

머신러닝 실습 환경 구축

Python, Anaconda, Jupyter Notebook

Python using Anaconda



Python is the most popular language among AI developers

- Easy to learn and simple syntax
- a lot of frameworks and libraries such as Numpy, Scikit-learn, TensorFlow and PyTorch etc.



Anaconda is the most popular standard platform for Python data science including Machine Learning.



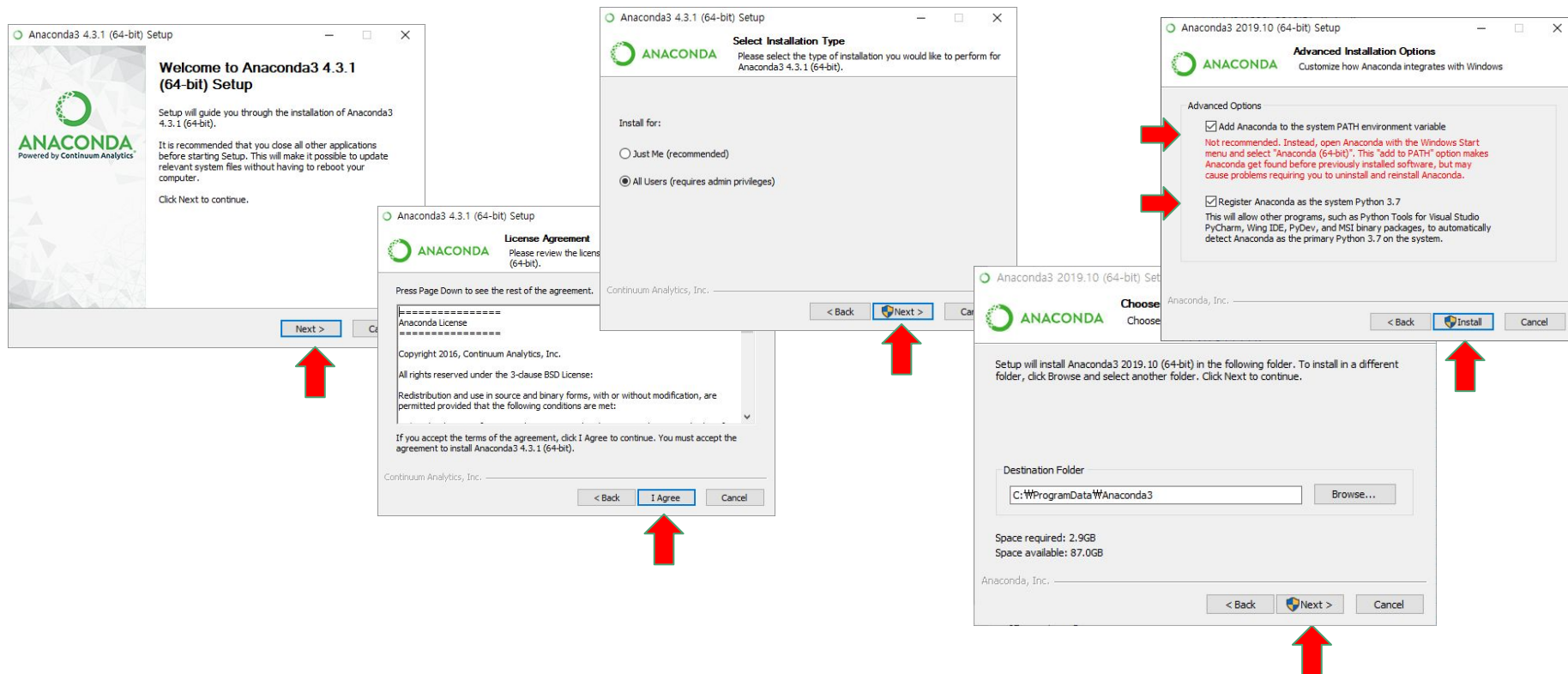
Recommend to install **Anaconda**

Anaconda - Install

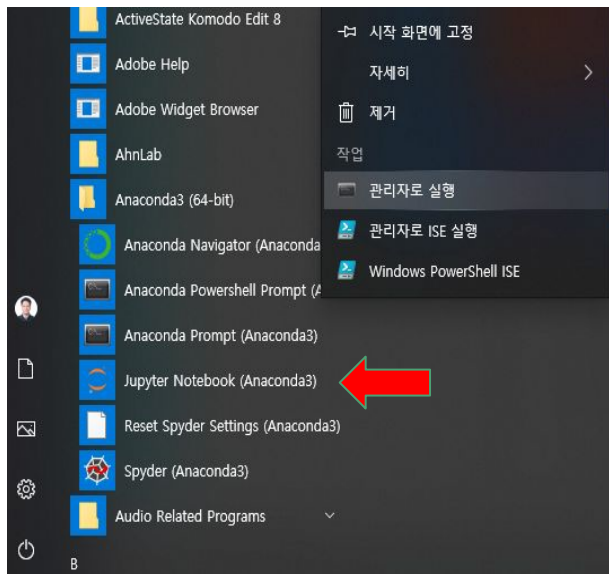
1. First, install [Chrome Browser](#)
2. visit <https://www.anaconda.com/>
3. Click “download” button
4. Click “Python 3.8 Version” (Download)
5. Install by clicking the downloaded file



Anaconda - Install (continued)



