

# AppsForAI-Linux

Apps for AI is AI Dev Tools for Python software engineers. Save time. For Linux OS, packaging the AI development environment into a Docker container, and providing a web interface for multiple people to connect at the same time. More than 180 featured algorithm SDK examples are provided.

Version 20221221

# Applications

- It can be applied to product defect detection, medical image analysis, artificial intelligence teaching materials, crime detection and prevention, access control and attendance, smart long-term care, public security, big data analysis, stock price inference, financial index inference, research and development, etc.

# Installation – Step 1

- Download URL : <https://www.leaderg.com/appsforai-linux>
- Download command:
  - `wget https://d.leaderg.com/api/AppsForAI-linux/release -O AppsForAI.7z`
- Unzip command:
  - `7z x AppsForAI.7z`

# Installation – Step 2

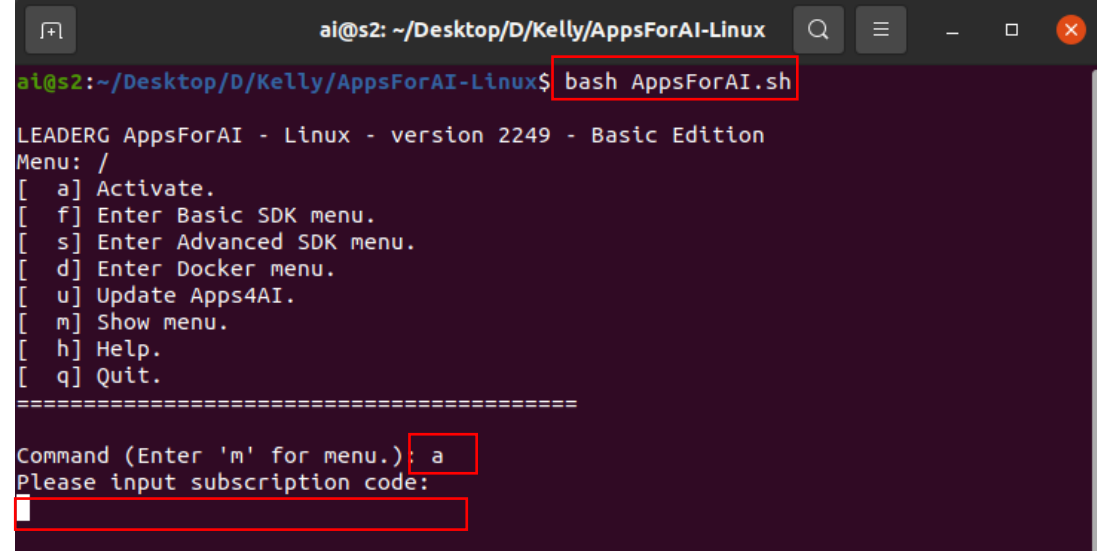
- Install and update the graphics card driver.
- Please refer to <https://www.leaderg.com/article/index?sn=11544>

# Installation – Step 3

- Install Docker.
- Please refer to <https://www.leaderg.com/article/index?sn=11541>

# Installation – Step 4

- `bash AppsForAI.sh`
- Basic features are free. Please sponsor a subscription to AppsForAI for advanced features.
- Enter a and press enter.
- Enter the subscription code.



```
ai@s2: ~/Desktop/D/Kelly/AppsForAI-Linux
ai@s2:~/Desktop/D/Kelly/AppsForAI-Linux$ bash AppsForAI.sh
LEADERG AppsForAI - Linux - version 2249 - Basic Edition
Menu: /
[ a] Activate.
[ f] Enter Basic SDK menu.
[ s] Enter Advanced SDK menu.
[ d] Enter Docker menu.
[ u] Update Apps4AI.
[ m] Show menu.
[ h] Help.
[ q] Quit.
=====
Command (Enter 'm' for menu.): a
Please input subscription code:

```

# AppsForAI Menu

- `bash AppsForAI.sh`
  - a: Subscribe to advanced features.
  - f: Enter Basic SDK menu.
  - s: Enter Advanced SDK menu.
  - d: Enter Docker menu.
  - u: Update AppsForAI.
  - m: Display the current menu.
  - h: Help.
  - q: Leave the software.
- Process: Installation => Download Docker image => Load Docker image => Run Docker container => Download SDK => Run the SDK by using JupyterLab.
- Please go to the Docker menu (d) to Download Docker folder first.

```
LEADERG AppsForAI - Linux - version 2249 - Basic Edition
Menu: /
[ a] Activate.
[ f] Enter Basic SDK menu.
[ s] Enter Advanced SDK menu.
[ d] Enter Docker menu.
[ u] Update Apps4AI.
[ m] Show menu.
[ h] Help.
[ q] Quit.
```

```
=====
```

