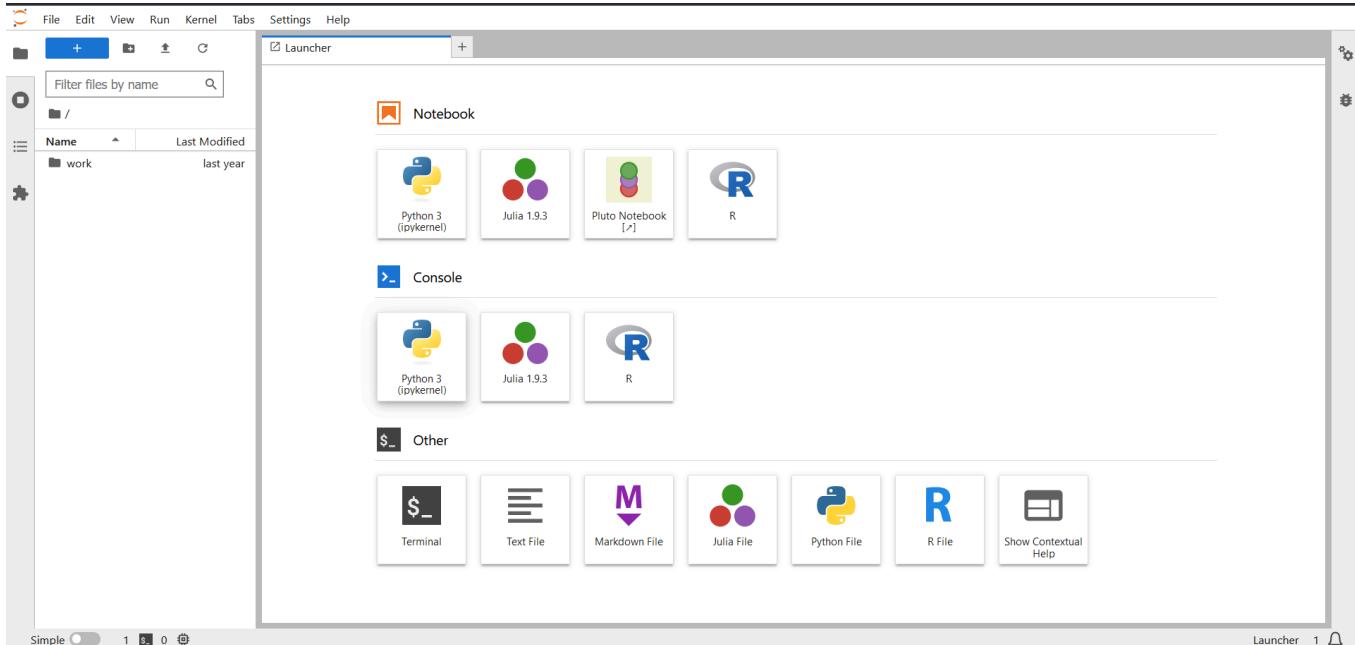
2025-02-28 17:13:07 Or copy and paste one of these URLs:

2025-02-28 17:13:07 http://c6253a9a7c4f:8888/lab?token=17c4e459133c6923f69a8b4d7952a5b189873e6ac1c49e6

2025-02-28 17:13:07 http://127.0.0.1:8888/lab?token=17c4e459133c6923f69a8b4d7952a5b189873e6ac1c49e6

2025-02-28 17:13:08 [I 2025-02-28 16:13:08.627 ServerApp] Skipped non-installed server(s): bash-language-server, dockerfile-language-server-nodejs, javascript-typescript-langserver, jedi-language-server, julia-language-server, pyright, python-language-server, python-lsp-server, r-languageserver, sql-language-server, texlab, typescript-language-server, unified-language-server, vscode-css-languageserver-bin, vscode-html-languageserver-bin, vscode-json-languageserver-bin, yaml-language-server

Jupyter Lab will open, just like we saw in class.



