7. Jetson Orin SSD burning image

This tutorial is used for: if you want to burn other versions of the system, the official Jetson system, or want to re-burn the Yahboom version of the system to nvme (SSD)

1. Because there is already a system in nvme, it needs to be formatted before re-burning

1. First remove the SSD from the Jetson Orin Nano, then insert it into the SSD box and connect it to the computer via a USB cable.


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aigo
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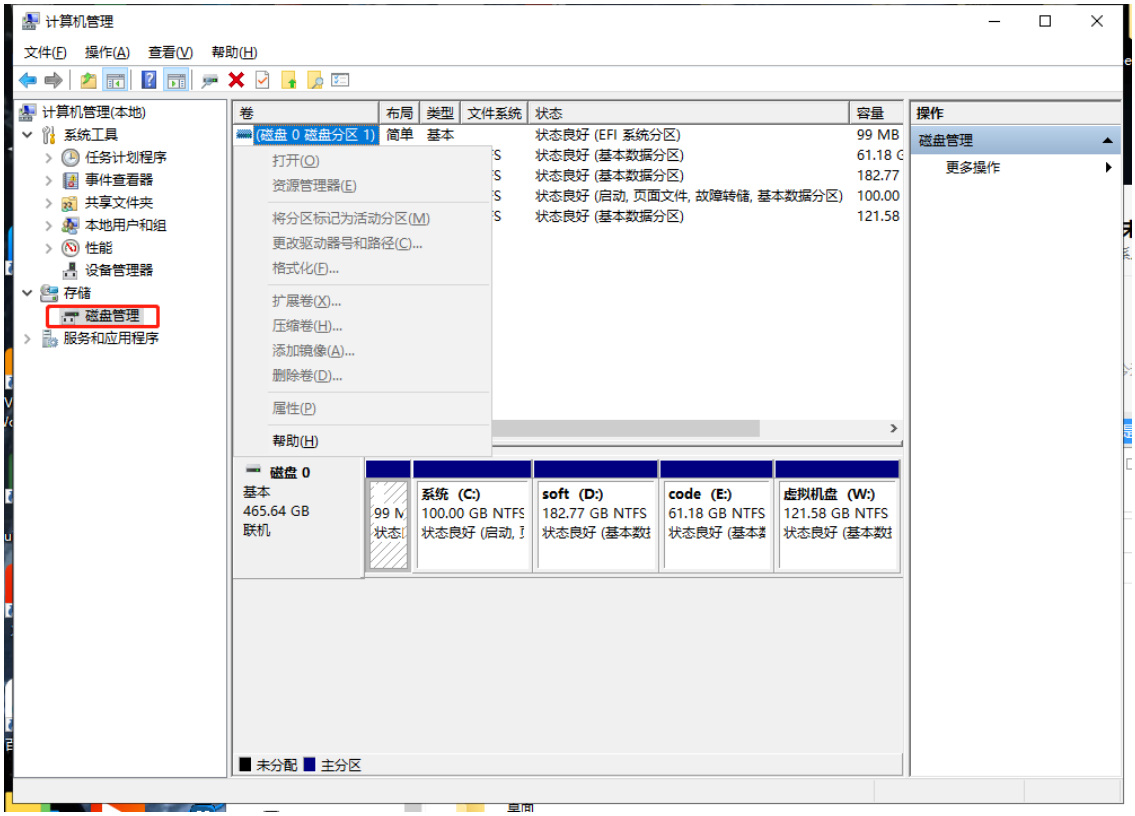
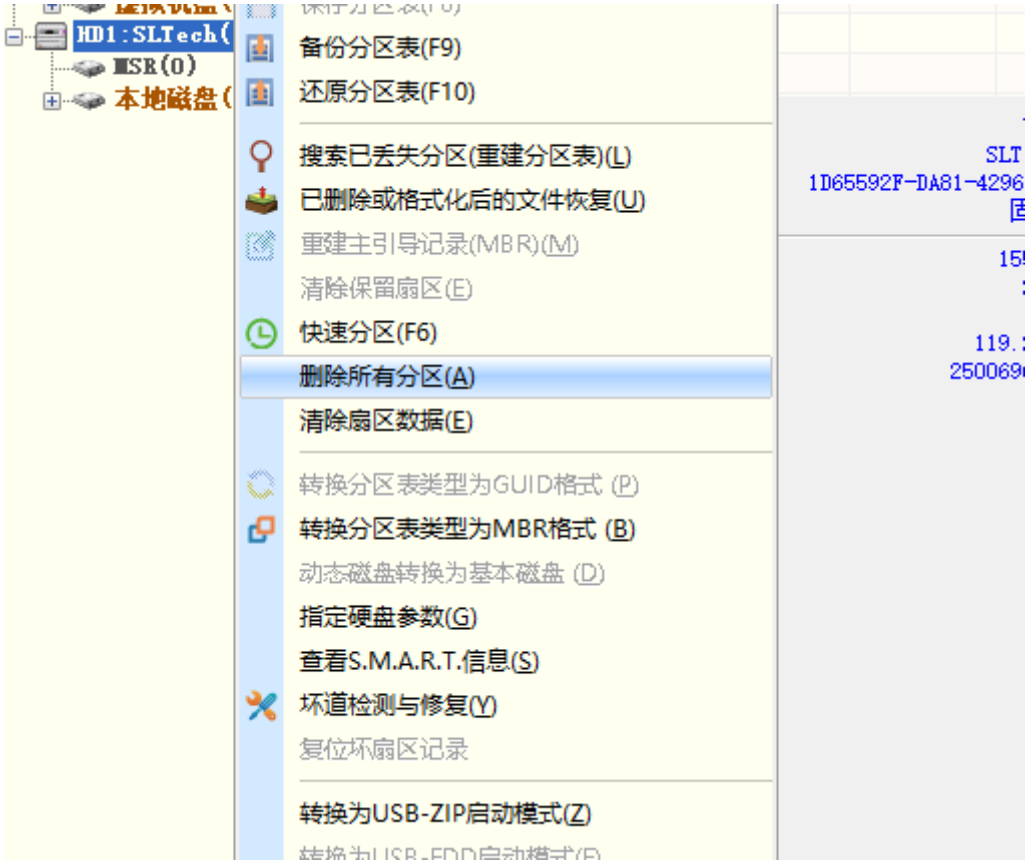
2. Find DiskGenius.exe in the attachment of the document to format the nvme system, or use the disk management tool in the computer to format it.
   Be careful to select the right nvme disk, don't select the wrong drive letter and format your computer