# Docker – Instruction Step 1

- Use AppsForAI to download Docker related files.
- bash AppsForAI.sh
- Enter d to enter the Docker menu.

```
LEADERG AppsForAI - Linux - version 2249 - Basic Edition
Menu: /
[ a] Activate.
[ f] Enter Basic SDK menu.
[ s] Enter Advanced SDK menu.
[ d] Enter Docker menu.
[ u] Update Apps4AI.
[ m] Show menu.
[ h] Help.
[ q] Quit.
=====

Command (Enter 'm' for menu.): d

LEADERG AppsForAI - Linux - version 2249 - Basic Edition
Menu: /docker
[ d] Download docker folder. (The first step)
[ a] bash docker/image_list.sh
[ b] bash docker/image_load.sh
[ c] bash docker/image_remove.sh
[ e] bash docker/container_list.sh
[ f] bash docker/container_all_stop.sh
[ g] bash docker/container_all_remove.sh
[ j] bash docker/container_run.sh
[ k] bash docker/container_stop.sh
[ n] bash docker/container_start.sh
[ p] bash docker/container_restart.sh
[ r] bash docker/container_remove.sh
[ s] bash docker/container_remove_folder.sh
[ u] Return to Uppper Menu.
[ q] Quit.
=====

Command (Enter 'm' for menu.):
```

# Docker – Instruction Step 2

- Enter d. Download docker folder. Wait for around 20 minutes to complete.

```
LEADERG AppsForAI - Linux - version 2249 - Basic Edition
Menu: /docker
```

```
[ d] Download docker folder. (The first step)
[ a] bash docker/image_list.sh
[ b] bash docker/image_load.sh
[ c] bash docker/image_remove.sh
[ e] bash docker/container_list.sh
[ f] bash docker/container_all_stop.sh
[ g] bash docker/container_all_remove.sh
[ j] bash docker/container_run.sh
[ k] bash docker/container_stop.sh
[ n] bash docker/container_start.sh
[ p] bash docker/container_restart.sh
[ r] bash docker/container_remove.sh
[ s] bash docker/container_remove_folder.sh
[ u] Return to Uppper Menu.
[ q] Quit.
```

```
=====
```

```
Command (Enter 'm' for menu.): d
```

```
Command (Enter 'm' for menu.): d
This application is going to download docker folder. Do you want to DELETE current docker folder? (Press 'y' for delete. Press 'n' to cancel.)
y
delete_folder_tree Error opendir() docker/
Content-Length: 8478798143
Accept-ranges: bytes
Downloading docker-8 (7.90 GB)
 100% [=====] 7.90 GB 110.43MB/s eta 00:00:00
Download finished.

7-Zip (z) 21.07 (x64) : Copyright (c) 1999-2021 Igor Pavlov : 2021-12-26
64-bit locale=en_US.UTF-8 Threads:20, ASM

Scanning the drive for archives:
1 file, 8478798143 bytes (8087 MiB)

Extracting archive: temp/docker-8.7z
--
Path = temp/docker-8.7z
Type = 7z
Physical Size = 8478798143
Headers Size = 549
Method = LZMA2:24
Solid = +
Blocks = 3

Everything is Ok

Files: 21
Size:      22671259536
Compressed: 8478798143
Extract finished.
```

# Docker – Instruction Step 3

- Enter f 、 g 、 c , Stop and remove the container, then remove the Docker image from the device.
- Then enter b to load the Docker image. It will take around 20 minutes.

```
LEADERG AppsForAI - Linux - version 2249 - Basic Edition
Menu: /docker
[ d] Download docker folder. (The first step)
[ a] bash docker/image_list.sh
[ b] bash docker/image_load.sh
[ c] bash docker/image_remove.sh
[ e] bash docker/container_list.sh
[ f] bash docker/container_all_stop.sh
[ g] bash docker/container_all_remove.sh
[ j] bash docker/container_run.sh
[ k] bash docker/container_stop.sh
[ n] bash docker/container_start.sh
[ p] bash docker/container_restart.sh
[ r] bash docker/container_remove.sh
[ s] bash docker/container_remove_folder.sh
[ u] Return to Uppper Menu.
[ q] Quit.
=====
Command (Enter 'm' for menu.): f
3e990044d3b9

Command (Enter 'm' for menu.): g
3e990044d3b9

Command (Enter 'm' for menu.): c
Untagged: sdk4ai:latest
Deleted: sha256:24cde41333a90a290347009fc676ad8780f53721f2a249f7f57ef5ddf4696b6c
Deleted: sha256:46aa90a63f934fe2ae88ef72ffdf74ee0c27b0460c295f962e753c3cfccf9c43
Deleted: sha256:b01fc72cd5a472716b22c91096605419c3d175bfd6dd4b1c8281756f69033101
```

```
Command (Enter 'm' for menu.): b
805802706667: Loading layer 65.61MB/65.61MB
3fd9df553184: Loading layer 15.87kB/15.87kB
7a694df0ad6c: Loading layer 3.072kB/3.072kB
964ee116c0c0: Loading layer 17.1MB/17.1MB
ef8330bcc944: Loading layer 30.5MB/30.5MB
53194dce1444: Loading layer 22.02kB/22.02kB
03aea7c9e3d1: Loading layer 1.825GB/1.825GB
842c2ffdcad9: Loading layer 1.661GB/1.661GB
7c5bac6625f7: Loading layer 2.56kB/2.56kB
da9bcdcf9f44: Loading layer 19.59MB/19.59MB
b074d8b59639: Loading layer 1.688MB/1.688MB
19ce0d0a20ea: Loading layer 4.096kB/4.096kB
98c68d8ad6da: Loading layer 4.096kB/4.096kB
79c13cee56df: Loading layer 6.656kB/6.656kB
cf48d04f64bd: Loading layer 421.4kB/421.4kB
6d88b4073352: Loading layer 3.072kB/3.072kB
df53318032e0: Loading layer 236MB/236MB
b37772f2f020: Loading layer 44.03kB/44.03kB
e77b5967ff55: Loading layer 389.2MB/389.2MB
4f8e88153825: Loading layer 12.8kB/12.8kB
8637073a5e9f: Loading layer 5.12kB/5.12kB
```

