02.Write EMMC system

It is important to note that the system for writing the Jetson Nano B01 core board is only for use with the core board. If you need to burn the system to a USB drive for use, you can skip this tutorial.

1. Open NVIDIA's Jetpack download website:

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

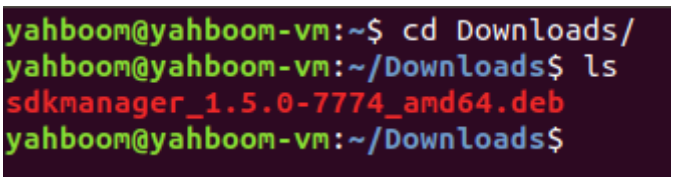
https://developer.nvidia.com/embedded/jetpack-archive

Using the virtual machine Ubuntu 18.04 system, click to download SDK Manager. Before using it, please register/log in to your NVIDIA account.

2. Install SDK Manager.

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

```
cd Downloads/
```



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

```
sudo dpkg -i sdkmanager_1.5.0-7774_amd64.deb
```

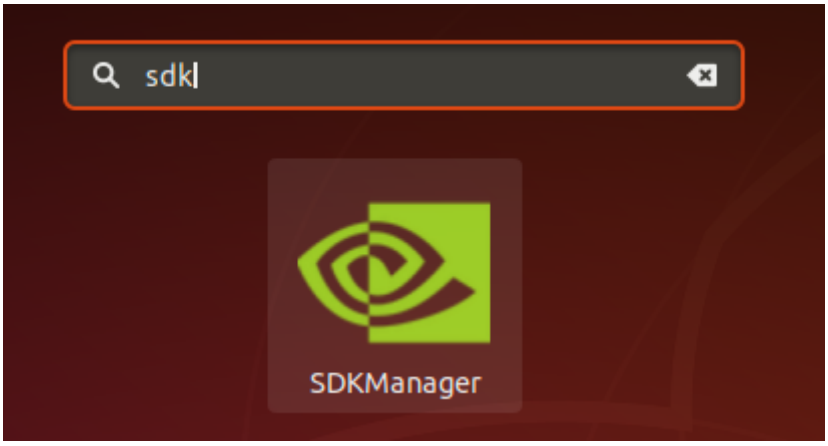
```
yahboom@yahboom-vm:~/Downloads$ sudo dpkg -i sdkmanager_1.5.0-7774_amd64.deb
[sudo] password for yahboom:
Selecting previously unselected package sdkmanager.
(Reading database ... 114535 files and directories currently installed.)
Preparing to unpack sdkmanager_1.5.0-7774_amd64.deb ...
Unpacking 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
```

At this point, the system may report 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
  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 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
```

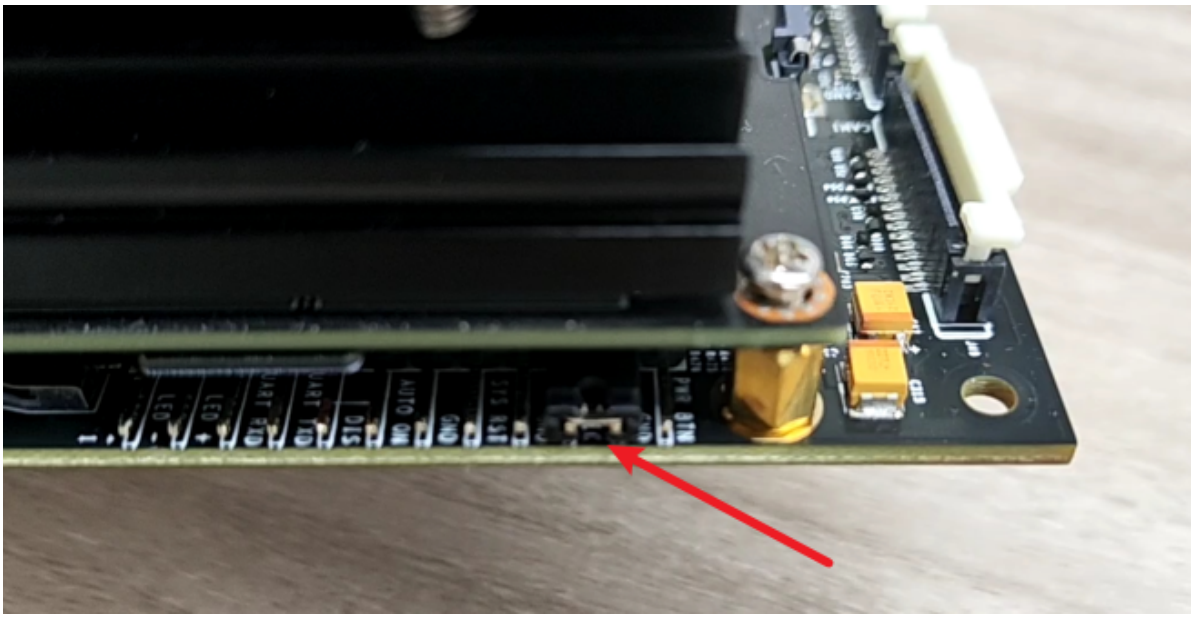
3. Open the program for Ubuntu 18.04 system, search for SDK, you can find SDKManager, and open the file.