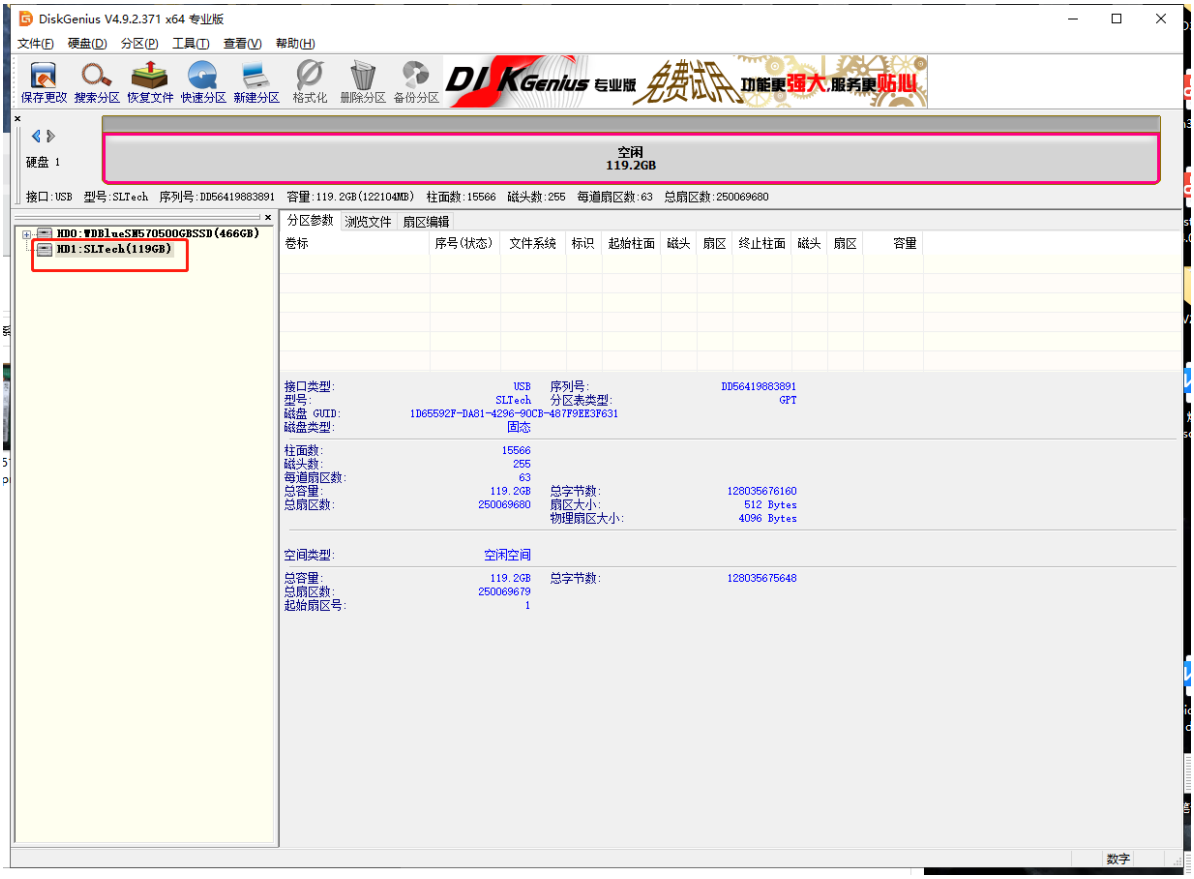


Or use the tool

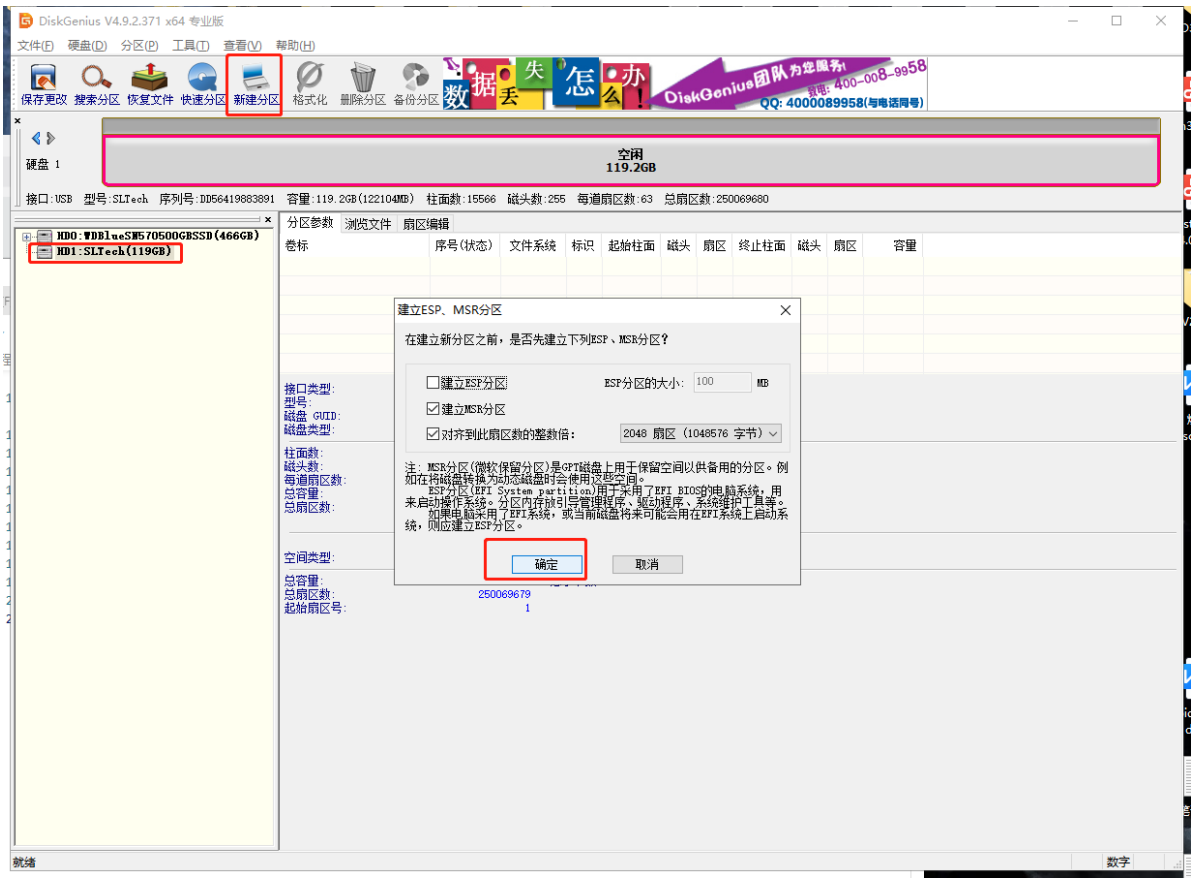
2. Use DiskGenius.exe to delete all redundant partitions on nvme