# JupyterLab – Instruction Step

- From Main Menu, enter d to enter the docker menu.
- Run the docker container to use jupyterLab.
  - Enter j => enter the settings => use a browser to open the URL => jupyterLab.

```
LEADERG AppsForAI - Linux - version 2249 - Basic Edition
Menu: /docker
[ d] Download docker folder. (The first step)
[ a] bash docker/image_list.sh
[ b] bash docker/image_load.sh
[ c] bash docker/image_remove.sh
[ e] bash docker/container_list.sh
[ f] bash docker/container_all_stop.sh
[ g] bash docker/container_all_remove.sh
[ j] bash docker/container_run.sh
[ k] bash docker/container_stop.sh
[ n] bash docker/container_start.sh
[ p] bash docker/container_restart.sh
[ r] bash docker/container_remove.sh
[ s] bash docker/container_remove_folder.sh
[ u] Return to Uppper Menu.
[ q] Quit.
=====
Command (Enter 'm' for menu.):
```

```
Command (Enter 'm' for menu.): j
Please input user_type (super user: 1, normal user: 0, default is 1):
user_type=1
Please input user_count (default is 1):
user_count=1
Please input port1 for JupyterLab (default is 8001):
port1=8001
Please input port2 for internal 8001 port mapping (default is 8801):
port2=8801
Please input user_memory size (default is 10240MB):
user_memory=10240MB
Please input user_cpus number (default is 4):
user_cpus=4
Please input gpu_device (default is --gpu device=all, CPU only is nogpu):
--gpu device=all
Please input other_docker_options (default is empty):
other_docker_options=
Running container.
user_memory=10240MB
user_cpus=4
gpu_device=--gpu device=all

Please use browser to connect to http://127.0.0.1:8001. The internal port1 8001 is mapping to 8801. The default password is sdk4
ai. Please remember to change the default password.

Running user8001 container.
super user
/dev/snd
837485934ba4e9becb3c54f419b80b9c0cb91f525b220c10c9951d380569

Command (Enter 'm' for menu.):
```

# Container – Instructions 1/4

- e : (list.sh) Show all containers.
- f : (all\_stop.sh) Stop all containers.
- g : (all\_remove.sh) Delete all containers.
- j : (run.sh) Create new container.
- k : (stop.sh) Stop container.
- n : (start.sh) Start the container.
- p : (restart.sh) Restart the container.
- r : (remove.sh) Delete the container. One thing to note is that after removal, the user's environment will be removed, but the user folder will not be deleted.
- s : remove\_folder Delete the docker user's folder.

```
LEADERG AppsForAI - Linux - version 2249 - Basic Edition
Menu: /docker
[ d] Download docker folder. (The first step)
[ a] bash docker/image_list.sh
[ b] bash docker/image_load.sh
[ c] bash docker/image_remove.sh
[ e] bash docker/container_list.sh
[ f] bash docker/container_all_stop.sh
[ g] bash docker/container_all_remove.sh
[ j] bash docker/container_run.sh
[ k] bash docker/container_stop.sh
[ n] bash docker/container_start.sh
[ p] bash docker/container_restart.sh
[ r] bash docker/container_remove.sh
[ s] bash docker/container_remove_folder.sh
[ u] Return to Uppper Menu.
[ q] Quit.
=====
Command (Enter 'm' for menu.):
```

# Container – Instructions 2/4

- If run j (run.sh) shows error, docker: Error response from daemon: Conflict. The container name "/userxxx" is already in use by container...
- Indicates that the container has been created before, please enter e (list.sh) to view the list and status of all containers. Check out userxxx's STATUS:
  - If it is Up, it means that the container has started, and you can use it directly by entering the URL in the browser.
  - If it is Exited, it means the container has stopped. Please enter n (start.sh) and enter the URL in the browser to use it.

