

Installing Jetson environment

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Some users may need to use NVIDIA's own system component environment. After installing the system and successfully entering the system desktop, you can follow the tutorial below to install the component environment!

Note: The solid-state drive that comes with the product has a factory image, which includes NVIDIA's official system and motherboard environment; if you do not have a requirement for a pure system, do not operate!

The entire process requires a network. If the user cannot complete the component installation, use our factory image

1. Hardware connection

The Jetson Orin motherboard needs to be connected to a DC power adapter, DP data cable, network cable, and Type C data cable: The Type C data cable is connected to a computer or virtual machine

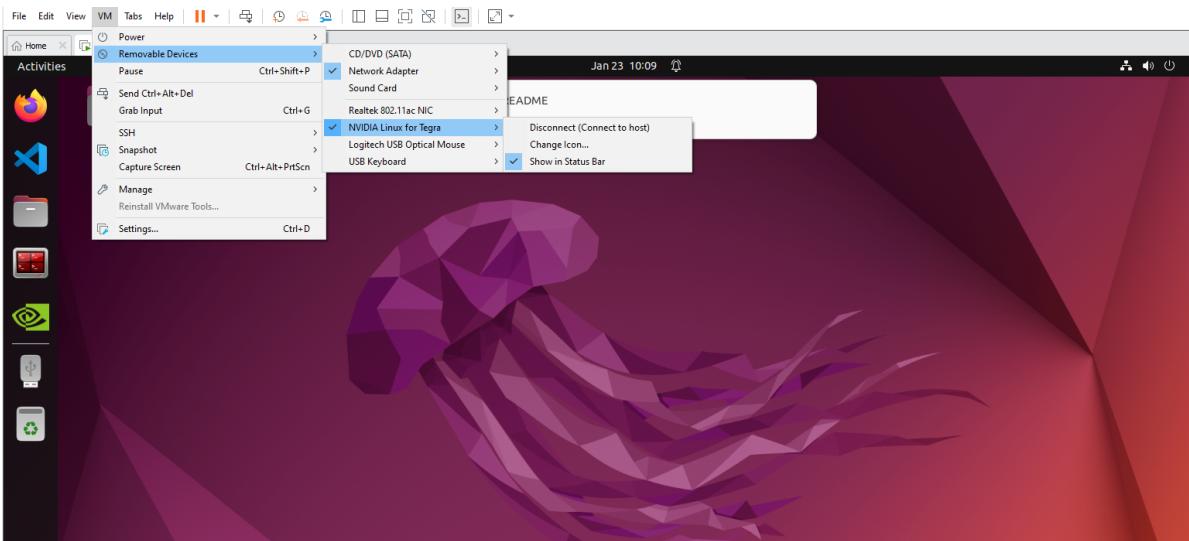
Note: There is no need to enter the flashing mode to install the Jetson component environment, the motherboard can be turned on!



2. Software connection

The tutorial uses VMware Workstation 17 Pro to burn the system!

After starting the virtual machine, select in the menu bar: Virtual Machine → NVIDIA Linux for Tegra → Confirm the status of the connection with the virtual machine