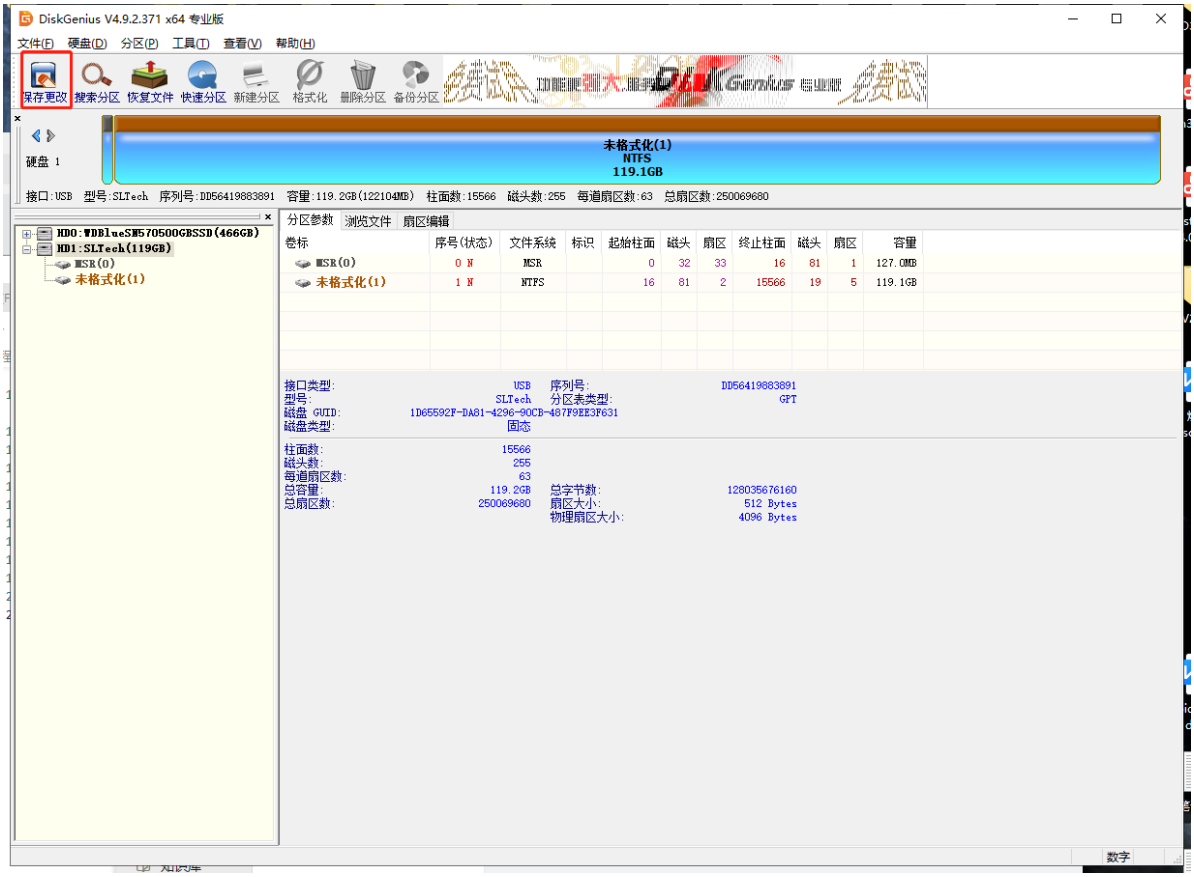
After successful deletion



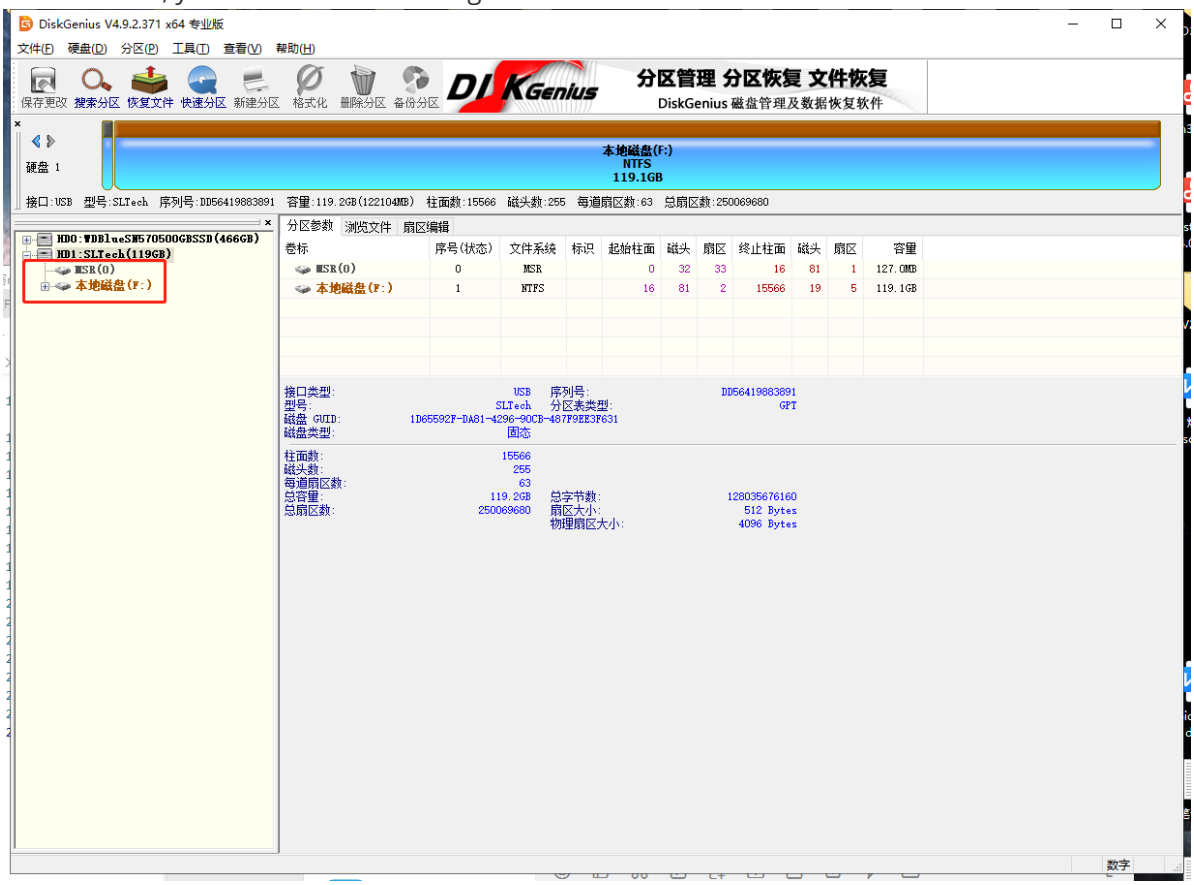
3. Create a new partition so that the computer can recognize it normally