# Container – Instructions 3/4

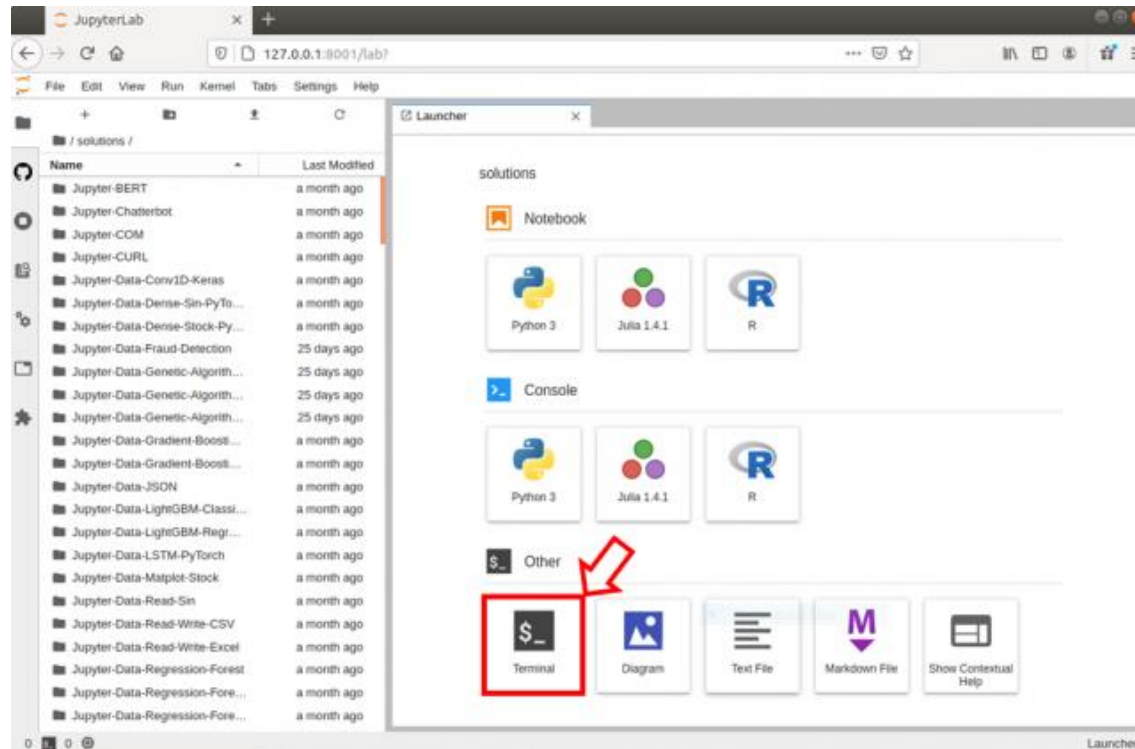
- Run r (remove.sh ) => get Error response from daemon: You cannot remove a running container. Stop the container before attempting removal or force remove.
- Indicates that the container is still running and cannot be deleted. Please enter k (stop.sh) to stop the container, and then run r (remove.sh) to delete.

# Container – Instructions 4/4

- Run g (all\_remove.sh) => get Error response from daemon: You cannot remove a running container. Stop the container before attempting removal or force remove.
- Indicates that the container is still running and cannot be deleted. Please stop container f (all\_stop.sh) before running g (all\_remove.sh) to remove all containers.