3. Use of SDK Manager

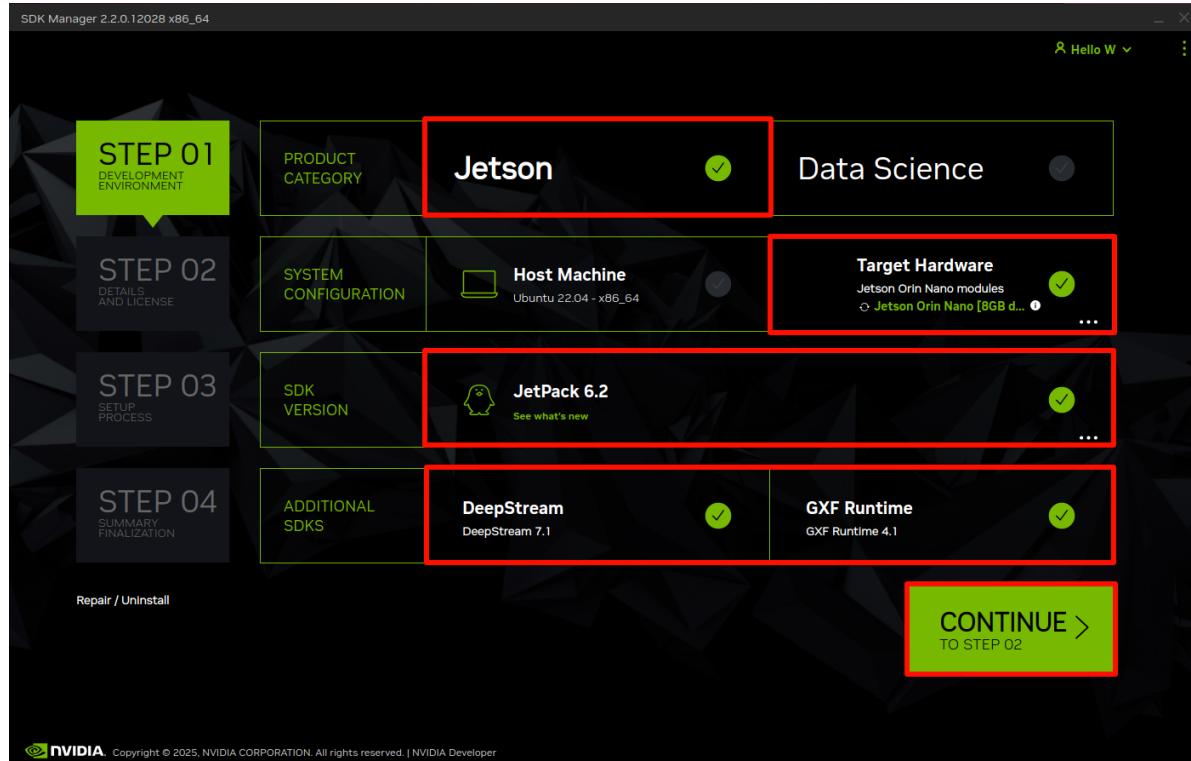
The Jetson Orin motherboard is in the normal system startup state, and the Type-C data cable is used to connect to the computer or virtual machine.

3.1, Motherboard selection

After opening `SDK Manager`, select according to your motherboard model: select `Jetson Orin Nano` [*GB developer kit version] for the official kit