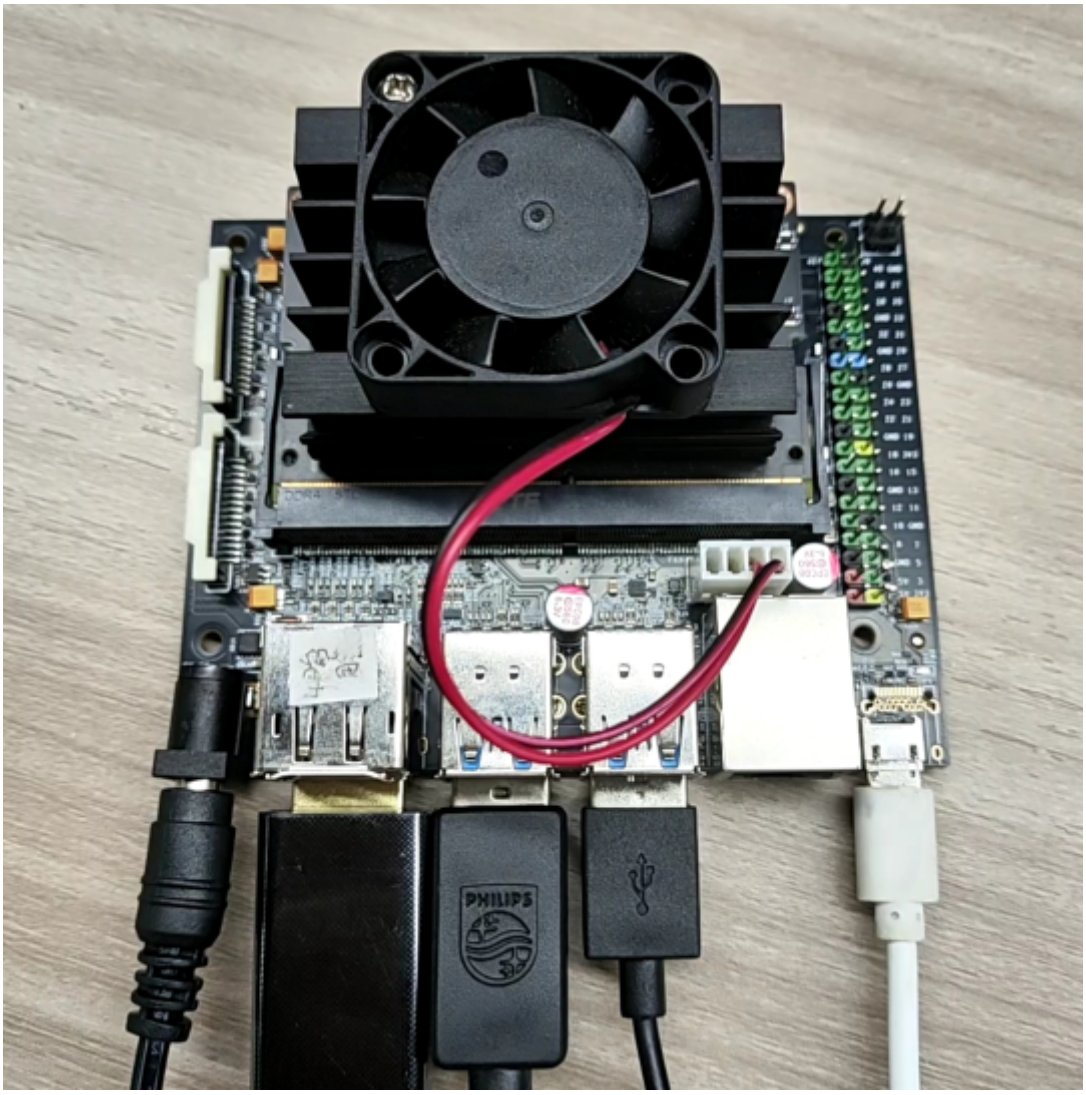
Log in to the NVIDIA account and a link will pop up in the browser, where you can enter your username and password to log in.

4. Virtual machine Ubuntu 18.04 connecting to Jetson Nano B01

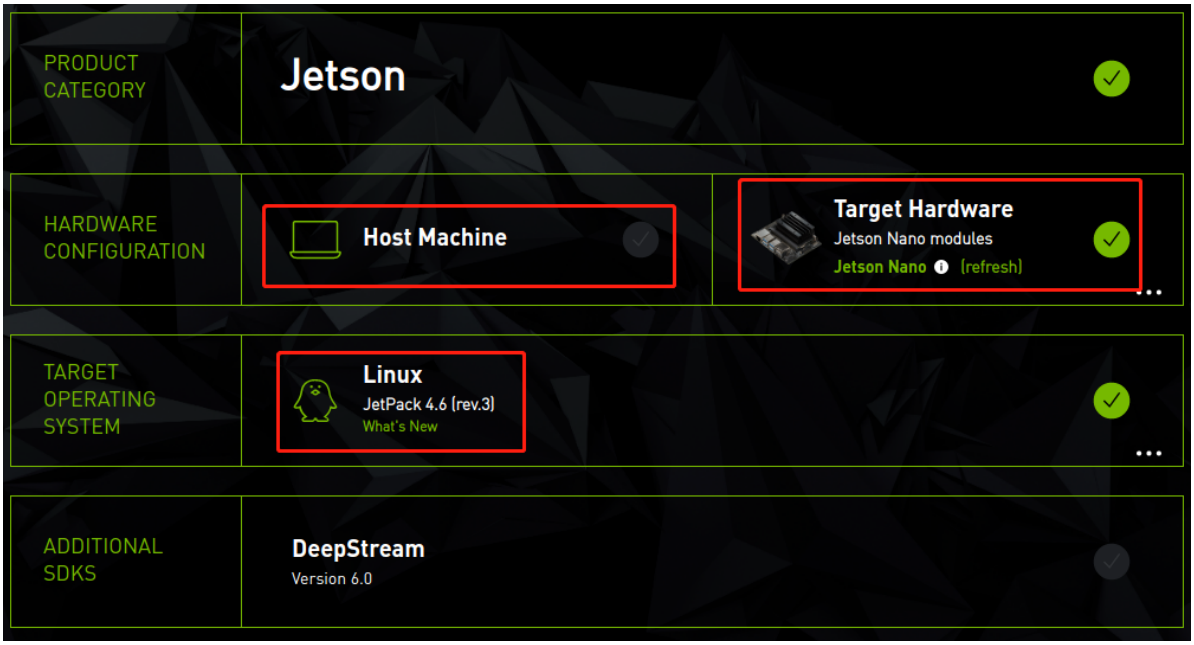
At this point, it is necessary to put Jetson Nano B01 into the system REC flash mode.Connect the jumper cap to the FC REC and GND pins, that is, to the second and third pins of the carrier board below the core board, as shown in the following figure:



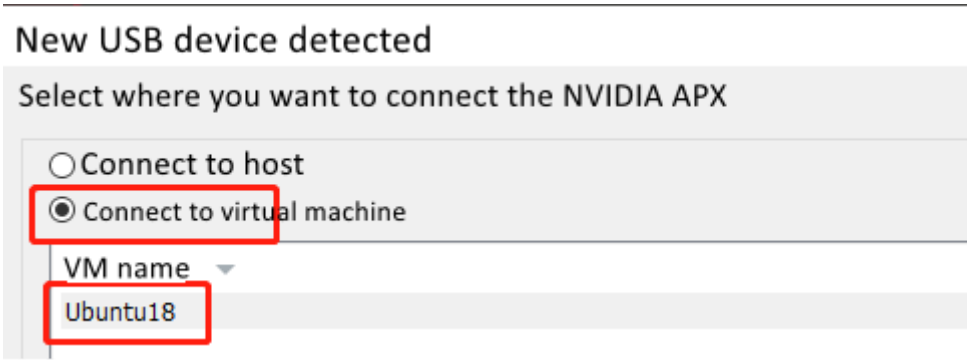
Connect the line, connect the HDMI display screen, mouse, keyboard, and microUSB data cable to the Jetson Nano, and finally connect to the power