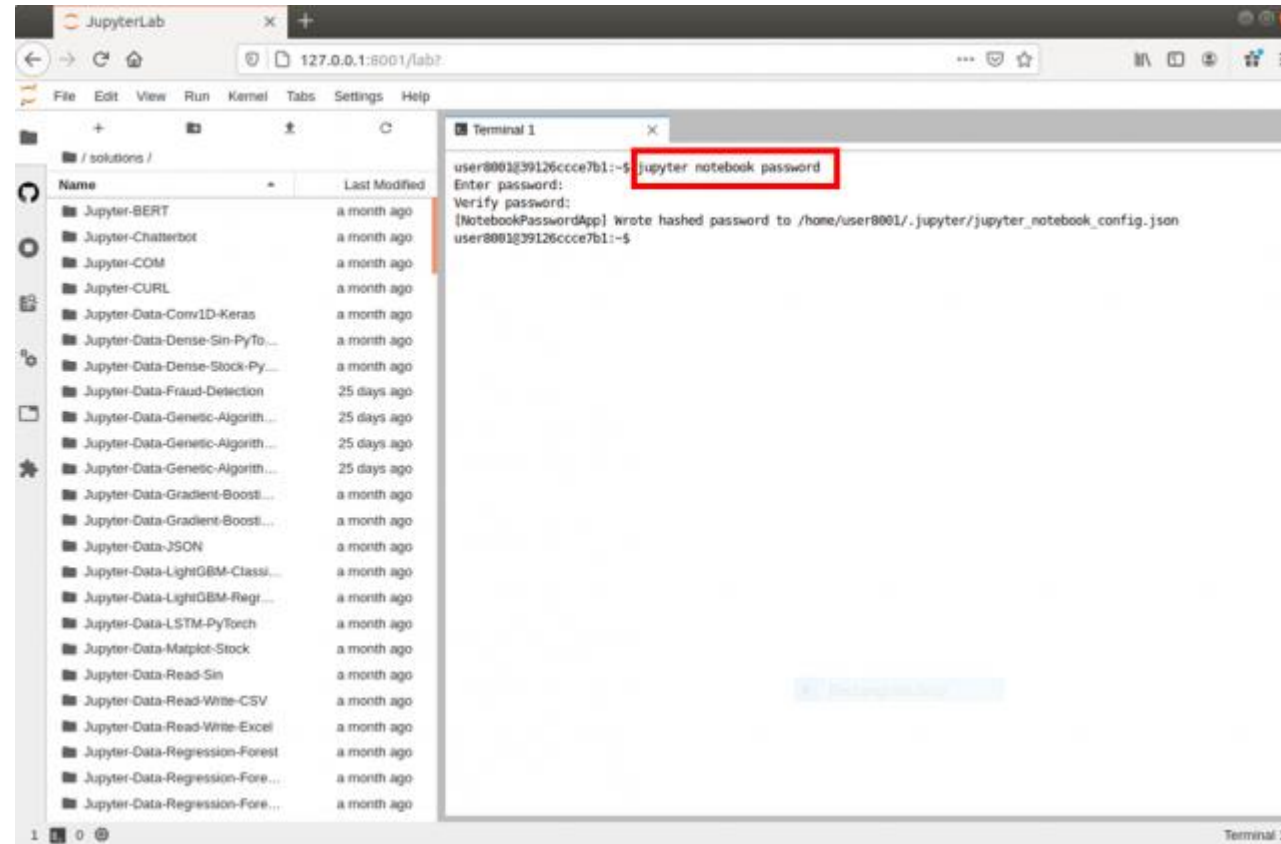
# Set JupyterLab Password – Step 1

- Run JupyterLab's Terminal.