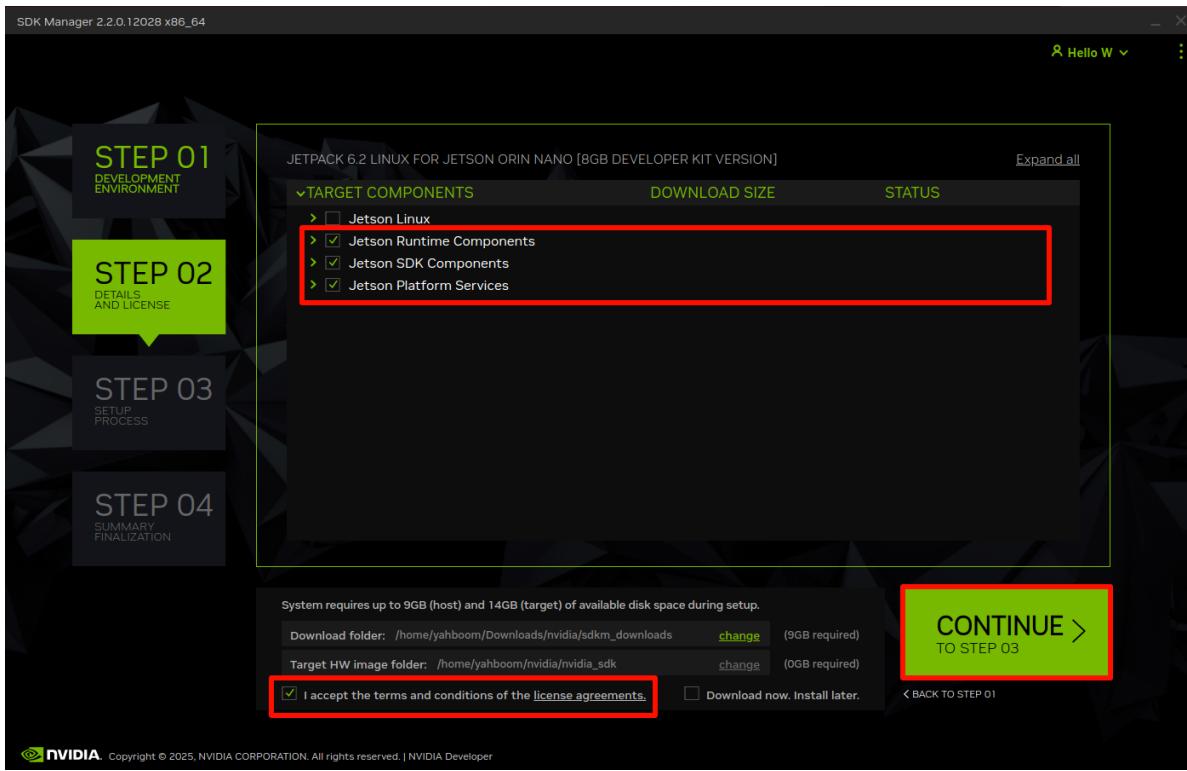
3.2, STEP1

Check the options below, confirm that the check is consistent, and click `CONTINUE`:

