



C'est quoi un
Notebook ?



Notebook Python



- C'est quoi un Notebook Python ?
 - Document « actif » contenant des **blocs de texte** (en format « *markdown* ») et des **blocs de code Python**

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

- Bloc de texte** (Text box): "Series". A blue bracket on the left groups this with other text blocks.
- Entrée [4]:**

```
from pandas import Series
maserie = Series ([8, 70, 320, 1200], index=["Suisse", "France", "USA", "Chine"])
print(maserie)
```

Suisse 8
France 70
USA 320
Chine 1200
dtype: int64

A blue bracket on the right groups this with other execution results.
- Bloc de code** (Text box): "Code Python". An orange arrow points from this box to the code block in Entrée [4].
- Résultat d'exécution** (Text box): "On peut créer une série à partir d'une liste, d'un dictionnaire ou même d'un Array NumPy."
- Entrée [5]:**

```
import numpy as np
monarray = np.random.randn(5)
s2 = Series (monarray, index=["A","B","C","D","E"])

print (monarray, '\n', s2)
```

[-0.96850466 -1.99478449 -1.6655539 -1.22318014 -0.35159315]
A -0.968505
B -1.994784

An orange arrow points from this box to the code block in Entrée [4].
- Bloc de texte** (Text box): "Code Python". An orange bracket on the right groups this with other text blocks.
- Résultat d'exécution** (Text box): "Code Python".



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Notebook Python

- **Texte en « markdown »**

- Langage de marquage simple pour formater le texte

The screenshot shows a Jupyter Notebook interface on a Mac OS X system. The title bar says "Untitled - Jupyter Notebook" and the address bar says "localhost". The toolbar includes standard Mac OS X window controls, a shield icon, and a dropdown menu. Below the toolbar is a menu bar with "Fichier", "Édition", "Affichage", "Insérer", "Cellule", "Noyau", and "Widgets". The main area contains a code cell with the following content:

```
# Titre niveau 1
## Titre niveau 2
Texte en *italique*
Texte en **gras**
Texte en ***gras et italique***
- liste de valeurs
- liste de valeurs
```

The screenshot shows the rendered output of the Markdown content from the previous screen. The title bar and address bar are identical. The menu bar and toolbar are also identical. The main area displays the formatted text:

Titre niveau 1

Titre niveau 2

Texte en *italique* Texte en **gras** Texte en **gras et italique**

- liste de valeurs
- liste de valeurs



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Notebook Python

• Bloc de code Python

- Des petits **blocs de code** qu'on peut exécuter
- Equivalent au mode « **itératif** »

Attention : ça dépend de l'**ordre** dans laquelle **on exécute les blocs, pas nécessairement de l'ordre des blocs**

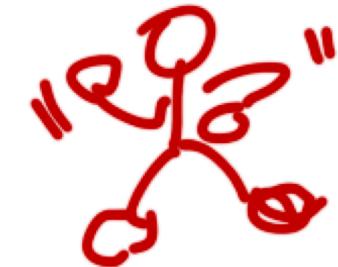


The screenshot shows a Jupyter Notebook interface. At the top, there's a toolbar with various icons: Fichier, Édition, Affichage, Insérer, Cellule, Noyau, Widgets, and a search bar. Below the toolbar is a menu bar with File, Edit, View, Insert, Cell, Kernel, and Help. The main area contains two code cells. The first cell has the title "Titre niveau 1" and contains the text "Titre niveau 2". The second cell has the title "Titre niveau 1" and contains the text "Titre niveau 2". Both cells have a "Code" tab selected. A red circle highlights the "Exécuter" button in the toolbar. In the bottom left corner, there's a text input field labeled "Entrée [2]:" containing the Python code:

```
a = 2
b = 'To'
print (a*b)
```

 An orange arrow points from this code block towards the execution results.

The screenshot shows the execution results of the code in the previous cell. On the left, there's a sidebar with sections for "Titre niveau 1" and "Titre niveau 2". The main area shows the output of the code: "Entrée [2]: a = 2 b = 'To' print (a*b)" followed by the result "ToTo". The toolbar at the top includes icons for file operations, cell selection, and execution. The menu bar is partially visible with "Exécuter" highlighted.





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Google Collab



Accessible avec un simple
compte Google

<https://colab.research.google.com>

The screenshot shows the Google Colab interface. At the top, there's a navigation bar with tabs for 'Exemples', 'Récents', 'Google Drive', 'GitHub', and 'Importer'. Below it is a search bar labeled 'Filtrer les notebooks' and a table listing notebooks. The first notebook is 'Bienvenue dans Colaboratory' (last opened 11:38 on 26 février) and the second is 'Untitled0.ipynb' (last opened 26 septembre on 26 février). On the right side, there's a sidebar with various options and a message about sharing. A red circle highlights the 'Nouveau notebook' button at the bottom right of the sidebar.