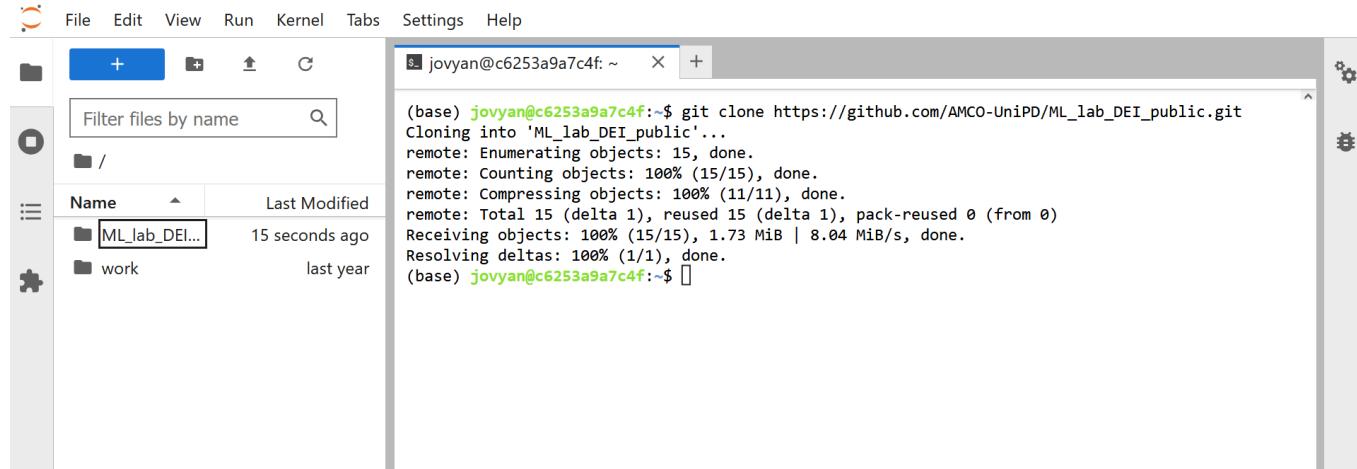
⚠️ If you downloaded the latest image, `borsattifr/ml_notebook`, you will not need to clone the repository, as it is done automatically.

If you use another image, you can clone the repository by doing the following:

Click on the terminal icon, and you can git clone our repository with the command:

```
git clone https://github.com/AMCO-UniPD/ML_lab_DEI_public.git
```

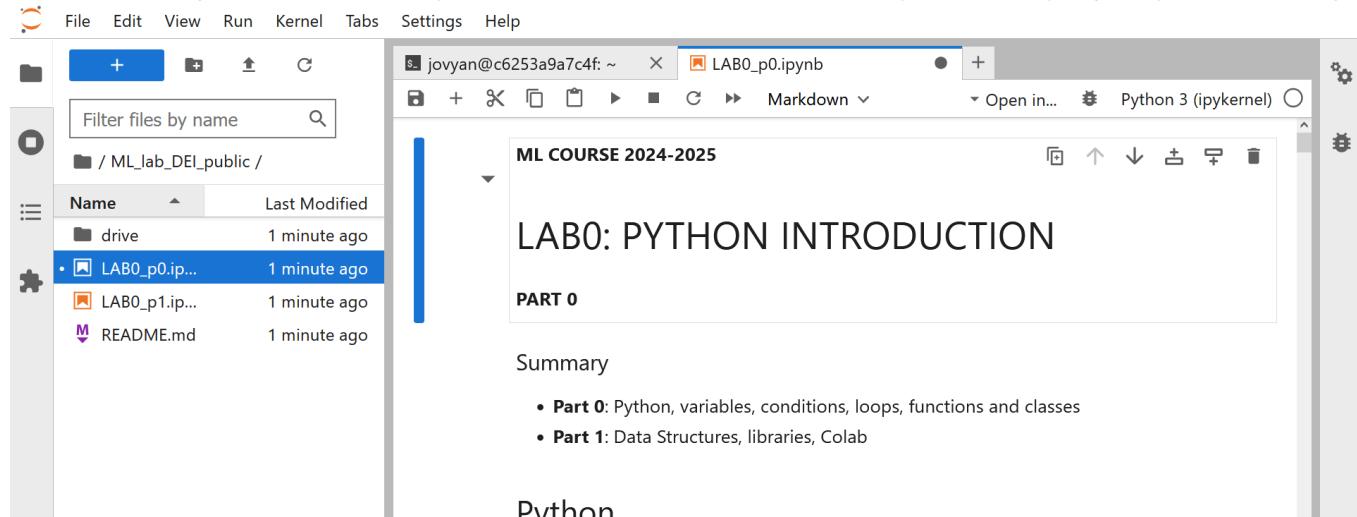
And press enter, you will see an output similar to this one:



```
(base) jovyan@c6253a9a7c4f:~$ git clone https://github.com/AMCO-UniPD/ML_lab_DEI_public.git
Cloning into 'ML_lab_DEI_public'...
remote: Enumerating objects: 15, done.
remote: Counting objects: 100% (15/15), done.
remote: Compressing objects: 100% (11/11), done.
remote: Total 15 (delta 1), reused 15 (delta 1), pack-reused 0 (from 0)
Receiving objects: 100% (15/15), 1.73 MiB | 8.04 MiB/s, done.
Resolving deltas: 100% (1/1), done.
(base) jovyan@c6253a9a7c4f:~$
```

And in the file pane, you will see the folder "ML\_lab\_DEI\_public" (press the refresh button if you don't see it)

Double-click to open the folder, inside you will see the course notebooks, which you can always open by double-clicking.



ML COURSE 2024-2025

## LAB0: PYTHON INTRODUCTION

### PART 0

Summary

- **Part 0:** Python, variables, conditions, loops, functions and classes
- **Part 1:** Data Structures, libraries, Colab