If there is a pop-up message, just click OK, and then it is best to click Save Changes, as shown below



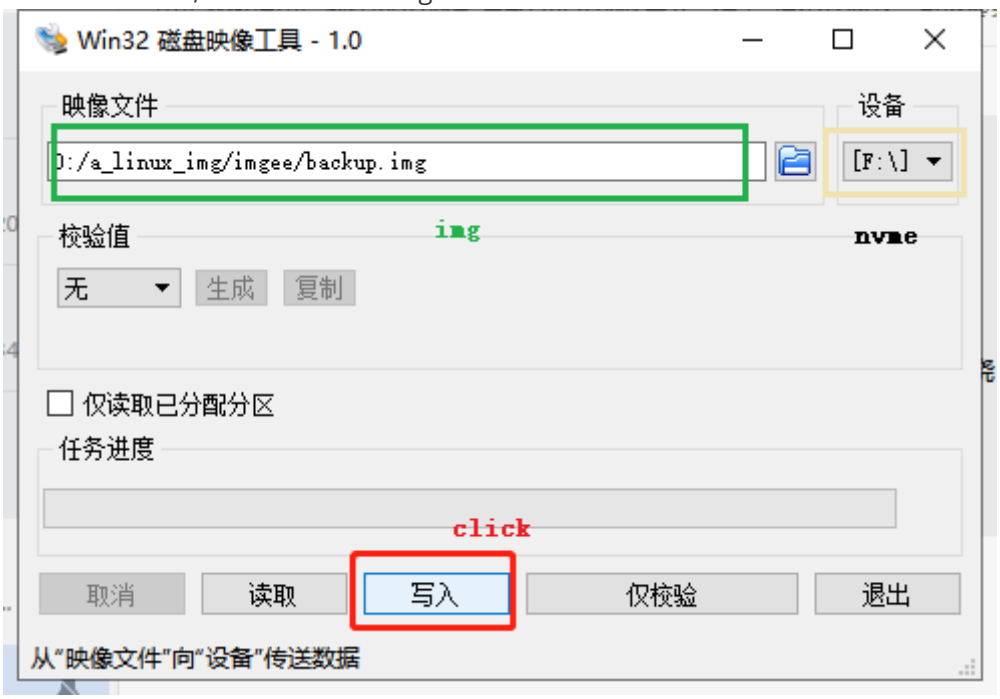
After success, you can see the following information.



4. Burn the system

1. Open the Win32DiskImager burning tool

2. If the partition has been successfully completed, select the image, select the drive letter, and click write/write, as shown in the figure



3. Wait for the image to be burned, insert the nvme back into the jetson orin, and it can be successfully started after powering on for a while.

5. NVIDIA official system

- If you want to download the most native official system of Jetson directly, follow the tutorial below

1. Open NVIDIA's jetpack download website:

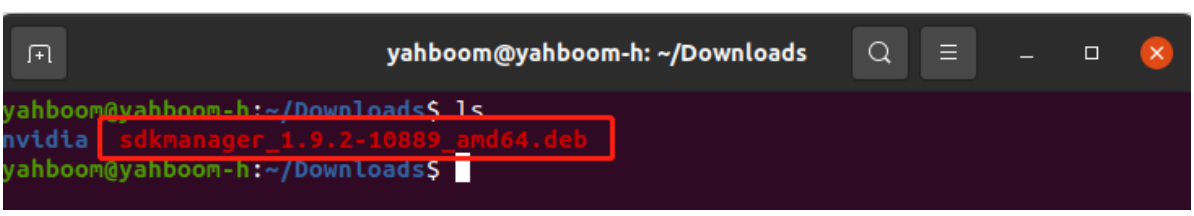
https://developer.nvidia.com/zh-cn/embedded/jetpack

Use the virtual machine Ubuntu20.04 system, click to download SDK Manager, please register/log in to NVIDIA account before use.

2. Install SDK Manager.

First enter the path of the .deb file just downloaded, for example, download to the Downloads directory here.

```
cd Downloads/
```



Enter the following command in the terminal to install SDK Manager.

```
sudo dpkg -i sdkmanager_1.9.2-10889_amd64.deb
```

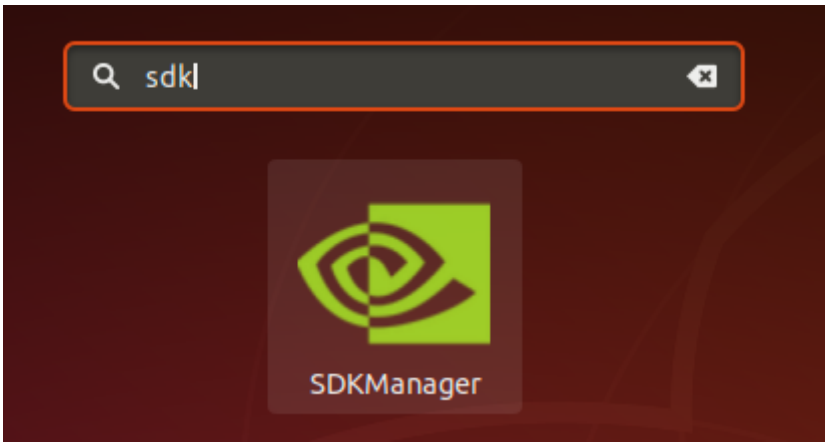
```
yahboom@yahboom-vm:~/Downloads$ sudo dpkg -i sdkmanager_1.5.0-7774_amd64.deb
[sudo] password for yahboom:
Selecting previously unselected package sdkmanager.
(Reading database ... 114535 files and directories currently installed.)
Preparing to unpack sdkmanager_1.5.0-7774_amd64.deb ...
Unpacking sdkmanager (1.5.0-7774) ...
dpkg: dependency problems prevent configuration of sdkmanager:
 sdkmanager depends on libgconf-2-4; however:
  Package libgconf-2-4 is not installed.
 sdkmanager depends on libcanberra-gtk-module; however:
  Package libcanberra-gtk-module is not installed.

dpkg: error processing package sdkmanager (--install):
 dependency problems - leaving unconfigured
Processing triggers for gnome-menus (3.13.3-11ubuntu1.1) ...
Processing triggers for desktop-file-utils (0.23-1ubuntu3.18.04.2) ...
Processing triggers for mime-support (3.60ubuntu1) ...
Processing triggers for hicolor-icon-theme (0.17-2) ...
Errors were encountered while processing:
 sdkmanager
```