supply. Since the jumper cap was already connected to the FC REC and GND pins in the previous step, it will automatically enter the REC flash mode after powering on.



5. Select Target Hardware as Jetson Nano in the SDK Manager software of virtual machine Ubuntu 18.04Modules, JetPack version, taking version 4.6 as an example.



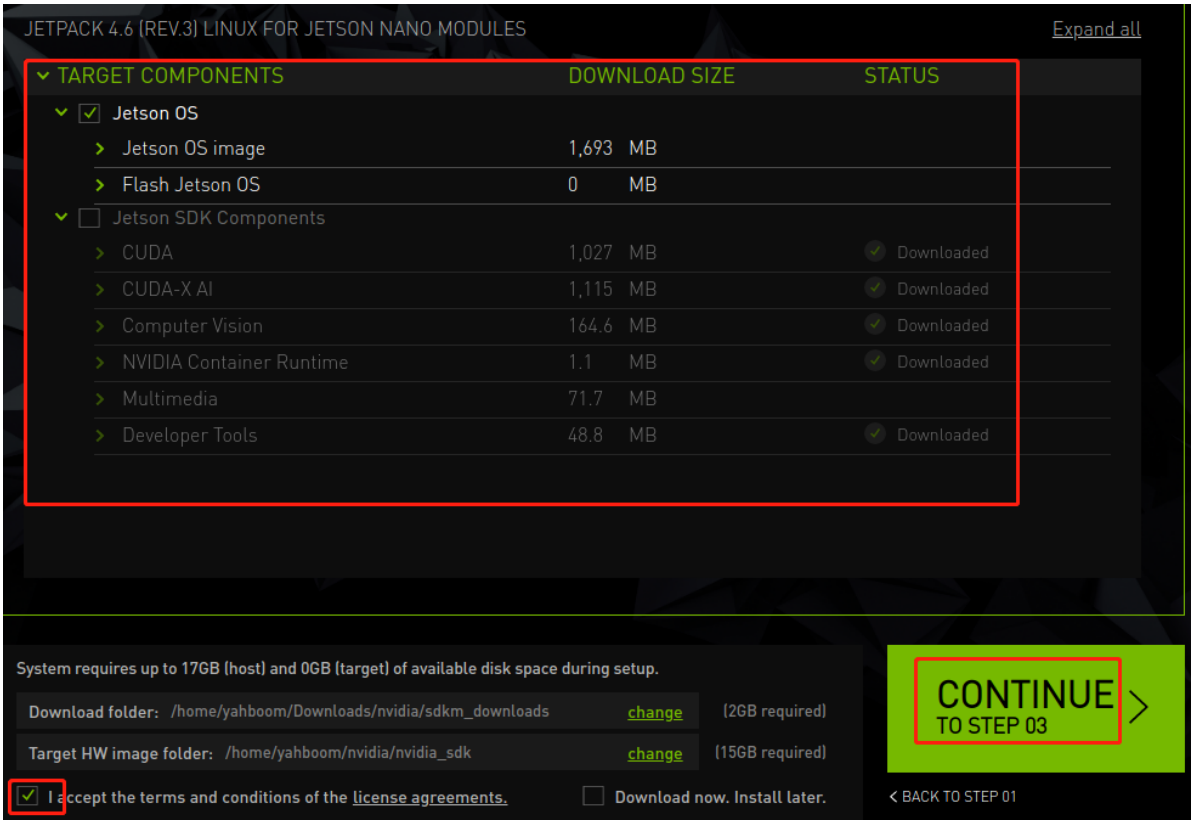
If the target hardware displays an unconnected state, please confirm whether the device has entered REC flash mode and connected to the virtual machine, and then click refresh to refresh. Please note that using a virtual machine requires setting the device to connect to the virtual machine.



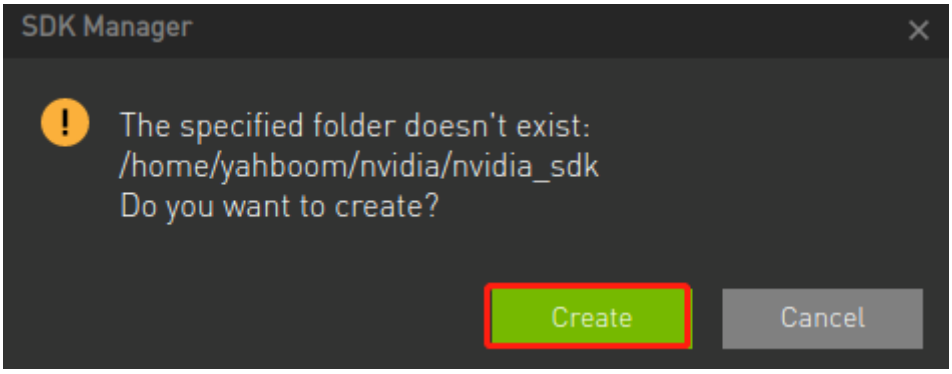
