Write to EMMC system

!!! Note: If you use Yahboom Jetson NANO 4GB SUB board, The system image file is already included in emmc, you can skip this step

The system version of the core board of the Jetson Nano should correspond to the system version of the U disk.

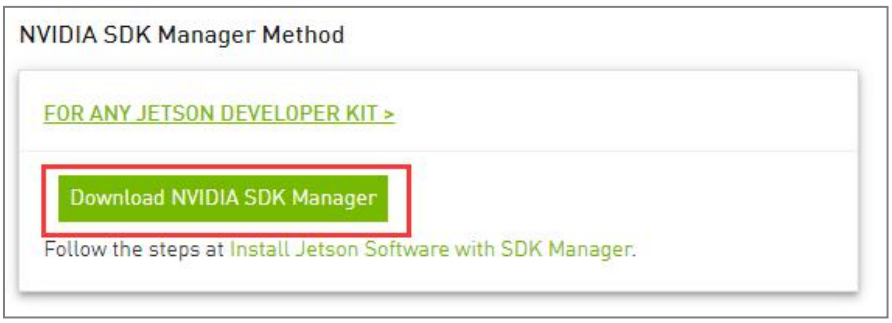
For example, if the U disk has been written with V4.5.1, then the system version of the Jetson Nano core board must also be V4.5.1, otherwise the board cannot be booted by USB.

1.Download and install

1.1 Enter following website:

https://developer.nvidia.com/embedded/downloads

By virtual machine Ubuntu18.04 system, click to “download SDK Manager”, please register/login NVIDIA account before use.



1.2 Install SDK Manager

Enter the path of the .deb file you just downloaded, for example, download it to the Downloads directory here.

cd Downloads/

```
yahboom@yahboom-vm:~$ cd Downloads/
yahboom@yahboom-vm:~/Downloads$ ls
sdkmanager_1.5.0-7774_amd64.deb
yahboom@yahboom-vm:~/Downloads$
```

1.3 Input following install command:

sudo dpkg -i sdkmanager_1.5.0-7774_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
```

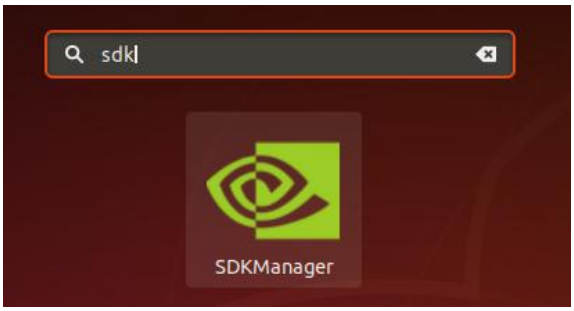
1.4 At this point, the system may prompt an error that the dependent file cannot be found. Enter the following command to solve this problem.

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
  libcoland2 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 libxapian30 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
```

2.Write

2.1 Open the program of the Ubuntu18.04 system, search for SDK, you can find SDKManager, and open the file.



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

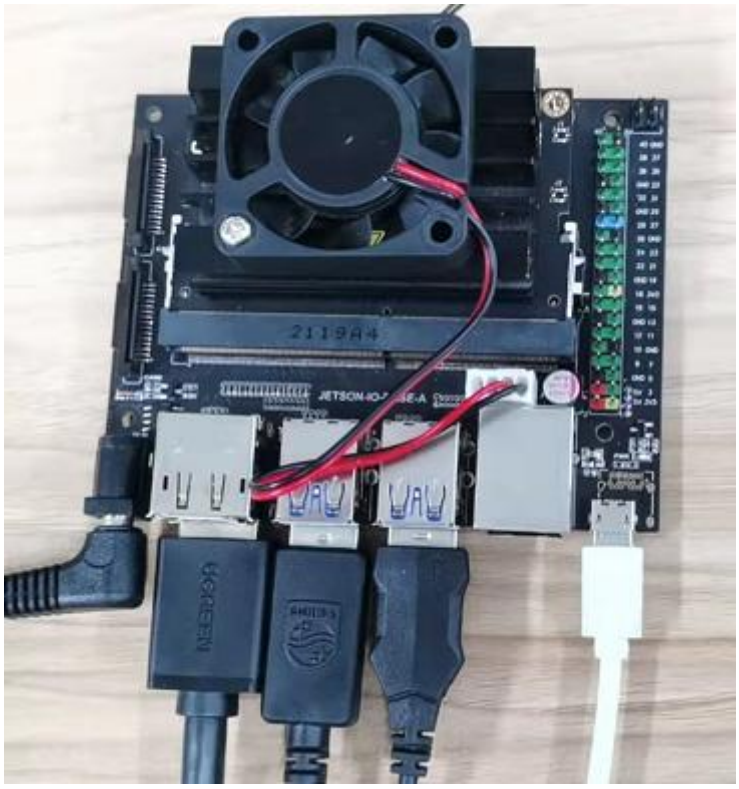
2.3 Virtual machine Ubuntu18.04 connected to jetson Nano

At this point, you need to let the jetson Nano enter the system REC flashing mode.