At this time, the system may report an error that the dependency file cannot be found. Enter the following command to solve this problem.

```
sudo apt \--fix-broken install
```

```
yahboom@yahboom-vm:~/Downloads$ sudo apt --fix-broken install
[sudo] password for yahboom:
Reading package lists... Done
Building dependency tree
Reading state information... Done
Correcting dependencies... Done
The following packages were automatically installed and are no longer required:
  fonts-liberation2 fonts-opensymbol gir1.2-gst-plugins-base-1.0 gir1.2-gstreamer-1.0 gir1.2-gudev-1.0 gir1.2-udisks-2.0 grilo-plugins-0.3-base gstreamer1.0-gtk3
  libboost-date-time1.65.1 libboost-filesystem1.65.1 libboost-iostreams1.65.1 libboost-locale1.65.1 libcdr-0.1-1 libclucene-contribs1v5 libclucene-core1v5 libcmis-0.5-5v5
  libcolamd2 libdazzle-1.0-0 libe-book-0.1-1 libedataserverui-1.2-2 libeot0 libepubgen-0.1-1 libetonyek-0.1-1 libevent-2.1-6 libexiv2-14 libfreerdp-client2-2 libfreerdp2-2
  libgc1c2 libgee-0.8-2 libgexiv2-2 libgom-1.0-0 libgpgmepp6 libgpod-common libgpod4 liblangtag-common liblangtag1 liblirc-client0 liblua5.3-0 libmediaart-2.0-0 libmspub-0.1-1
  libodfgen-0.1-1 libqqwing2v5 libraw16 librevenge-0.0-0 libsgutils2-2 libssh-4 libsuitesparseconfig5 libvncclient1 libwinpr2-2 libxaplan30 libxmlsec1 libxmlsec1-nss lp-solve
  media-player-info python3-mako python3-markupsafe syslinux syslinux-common syslinux-legacy usb-creator-common
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  gconf-service gconf-service-backend gconf2-common libcanberra-gtk-module libcanberra-gtk0 libgconf-2-4
The following NEW packages will be installed:
  gconf-service gconf-service-backend gconf2-common libcanberra-gtk-module libcanberra-gtk0 libgconf-2-4
0 upgraded, 6 newly installed, 0 to remove and 295 not upgraded.
1 not fully installed or removed.
Need to get 862 kB of archives.
After this operation, 8,134 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
```

3. Open the program of the Ubuntu20.04 system, search for SDK, you can find SDKManager, and open the file.



Log in to your NVIDIA account, a link will pop up in the browser, enter your username and password to log in.

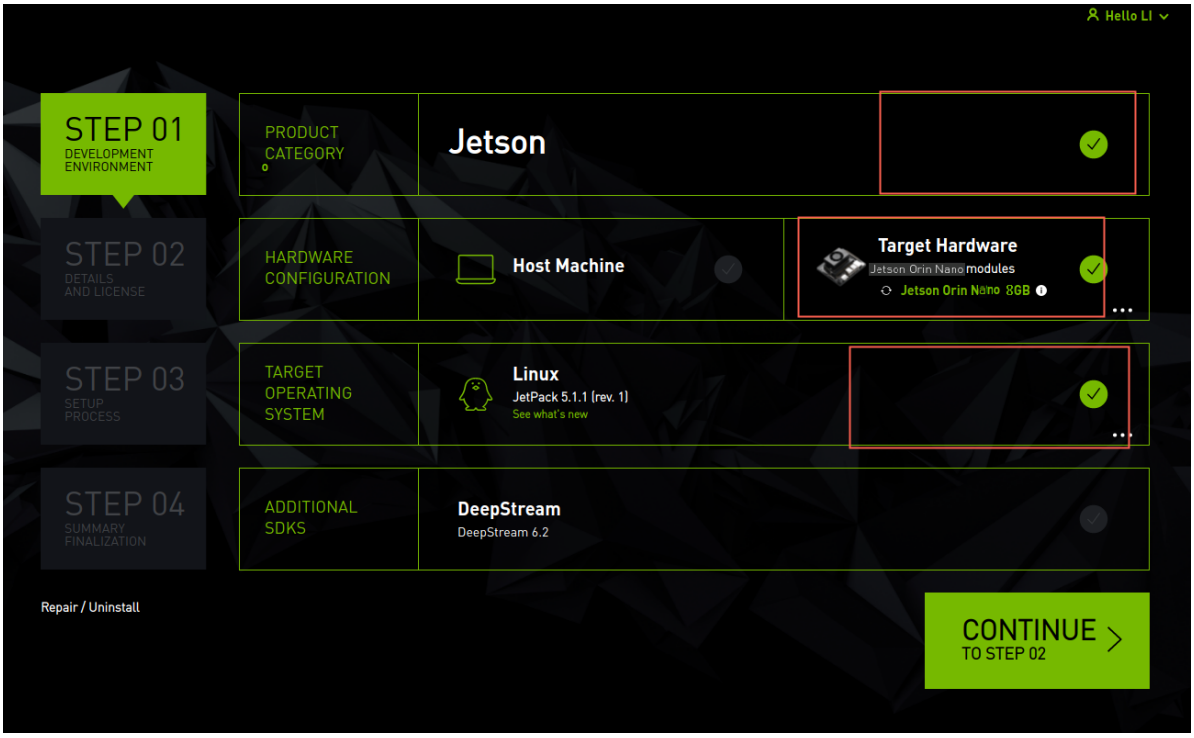
4. Connect the virtual machine Ubuntu20.04 to Jetson Orin Nano

At this time, you need to let Jetson Orin Nano enter the system REC flashing mode.