If the above prompt does not pop up, you can manually connect in the lower right corner of the virtual machine: find NVIDIA APX and click Connect to Virtual Machine. The highlighted color indicates that it is connected to the virtual machine.

After confirming that there are no errors, click on 'Continue'

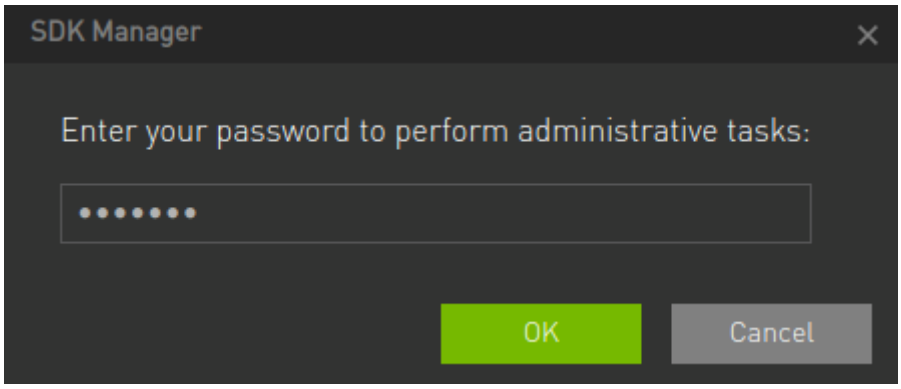
6. By default, Jetson OS and Jetson SDK Components will be checked, indicating that the system and SDK can be flushed in. You can select the system OS or software SDK separately, but before flushing in the software SDK separately, it is necessary to ensure that the system OS has been flushed in. Due to the fact that Jetson Nano B01 comes with only 16GB of EMMC capacity, the SDK cannot be installed and can only be flushed into the OS system.