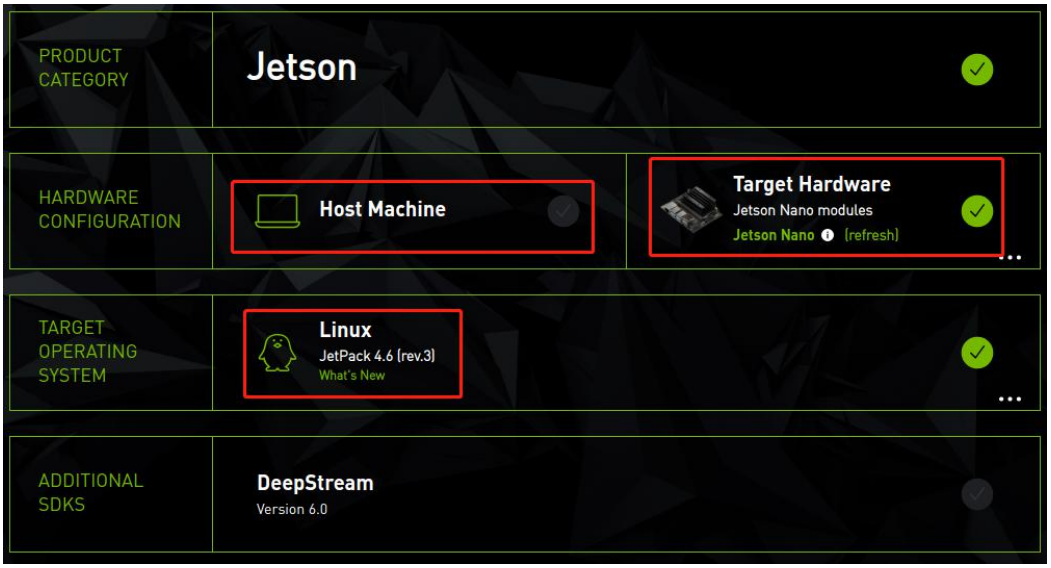
Connect the jumper caps to the FC REC and GND pins, that is, to the second and third pins of the carrier board below the core board, as shown below:

2.4 Connect the HDMI display, mouse, keyboard and microUSB cable to the Jetson Nano, and finally plug in the power.

Since the jumper cap has been connected to the FC REC and GND pins in the previous step, after turning on the power switch, the Jetson NANO will automatically enter the REC flashing mode.



2.5 In the SDKManager software of the virtual machine Ubuntu18.04, select Target Hardware as the Jetson Nano modules, JetPack version. Now, we use version 4.6 is used as an example.

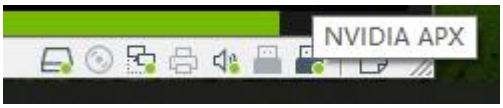


If the target hardware shows a disconnected status, please confirm whether the device has entered the REC flashing mode and connected to the virtual machine, and then click “refresh”.

!! Note: Using a virtual machine requires the device to be set up to connect to the virtual machine.