The screenshot shows a Google Colab notebook titled 'Untitled0.ipynb'. The interface includes a toolbar with file operations like 'Running the Noteb...', 'Installing Anacond...', and 'Untitled.ipynb'. The main area has sections for 'Introduction' and 'Code'. In the 'Code' section, there's a cell containing the Python code `print('hello')` and `print(2+2)`. The output of the first cell is 'hello' and the second is 4. A red box highlights the 'Code' tab in the toolbar and the code cell itself.

- On peut créer ses Notebooks et les enregistrer sur son Google Drive.
- Partage d'un Notebook avec d'autres personnes possible



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<https://mybinder.org>

- Créer une copie d'un environnement préexistant → un dépôt de base

The screenshot shows a web browser window with the URL <https://mybinder.org/v2/gh/mkirschpin/CoursPython/HEAD>. The page displays a progress bar at the top with 'Waiting' and 'Building' segments. Below the progress bar is a 'Build logs' section containing terminal output:

```
---> Using cache
---> 7cc9255alcfc
Step 36/51 : RUN chown ${NB_USER}:${NB_USER} ${REPO_DIR}
---> Using cache
---> 75ca7bb6ae3
Step 37/51 : ENV PATH ${HOME}/.local/bin:${REPO_DIR}/.local/
---> Using cache
---> dff83a73e019
Step 38/51 : ENV CONDA_DEFAULT_ENV ${KERNEL_PYTHON_PREFIX}
---> Using cache
```

Binder

The screenshot shows the mybinder.org website. A large orange box highlights the 'Dépôt de base:' field, which contains the URL <http://github.com/mkirschpin/CoursPython>. An orange arrow points from this field to the 'GitHub repository name or URL' input field in a modal dialog titled 'Build and launch a repository'. The dialog also includes fields for 'Git ref (branch, tag, or commit)' (set to 'HEAD') and 'Path to a notebook file (optional)'. At the bottom of the dialog is a 'launch' button.

- Rien n'est enregistré → dès qu'on ferme le navigateur, on perd les modifications
- Export possible**



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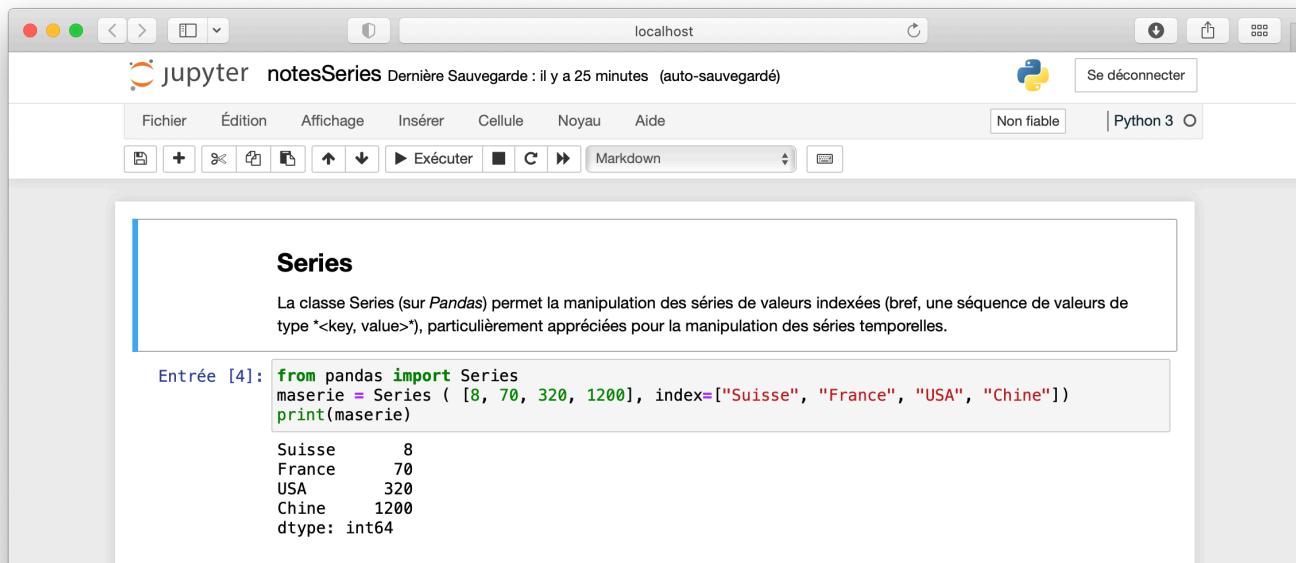
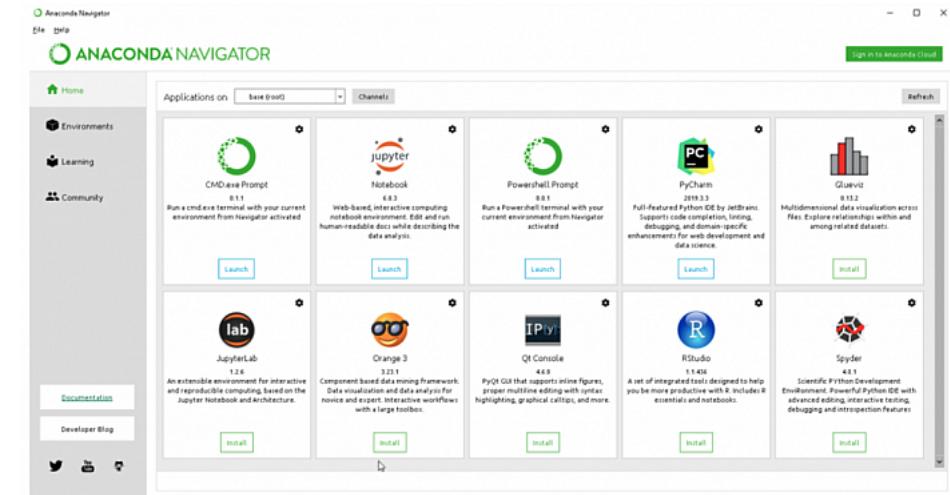
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Installer Jupyter