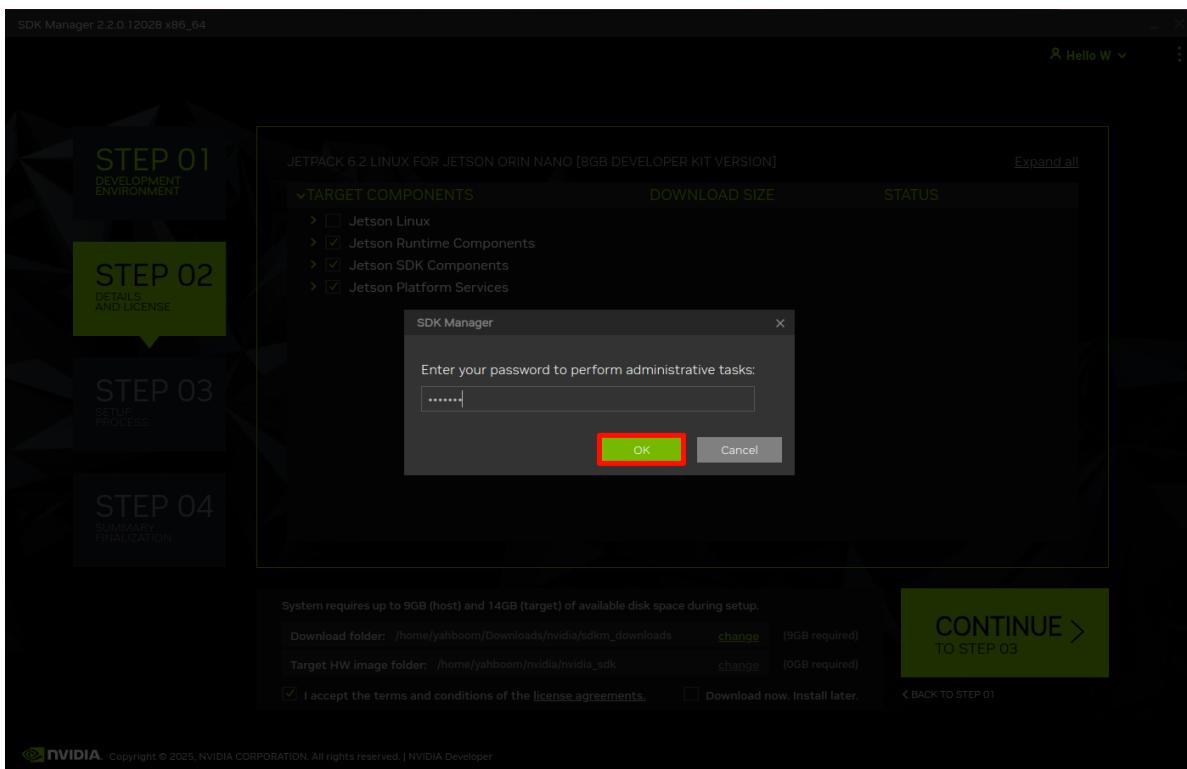


3.3, STEP2

The system has been successfully installed, we only need to check the required component environment: SDK Manager will automatically download all components. Once the download is complete, you can proceed to the next step