2.6 If the above prompt does not appear, you can connect manually in the lower right corner of the

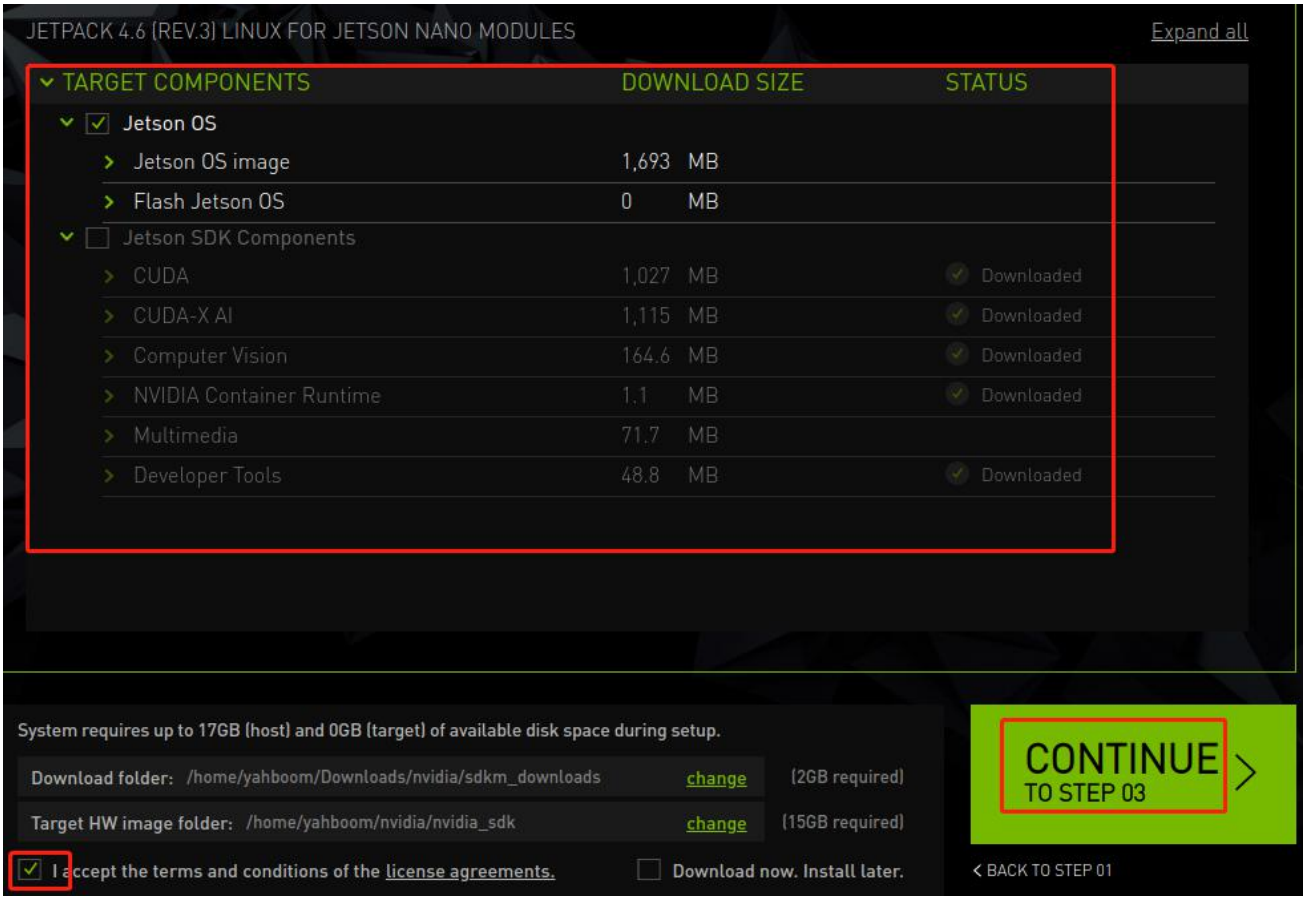
virtual machine: After finding NVIDIA APX, click Connect to the virtual machine.
The light is on to indicate that it is connected to the virtual machine. As shown below.



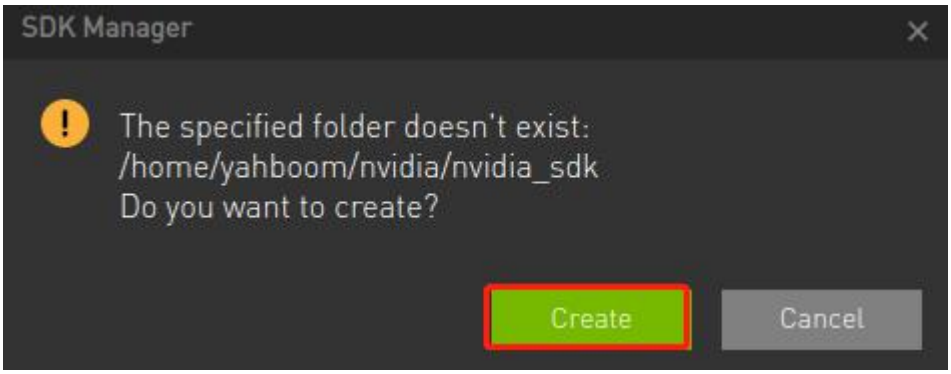
After confirmation, click “CONTINUE”.

2.7 By default, Jetson OS and Jetson SDK Components will be checked, indicating that the system and SDK are flashed. We can choose the system OS or software SDK separately, but before flashing the software SDK separately, we need to ensure that the system OS has been flashed.