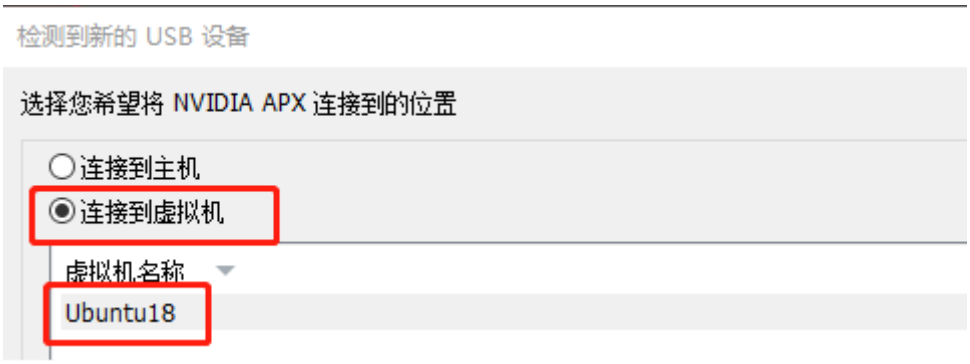
Connect the jumper cap to the FC REC and GND pins, that is, to the second and third pins of the carrier board below the core board, as shown in the figure below:

Connect the lines, connect the HDMI display, mouse, keyboard and microUSB data cable to Jetson Orin nano, and finally connect the power supply. Since the jumper cap has been connected to the FC REC and GND pins in the previous step, it will automatically enter the REC flashing mode after powering on.

5. In the SDKManager software of the virtual machine Ubuntu20.04, select Target Hardware as Jetson Orin nano modules, JetPack version, here take version 5.1.1 as an example.



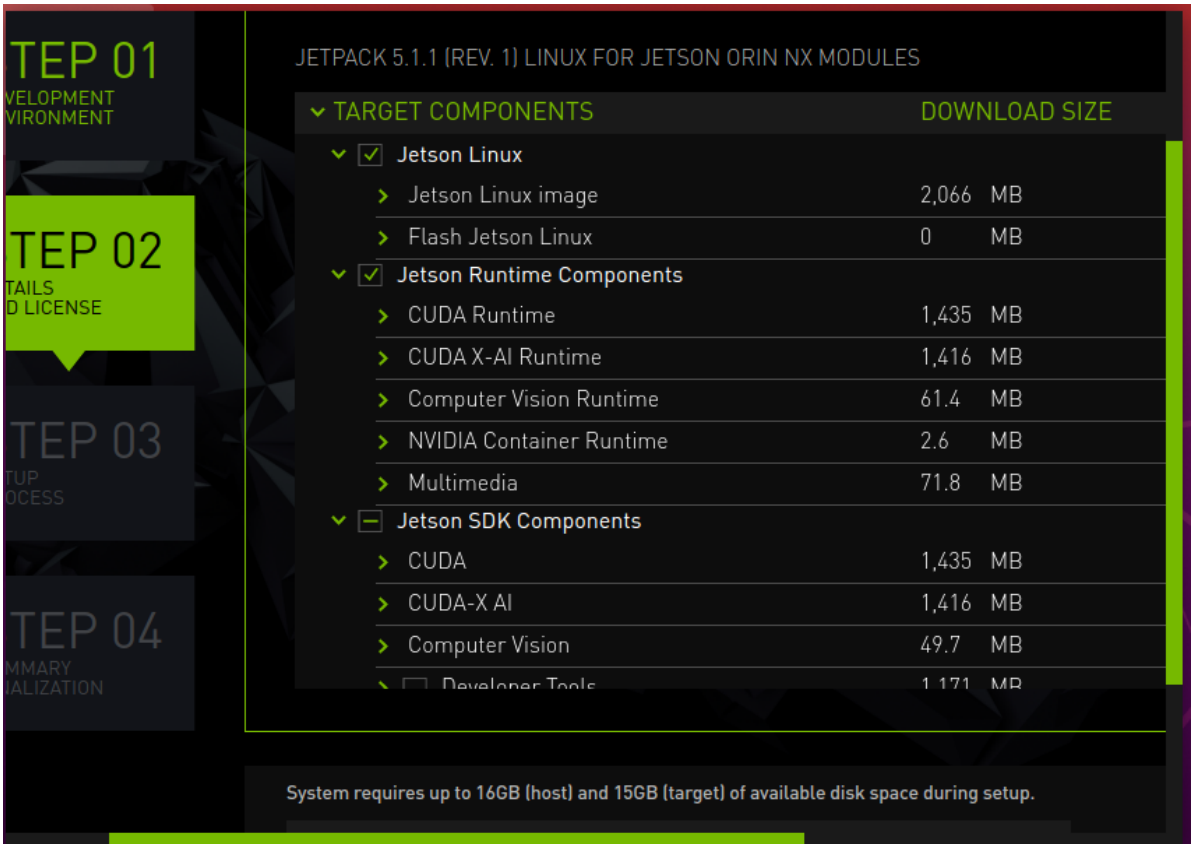
If the Target Hardware shows that it is not connected, please confirm whether the nano has entered the REC flashing mode and connected to the virtual machine, and then click refresh to refresh. Please note that when using a virtual machine, you need to set the device to connect to the virtual machine.



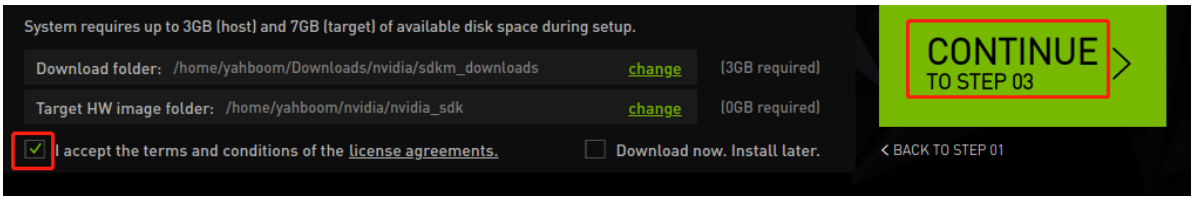
There are two versions of Jetson Orin nano. According to the actual selection, the 8GB module is selected for 8GB (do not select developer), and the 4G module is selected for 4G. Generally, it will be automatically recognized after plugging in.