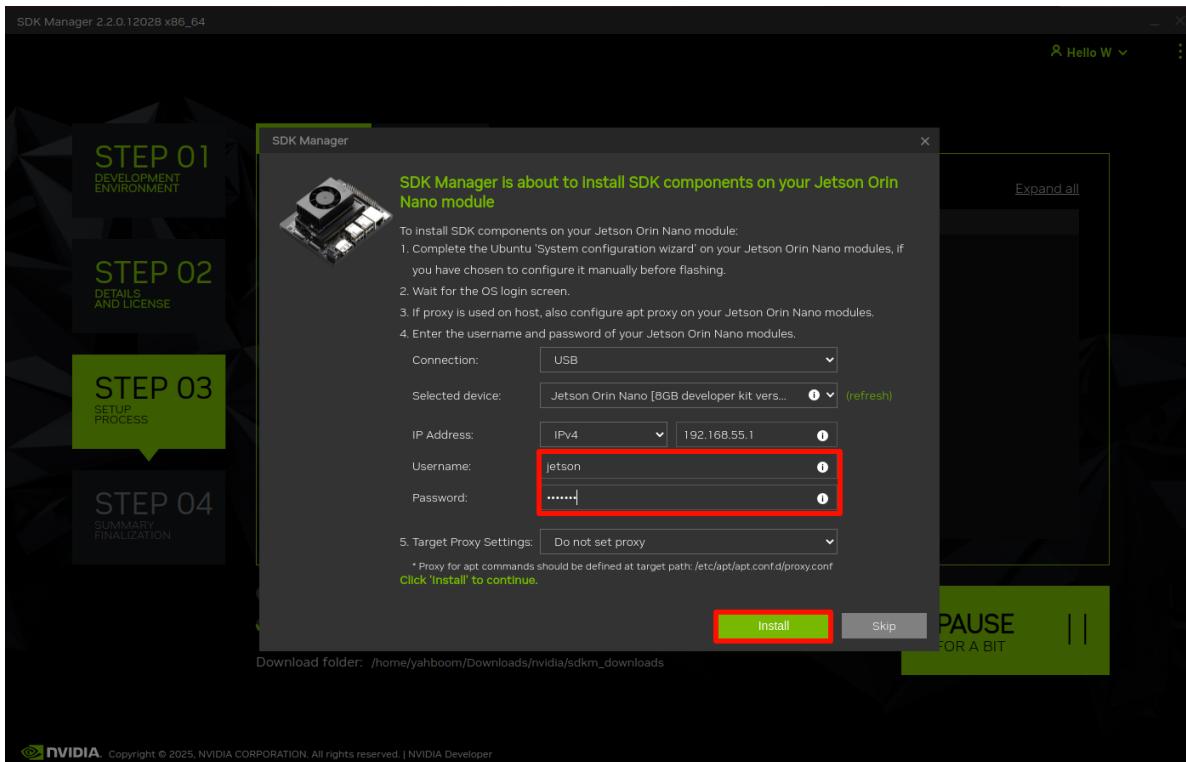


Enter the virtual machine password: yahboom

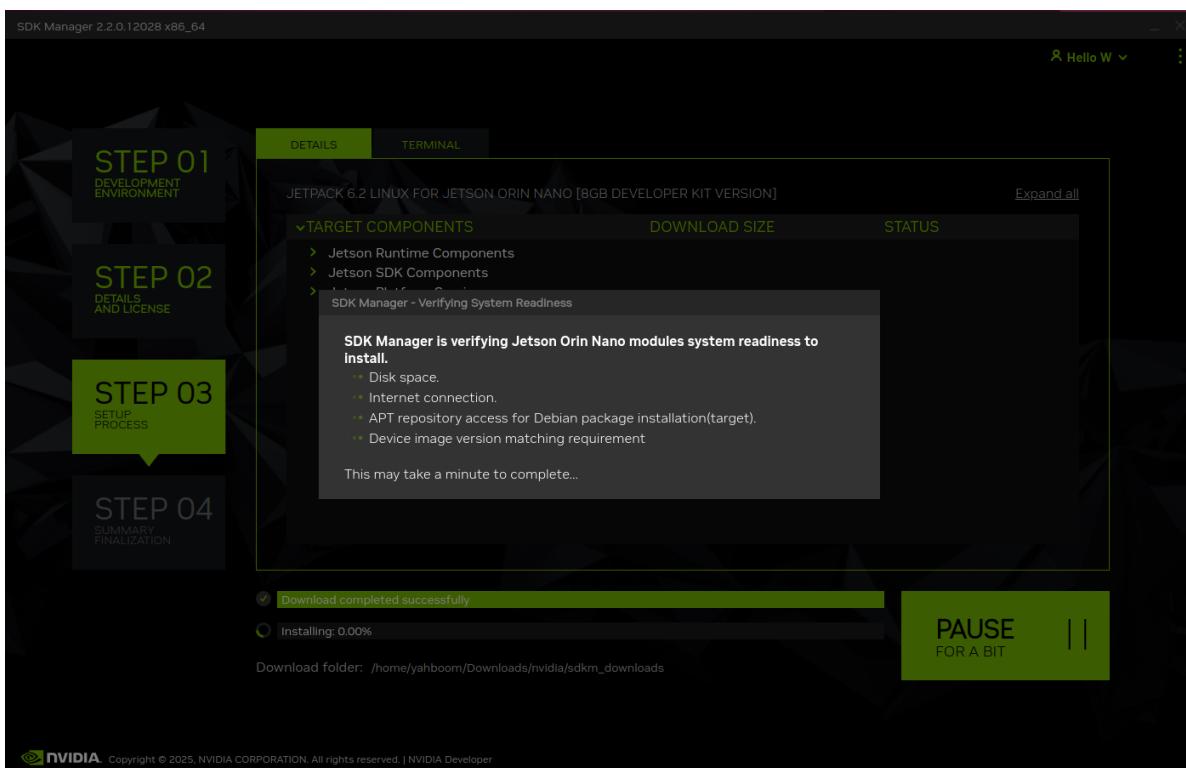


3.4, STEP3

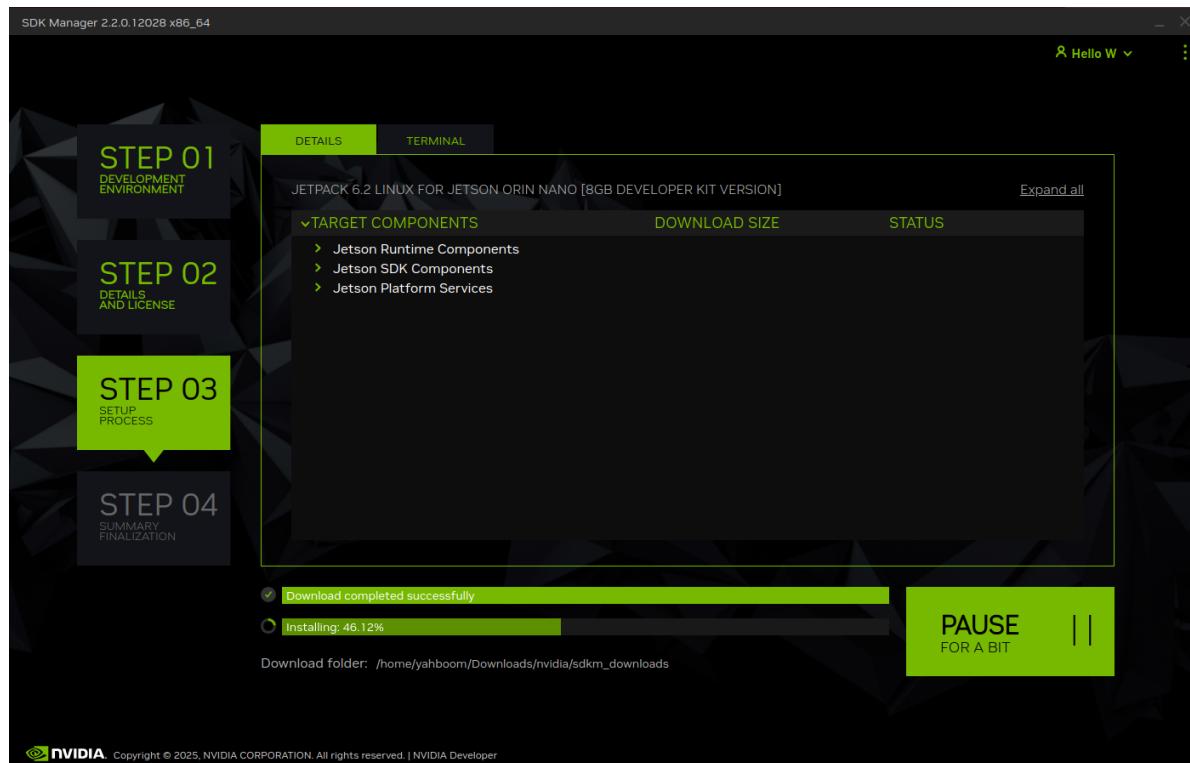