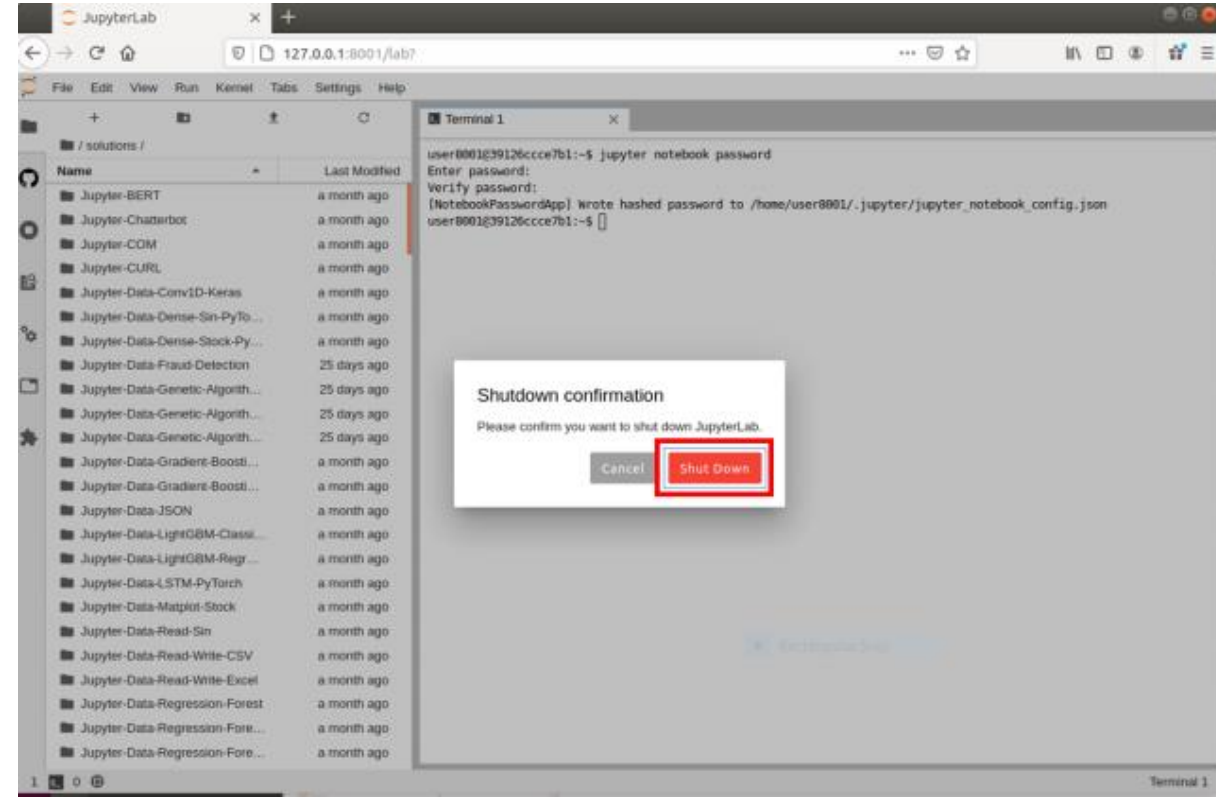
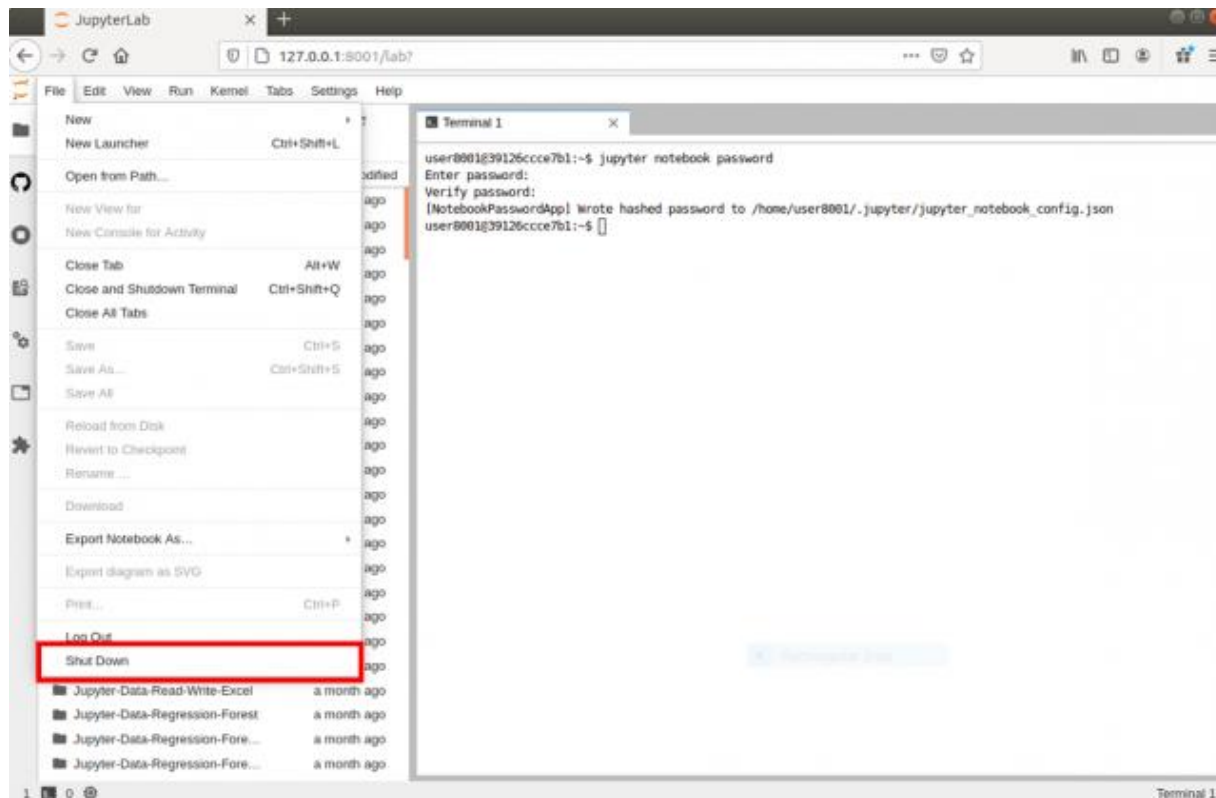
# Set JupyterLab Password – Step 2

- Enter jupyter notebook password to set new password.