- Option 1 : utiliser **Anaconda** pour gérer son installation
 - Installer Anaconda :
[https://www.anaconda.com/
products/individual](https://www.anaconda.com/products/individual)
 - Ouvrir **Anaconda Navigator**
 - Choisir **Jupyter Notebook** (ou **Jupyter Lab**)



The screenshot shows a Jupyter Notebook interface running on localhost. The top navigation bar includes File, Edition, Affichage, Insérer, Cellule, Noyau, Aide, and a Python 3 O button. The main area displays a code cell titled "Series" with the following content:

```
Entrée [4]: from pandas import Series
maserie = Series ([8, 70, 320, 1200], index=["Suisse", "France", "USA", "Chine"])
print(maserie)
```

The output of the code cell is:

```
Suisse    8
France   70
USA     320
Chine   1200
dtype: int64
```

Installer Jupyter



- **Option 2 : utiliser pip**

- Ouvrir un terminal

- Taper

- pip3 install jupyter**

- ou

- pip3 install jupyterlab**

- Exécuter (toujours sur le terminal)

- jupyter-notebook** (ou **jupyter-lab**)

```
Last login: Mon Oct 4 12:32:48 on ttys000
[kirsch@Lilith ~] % pip3 install jupyter
Collecting jupyter
  Downloading jupyter-1.0.0-py2.py3-none-any.whl (2.7 kB)
Requirement already satisfied: notebook in /Library/Frameworks/Python.framework
3.9/site-packages (from jupyter) (6.4.4)
Collecting jupyter-console
  Downloading jupyter_console-6.4.0-py3-none-any.whl (22 kB)
Collecting qtconsole
  Downloading qtconsole-5.1.1-py3-none-any.whl (119 kB)
|██████████| 119 kB 3.1 MB/s
Collecting ipywidgets
  Downloading ipywidgets-7.6.5-py2.py3-none-any.whl (121 kB)
|██████████| 121 kB 3.4 MB/s
Requirement already satisfied: nbconvert in /Library/Frameworks/Python.framework/Versions/3.9/lib/python
n3.9/site-packages (from jupyter) (6.2.0)
Requirement already satisfied: ipykernel in ./Library/Python/3.9/lib/python/site-packages (from jupyter
) (5.5.5)
```



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

- Toolbar:** Includes standard Mac OS X window controls (red, yellow, green buttons), a back/forward button, a search bar, and a refresh button.
- Header:** Shows the URL "localhost" and three tabs: "Installing Anaconda on Windows & Add Anaconda to Path Tutorial...", "Starting JupyterLab — JupyterLab 4.0.0a11 documentation", and "Home Page - Select or create a notebook".
- Header Buttons:** "Quit" and "Se déconnecter".
- File Browser:** A sidebar titled "jupyter" with tabs "Fichiers", "Actifs", and "Grappes". It displays a list of files and folders:
 - "/" (root): 0 items, last modified "a year ago".
 - "Applications": 0 items, last modified "a minute ago".
 - "Desktop": 0 items, last modified "15 days ago".
 - "Documents": 0 items, last modified "25 minutes ago".
 - "Downloads": 0 items.
- Action Buttons:** "Téléverser", "Nouveau", and a refresh icon.



C'est quoi un notebook ?

Questions ?

Manuele Kirsch Pinheiro

Manuele.Kirsch-Pinheiro@univ-paris1.fr