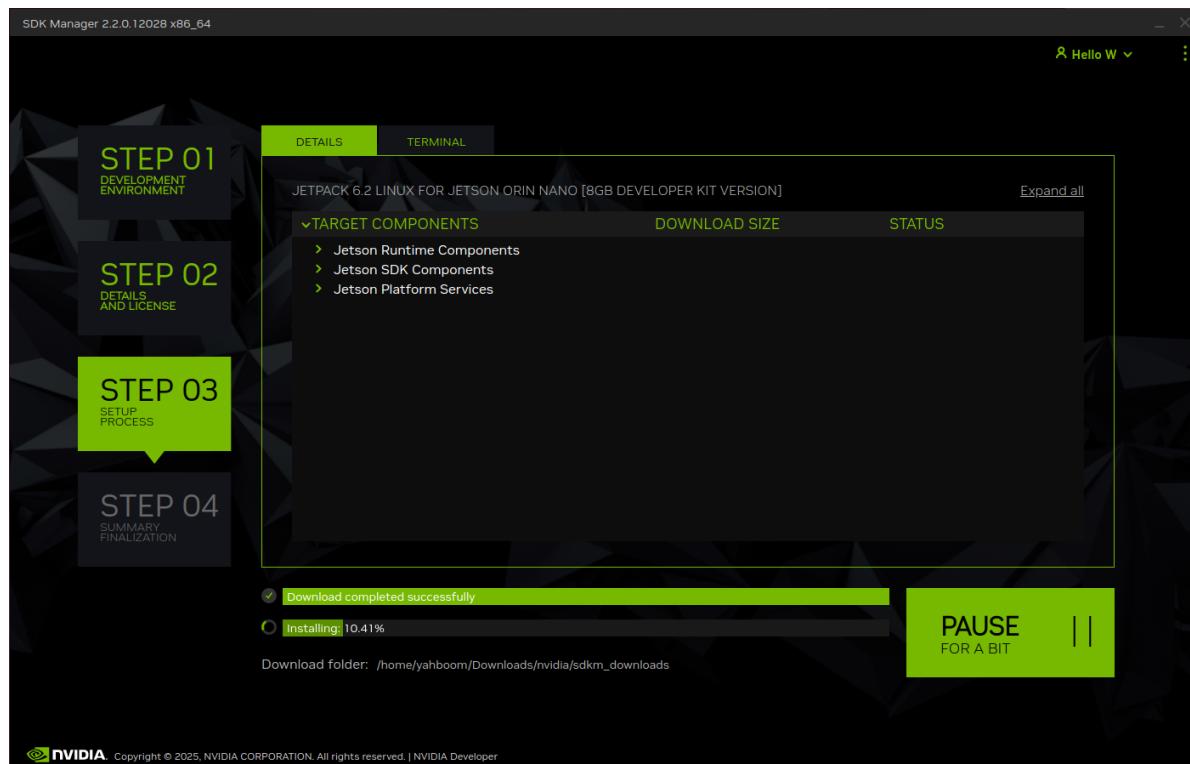
Here, fill in the username and password information you set when starting the system: the whole process takes a long time, please wait patiently