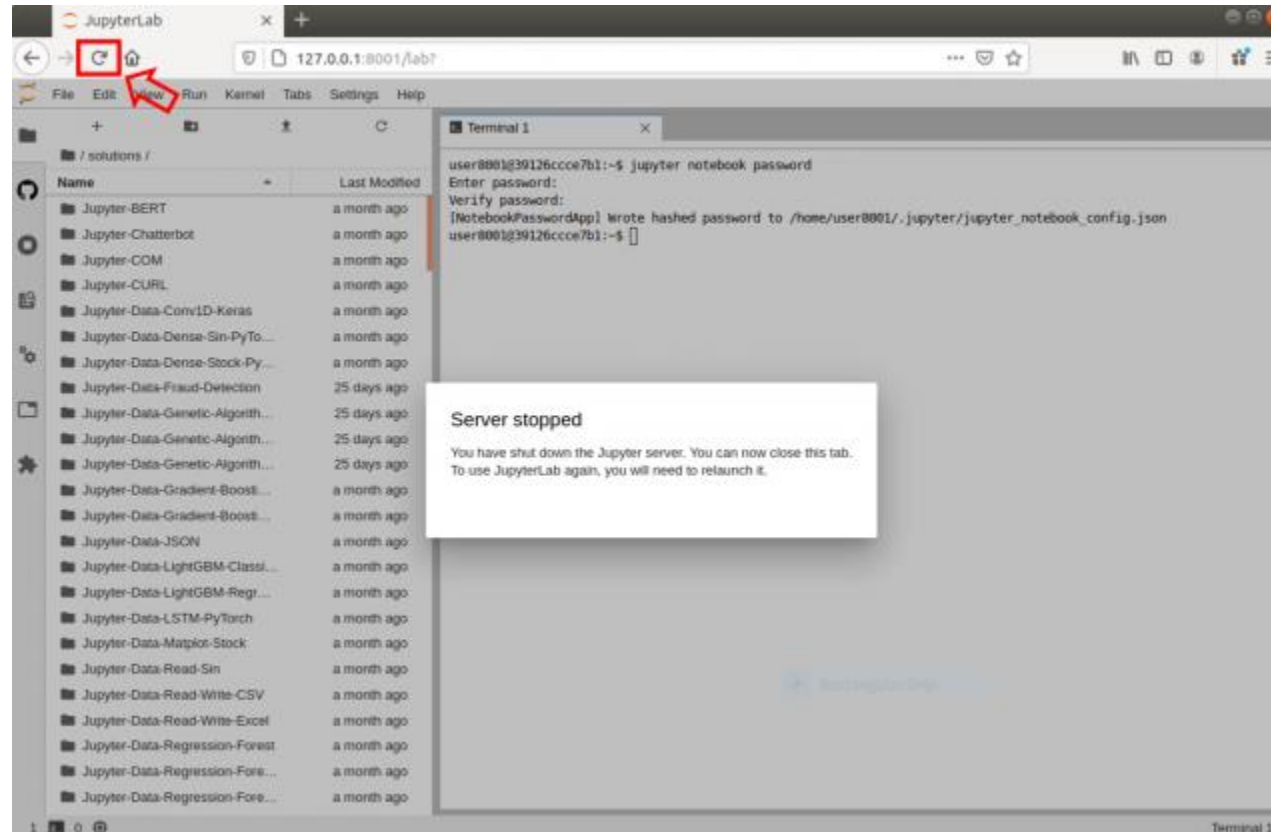
# Set JupyterLab Password – Step 3

- File -> Shut Down -> Shut Down to enable new password.



# Set JupyterLab Password – Step 4

- Refresh your browser.