Just keep the default file download path, check the protocol, and click on 'Continue' to proceed to the next step.



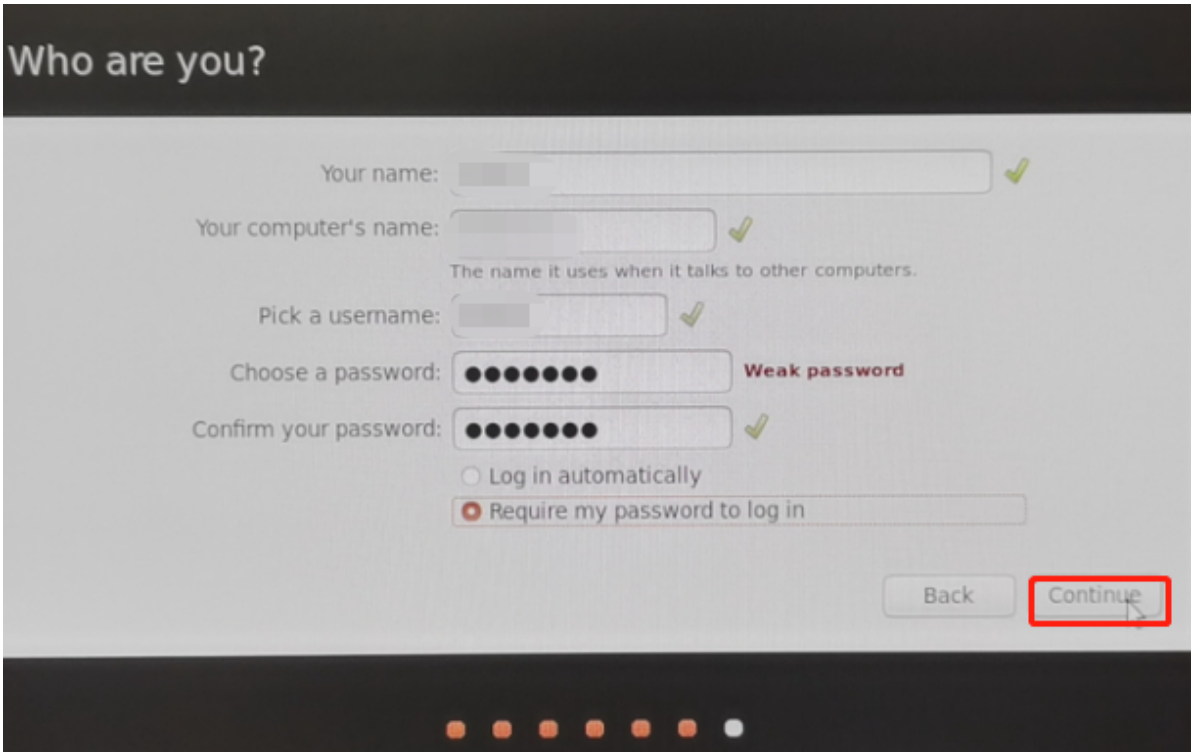
Enter the password for the virtual machine.



At this point, SDKManager will first download the files that need to be burned, and wait for the download of the burned files to complete before starting writing the system.

7. After waiting for the system OS to burn, Jetson Nano B01 will automatically restart and enter the system. At this time, it is necessary to set the basic functions of the system according to the system prompts, including setting a username and password. Setting a username and

password must be remembered here, otherwise there may be a problem of not logging into the system



8. Note: After writing the system, please remove the jumper cap between FC REC and GND.