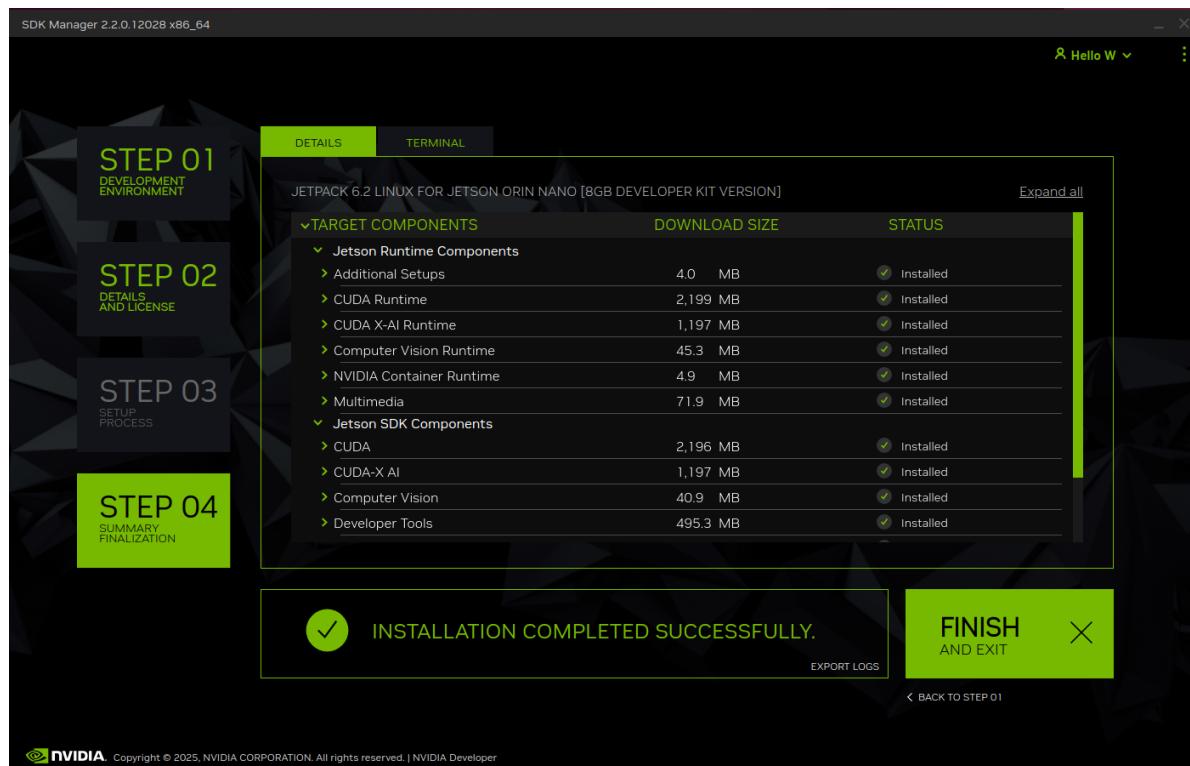
Wait for the system to download and install: the virtual machine has a network failure during the whole process, which can be ignored. The actual test did not affect the burning of the component environment