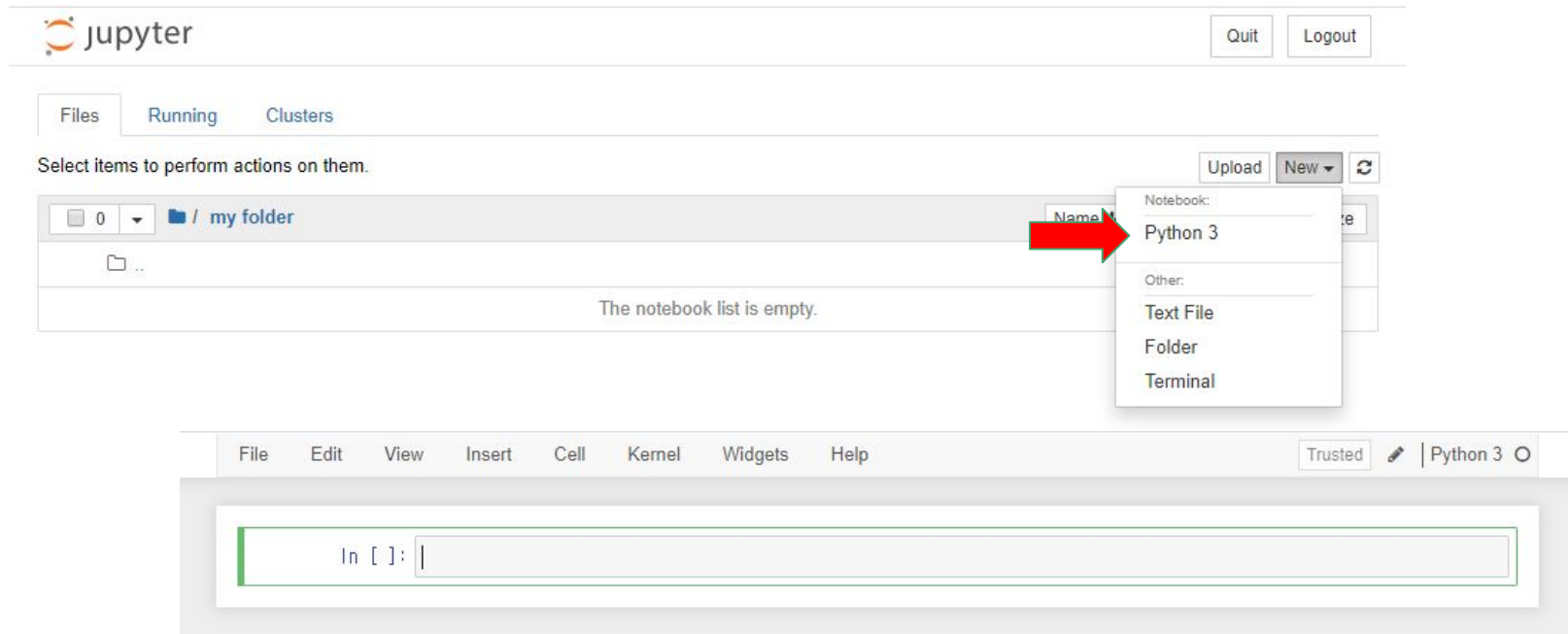
Jupyter notebook 실행



Jupyter Notebook - Starting

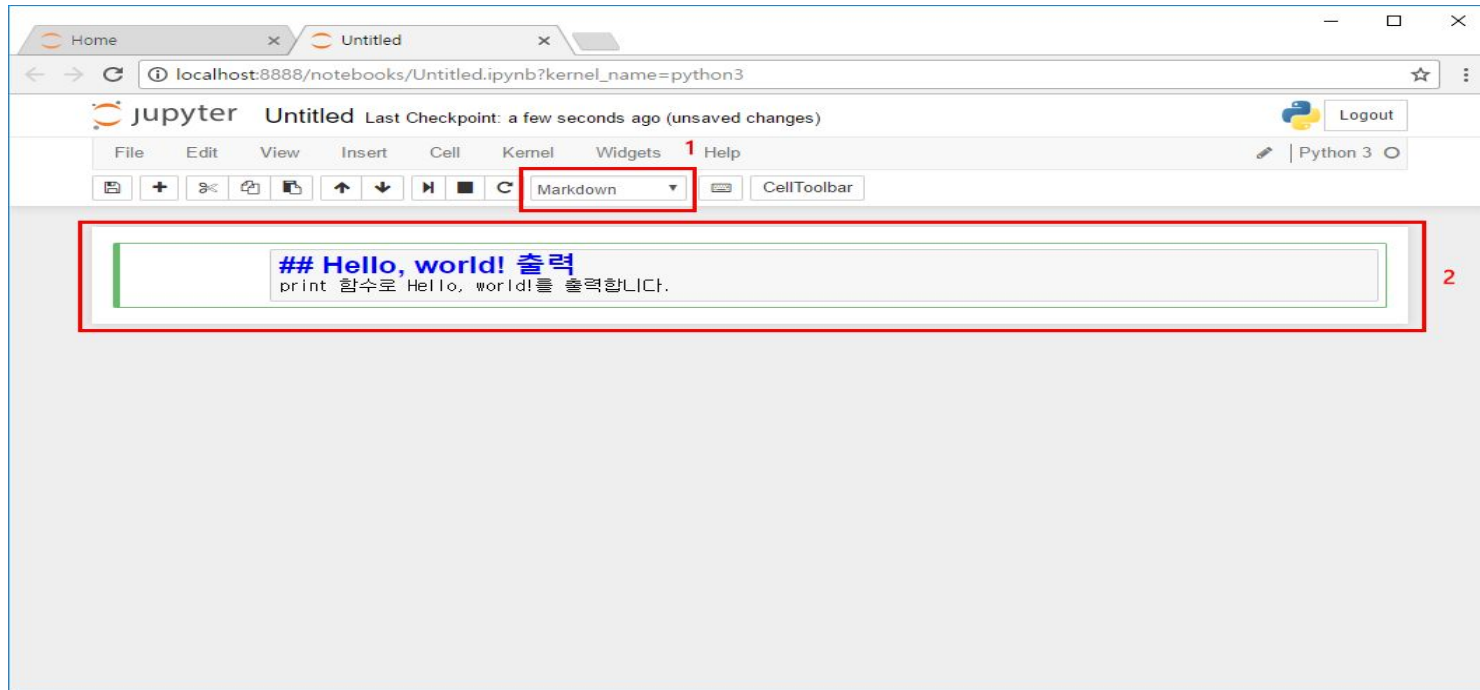
The screenshot displays the Jupyter Notebook web interface in a browser. The address bar shows `localhost:8888/tree#`. The interface includes tabs for **Files**, **Running**, and **Clusters**. In the **Files** tab, a file tree on the left lists directories like `3D Objects`, `Contacts`, `Desktop`, `Documents`, `Downloads`, `Dropbox`, `erdasnet_licensing`, and `Evernote`. A red arrow points to the `/` directory in this list. Above the file tree, buttons for **Upload**, **New**, and **Refresh** are visible. A dropdown menu is open under the **New** button, showing options: **Notebook: Python 3**, **Other: Text File**, **Folder**, and **Terminal**. Another red arrow points to the **Folder** option. A **Rename directory** dialog box is open in the foreground, with the text "Enter a new directory name:" and a text input field containing "my folder". The dialog has **Cancel** and **Rename** buttons. In the top right corner, another view of the file tree is shown with buttons for **Rename**, **Move**, and a delete icon, with a red arrow pointing to the **Rename** button.