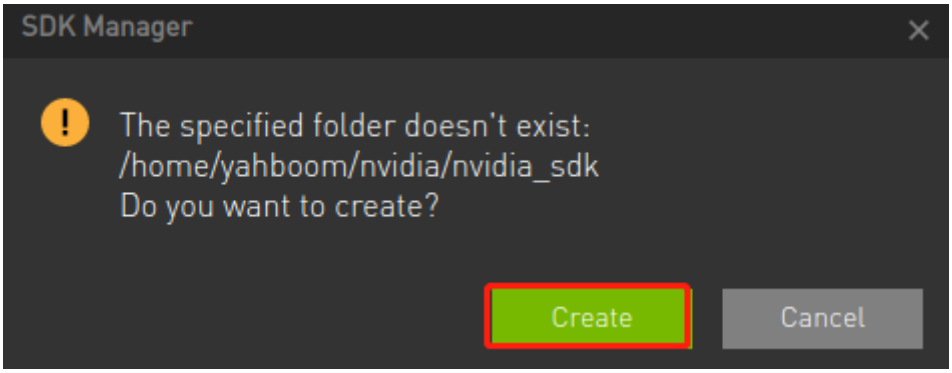
After confirmation, click CONTINUE

6. Jetson OS and Jetson SDK Components will be checked by default, indicating that the system and SDK are flashed. You can select the system OS or software SDK separately, but before flashing the software SDK separately, you need to ensure that the system OS has been flashed.

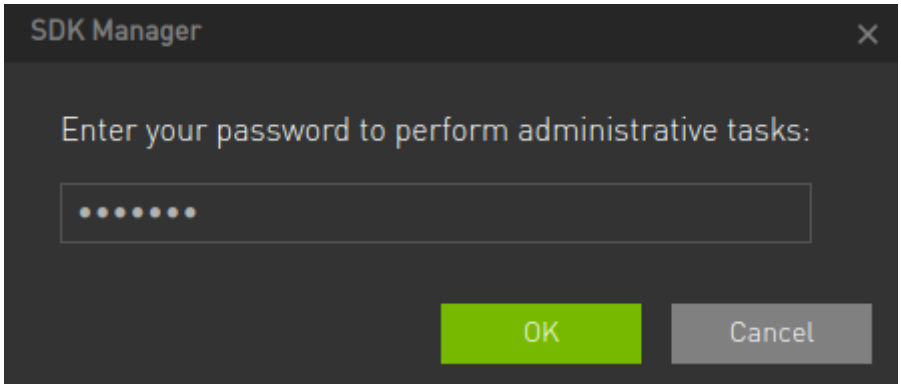


Keep the default file download path, check the protocol, and click CONTINUE to proceed to the next step.



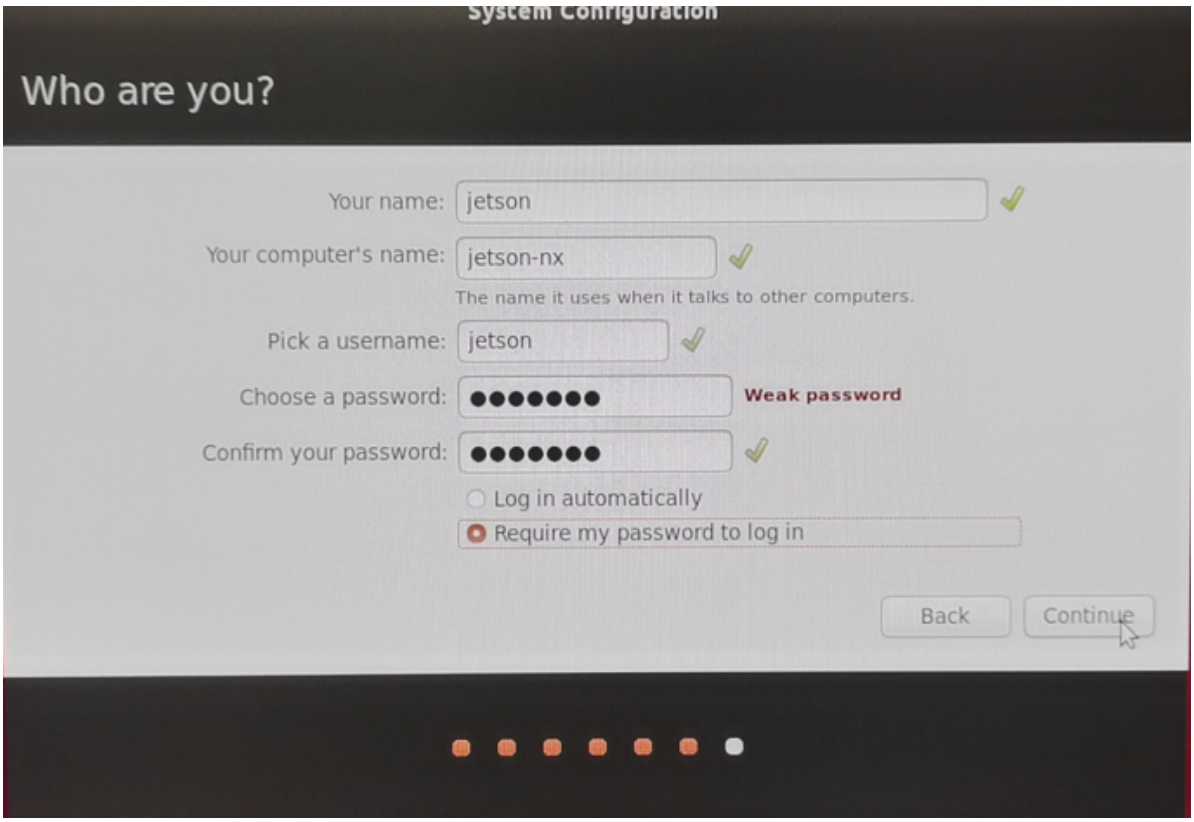


Enter the password of the virtual machine.