# Reset JupyterLab Password

- Remove AppsForAI/docker\_users/userxxx/.jupyter folder to reset password

# SDK

- From Main Menu
  - enter f to enter the Basic SDK menu.
  - enter s to enter the Advanced SDK menu.
- From the SDK list, enter the SDK serial number to download.

```
Sdk4AI - Linux Edition - version 2150 - Subscription license for LEADERG Internal
1. (Download and Support Expiry Date: 2023-11-03)
Menu: /SDK
[ 1] Download SDK: Jupyter-BERT-3
[ 2] Download SDK: Jupyter-BERT-Chinese-Text-Classification-PyTorch-3
[ 3] Download SDK: Jupyter-COM-2
[ 4] Download SDK: Jupyter-CURL-3
[ 5] Download SDK: Jupyter-Chatterbot-2
[ 6] Download SDK: Jupyter-Data-Conv1D-Keras-7
[ 7] Download SDK: Jupyter-Data-Dense-Sin-PyTorch-3
[ 8] Download SDK: Jupyter-Data-Dense-Stock-PyTorch-3
[ 9] Download SDK: Jupyter-Data-Fraud-Detection-3
[10] Download SDK: Jupyter-Data-Genetic-Algorithm-Flow-Shop-2
[11] Download SDK: Jupyter-Data-Genetic-Algorithm-Job-Shop-2
[12] Download SDK: Jupyter-Data-Genetic-Algorithm-Job-Shop-NSGA-II-2
[13] Download SDK: Jupyter-Data-Gradient-Boosting-Classification-4
[14] Download SDK: Jupyter-Data-Gradient-Boosting-Regression-4
[15] Download SDK: Jupyter-Data-JSON-1
[16] Download SDK: Jupyter-Data-LSTM-PyTorch-5
[17] Download SDK: Jupyter-Data-LightGBM-Classification-5
[18] Download SDK: Jupyter-Data-LightGBM-Regression-4
[19] Download SDK: Jupyter-Data-Matplotlib-Stock-2
[20] Download SDK: Jupyter-Data-Read-Sin-2
[21] Download SDK: Jupyter-Data-Read-Write-Csv-2
[22] Download SDK: Jupyter-Data-Read-Write-Excel-2
[23] Download SDK: Jupyter-Data-Regression-Forest-4
[24] Download SDK: Jupyter-Data-Regression-Forest-Sin-5
[25] Download SDK: Jupyter-Data-Regression-Forest-Stock-3
[26] Download SDK: Jupyter-Data-SVM-2
[27] Download SDK: Jupyter-Data-Taiwan-Mask-1
[28] Download SDK: Jupyter-Data-XGBoost-Classification-5
[29] Download SDK: Jupyter-Data-XGBoost-CPU-Test-1
[30] Download SDK: Jupyter-Data-XGBoost-Regression-5
[31] Download SDK: Jupyter-Data-XGBoost-Regression-Stock-Taiwan-3
[32] Download SDK: Jupyter-Data-XGBoost-Regression-Time-Series-4
[33] Download SDK: Jupyter-File-Batch-Rename-2
[34] Download SDK: Jupyter-File-Download-2
[35] Download SDK: Jupyter-GPT-2-2
[36] Download SDK: Jupyter-GPT-2-Chinese-3
[37] Download SDK: Jupyter-Http-Server-AIOHTTP-4
[38] Download SDK: Jupyter-Http-Server-Flask-2
[39] Download SDK: Jupyter-Image-Augmentation-2
[40] Download SDK: Jupyter-Image-Barcode-3
[41] Download SDK: Jupyter-Image-Barcode-Generator-2
[42] Download SDK: Jupyter-Image-Batch-Resize-2
[43] Download SDK: Jupyter-Image-Classification-3D-ResNets-2
```

```
[142] Download SDK: Jupyter-Image-OpenCV-Split-2
[143] Download SDK: Jupyter-Image-OpenCV-Top-Hat-2
[144] Download SDK: Jupyter-Image-PSGAN-PyTorch-2
[145] Download SDK: Jupyter-Image-Plx2Plx-PyTorch-3
[146] Download SDK: Jupyter-Image-QRcode-Generator-2
[147] Download SDK: Jupyter-Image-Segmentation-3D-Unet-PyTorch-3
[148] Download SDK: Jupyter-Image-Segmentation-MaskRCNN-Keras-11
[149] Download SDK: Jupyter-Image-Segmentation-Unet-Keras-12
[150] Download SDK: Jupyter-Image-Segmentation-YOLACT-PyTorch-4
[151] Download SDK: Jupyter-Image-Stitching-2
[152] Download SDK: Jupyter-Image-Super-Resolution-PyTorch-3
[153] Download SDK: Jupyter-KeyBoard-2
[154] Download SDK: Jupyter-Model-Keras-To-ONNX-3
[155] Download SDK: Jupyter-Model-PyTorch-To-ONNX-2
[156] Download SDK: Jupyter-Model-TensorFlow-To-ONNX-2
[157] Download SDK: Jupyter-Model-View-Netron-3
[158] Download SDK: Jupyter-Model-YOLOv4-CPP-to-PyTorch-2
[159] Download SDK: Jupyter-Mouse-2
[160] Download SDK: Jupyter-mysql-2
[161] Download SDK: Jupyter-NVR-2
[162] Download SDK: Jupyter-PySide2-2
[163] Download SDK: Jupyter-PyTorch-CUDA-Test-2
[164] Download SDK: Jupyter-Python-For-2
[165] Download SDK: Jupyter-Python-Function-2
[166] Download SDK: Jupyter-Python-Hello-World-2
[167] Download SDK: Jupyter-Python-If-2
[168] Download SDK: Jupyter-Python-Import-2
[169] Download SDK: Jupyter-Python-Print-2
[170] Download SDK: Jupyter-Python-Quote-2
[171] Download SDK: Jupyter-Python-Thread-2
[172] Download SDK: Jupyter-Python-Variable-2
[173] Download SDK: Jupyter-Python-While-2
[174] Download SDK: Jupyter-SFTP-2
[175] Download SDK: Jupyter-Sound-Play-Music-2
[176] Download SDK: Jupyter-Sound-Play-Sound-2
[177] Download SDK: Jupyter-Sound-Spectrogram-2
[178] Download SDK: Jupyter-Speech-Simple-Recognizer-3
[179] Download SDK: Jupyter-Speech-To-Text-3
[180] Download SDK: Jupyter-TensorFlow-CUDA-Test-2
[181] Download SDK: Jupyter-Text-To-Speech-2
[182] Download SDK: Jupyter-Video-Recognition-SlowFast-3
[ r] Refresh SDK list
[ u] Return to Upper Menu.
[ q] Quit.
=====
Command (Enter 'm' for menu.):
```

```
Command (Enter 'm' for menu.): 3
Downloading Jupyter-COM-2 (1.00 KB)
100% [=====] 1.00 KB 333.01kB/s eta 00:00:00
Download finished.

7-Zip (z) 21.07 (x64) : Copyright (c) 1999-2021 Igor Pavlov : 2021-12-26
64-bit locale=en_US.UTF-8 Threads:20, ASM

Scanning the drive for archives:
1 file, 1023 bytes (1 KiB)

Extracting archive: temp/Jupyter-COM-2.7z
--
Path = temp/Jupyter-COM-2.7z
Type = 7z
Physical Size = 1023
Headers Size = 238
Method = LZMA2:12
Solid = +
Blocks = 1

Everything is Ok

Files: 4
Size: 2646
Compressed: 1023
Extract finished.

Command (Enter 'm' for menu.):
```

# Reference

- LEADERG AppsForAI-Linux : <https://www.leaderg.com/appsforai-linux>
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