Jupyter Notebook - Starting



<https://www.dataquest.io/blog/jupyter-notebook-tutorial/>

Jupyter Notebook - document in markdown



Examples of markdown text with tags repeated,
escaped the second time, to clarify their
function:

This text is treated as an <h5> because
it has five hashes at the beginning

italics and *_italics_*

****bold****

~~~~strikethrough~~~~

``monospace``

No indent

>One level of indentation

>>wo levels of indentation

An ordered list:

1. One
1. Two
1. Three

An unordered list:

- \* One
- \* Two
- \* Three

A naked URL: <https://google.com>

Linked URL:

[Colaboratory] (<https://research.google.com/colaboratory>)

A linked URL using references:

```
>[[Colaboratory][colaboratory-label]]
```

```
>[colaboratory-label]:
```

```
https://research.google.com/colaboratory
```

An inline image:

```
>![Google's  
logo] (https://www.google.com/images/logos/google\_logo\_41.png)
```

Tables:

| First column name | Second column name |
|-------------------|--------------------|
|-------------------|--------------------|

|     |     |
|-----|-----|
| --- | --- |
|-----|-----|

|              |              |
|--------------|--------------|
| Row 1, Col 1 | Row 1, Col 2 |
|--------------|--------------|

|              |              |
|--------------|--------------|
| Row 2, Col 1 | Row 2, Col 2 |
|--------------|--------------|

Horizontal rule done with three dashes

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Equations:

```
>$y=x^2$
```

```
>$e^{i\pi} + 1 = 0$
```

```
>$e^x=\sum_{i=0}^{\infty} \frac{1}{i!}x^i$
```

```
>$\frac{n!}{k!(n-k)!} = {n \choose k}$
```

```
>$A_{m,n} =  
\begin{pmatrix}  
a_{1,1} & a_{1,2} & \cdots & a_{1,n} \\  
a_{2,1} & a_{2,2} & \cdots & a_{2,n} \\  
\vdots & \vdots & \ddots & \vdots \\  
a_{m,1} & a_{m,2} & \cdots & a_{m,n}  
\end{pmatrix}$
```

For more Math Equations  $\Rightarrow$  Check out latex math references as

<https://en.wikibooks.org/wiki/LaTeX/Mathematics>

# Jupyter Notebook - code

The screenshot shows a web browser window with a Jupyter Notebook interface. The browser's address bar displays `localhost:8888/notebooks/Untitled.ipynb?kernel_name=python3`. The notebook's title bar shows "jupyter Untitled" and "Last Checkpoint: 8 minutes ago (unsaved changes)". A "Logout" button is visible in the top right. The main menu includes "File", "Edit", "View", "Insert", "Cell", "Kernel", "Widgets", and "Help". Below the menu is a toolbar with icons for file operations, navigation, and execution. A red box labeled "1" highlights the "Run" button (a play icon) in the toolbar. The notebook content area displays the text "Hello, world! 출력" and "print 함수로 Hello, world!를 출력합니다.". Below this text is a code cell containing the Python code `In [ ]: print('Hello, world!')`. A red box labeled "2" highlights the entire code cell. The code cell has a green border and a light gray background.