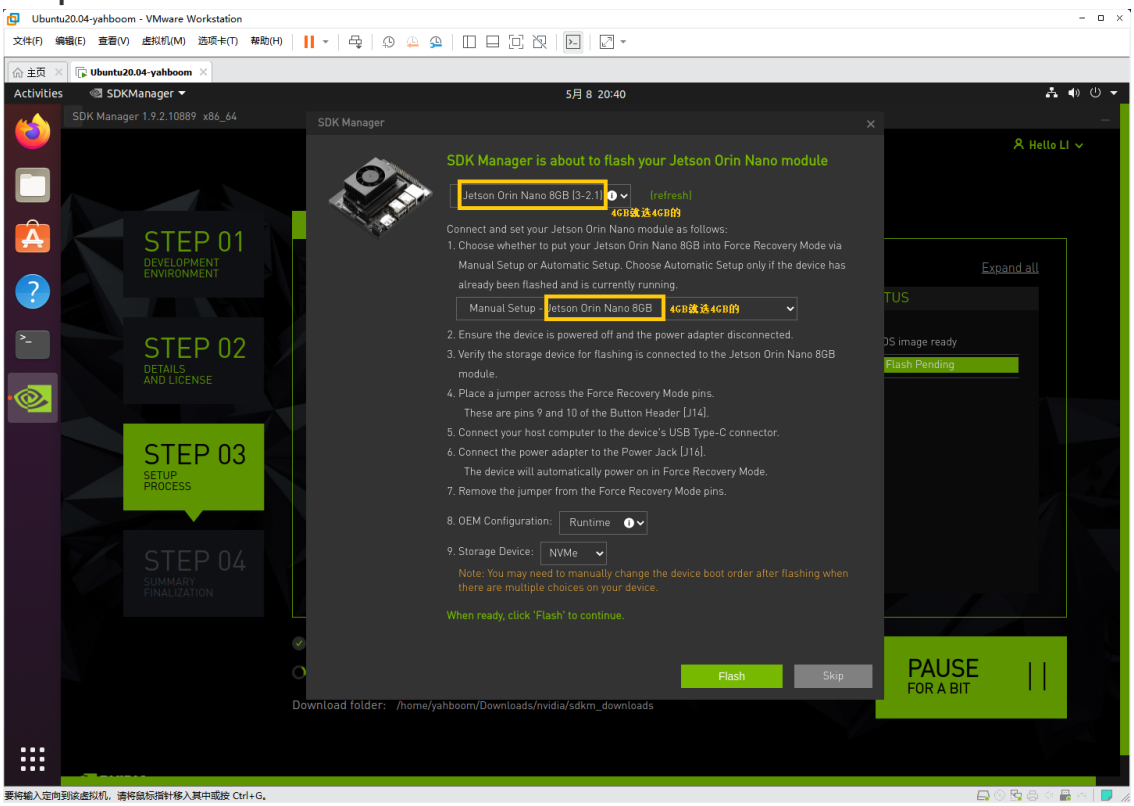
At this time, SDKManager will first download the files that need to be burned. Wait for the burning files to be downloaded and then start burning the system and SDK.

7. After waiting for the system OS to be burned, Jetson Orin nano will automatically restart and enter the system. At this time, you need to set the basic functions of the system according to the system prompts. The necessary operations include setting the username and password, connecting to the same LAN as the virtual machine, etc. Switch to the Jetson Orin nano system for settings. The settings here are relatively simple, so I won't take screenshots one by one. You must remember the username and password here, otherwise you will not be able to log in to the system.



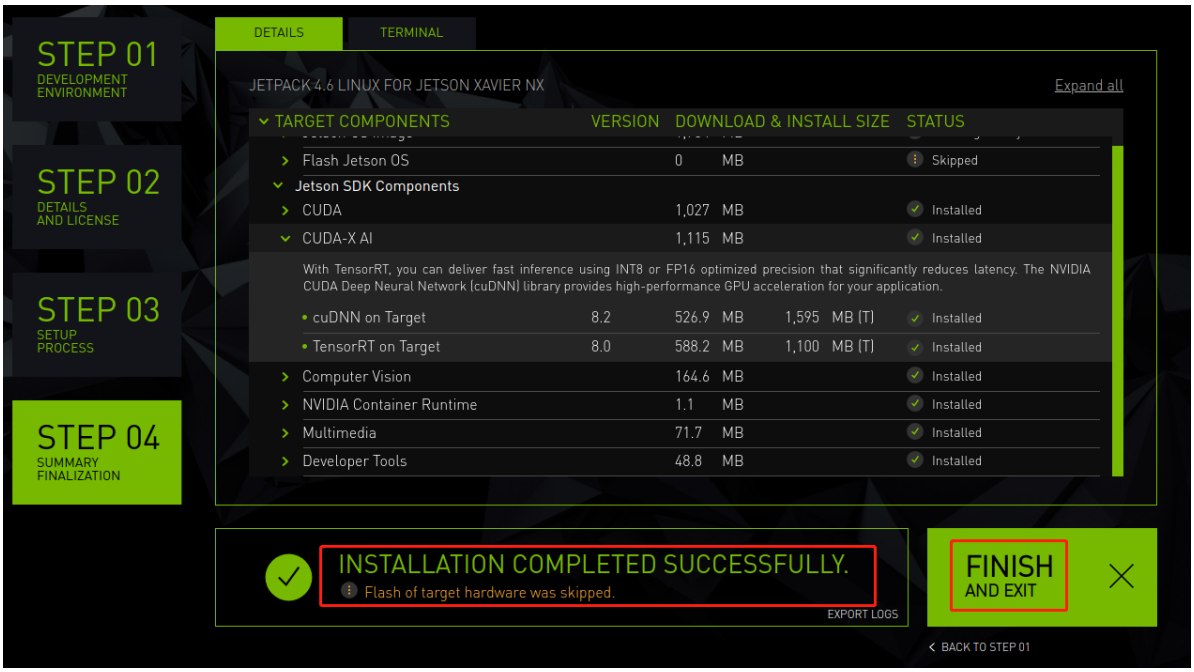
8. After the system settings are completed, Jetson Orin nano will restart again. At this time, it will be disconnected from the virtual machine. You can re-plug the USB data cable to connect to the virtual machine. Enter the username and password of Jetson Orin nano that you just set. Click Install to install the software SDK.

The picture below is an 8GB one



Note: Since the SDK needs to be flashed using the LAN network to transmit data, please insert the network cable for stable transmission.

After completion, it will prompt that all installations are successful, click FINISH. If a software installation fails during the installation process, please click Reinstall.



9. Note: After burning the system and SDK, please unplug the jumper cap between FC REC and GND.

- Reference link for other system burning methods https://blog.csdn.net/weixin_48208348/article/details/129442788