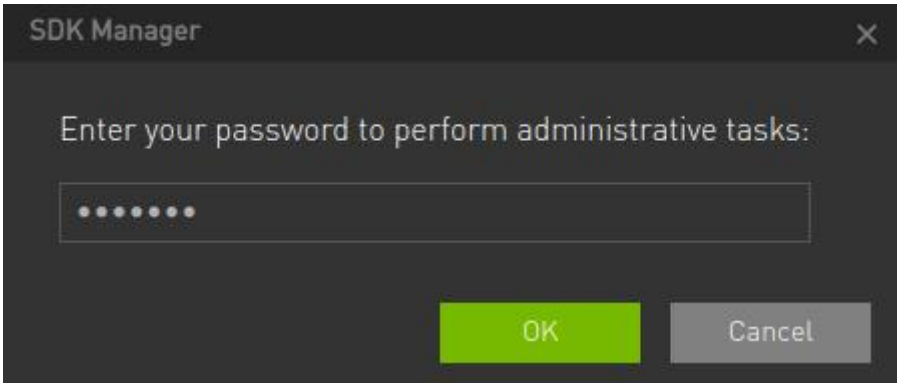
Since the EMMC capacity of the Jetson Nano is only 16G, the SDK cannot be installed, and the only option is to flash into the OS system.



2.8 Just keep the default file download path, check the protocol, and click “CONTINUE” to go to the next step.

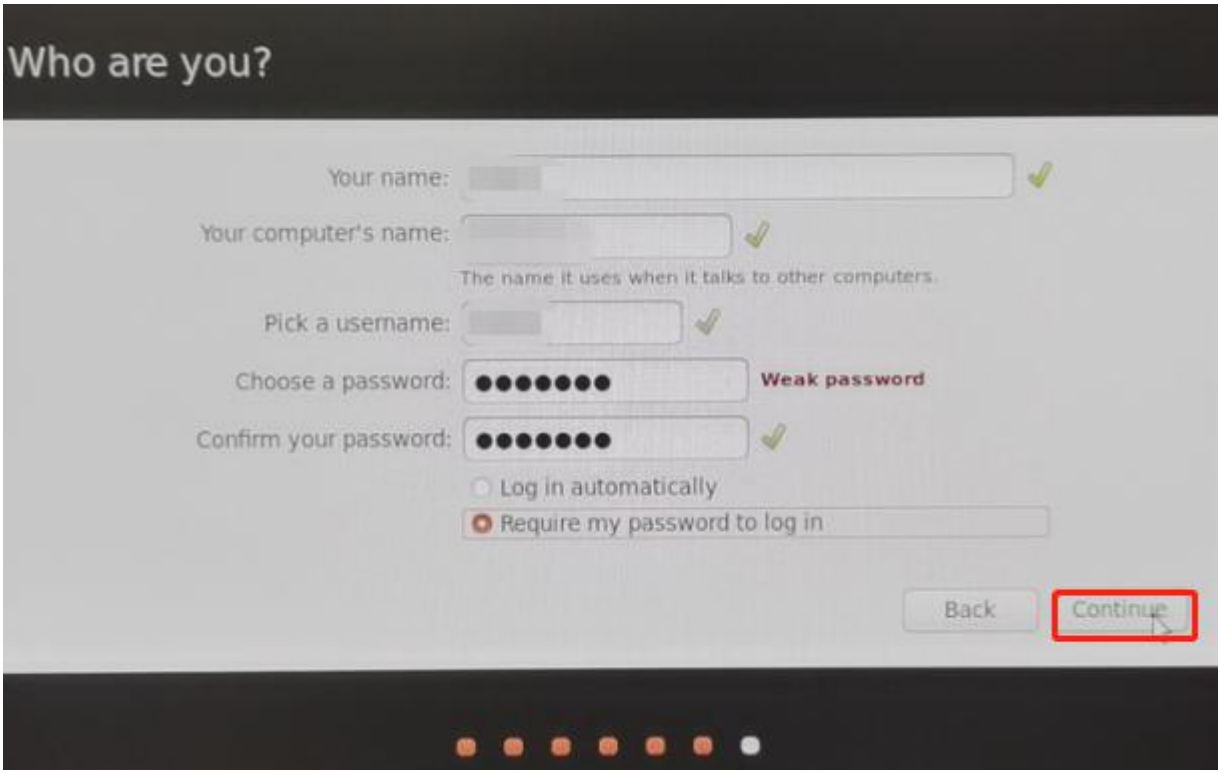


Input password.



At this time, SDKManager will first download the files to be written, and wait for the download of the files to complete to start writ the system file.

2.9 After the system OS writing is completed, Jetson 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. You must set the user name and password, etc. You must remember the user name and password here. , otherwise there will be a problem of not logging into the system.



2.10 After write the system file is complete, please unplug the jumper cap between FC REC and GND.