The whole installation process takes a long time, please wait patiently. If the installation fails, you can restart the motherboard system and restart the SDK Manager installation:



3.5、STEP4



4. Environment verification

Jtop tool

Use the following command to install Jtop:

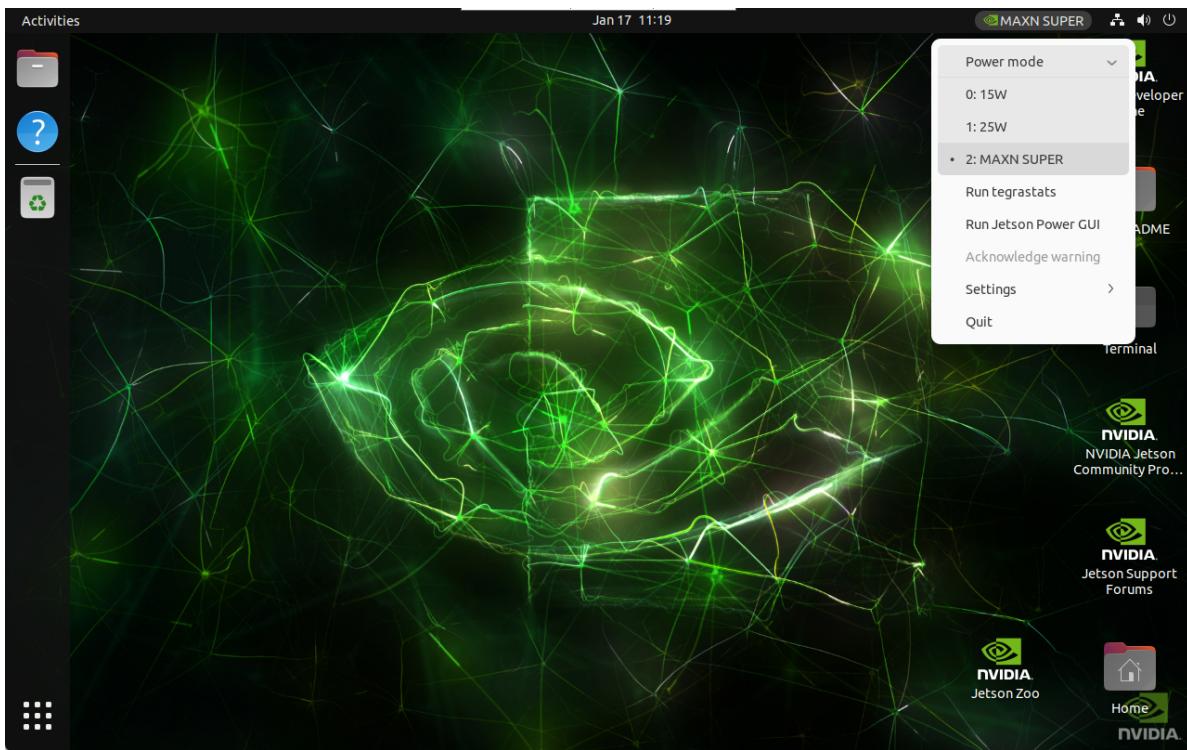
```
sudo apt update && sudo apt upgrade
sudo apt install python3-pip -y
sudo pip3 install -U jetson-stats
```

Note: After the installation is complete, you need to restart the system!

Best Performance Mode

Enable MAX Power Mode

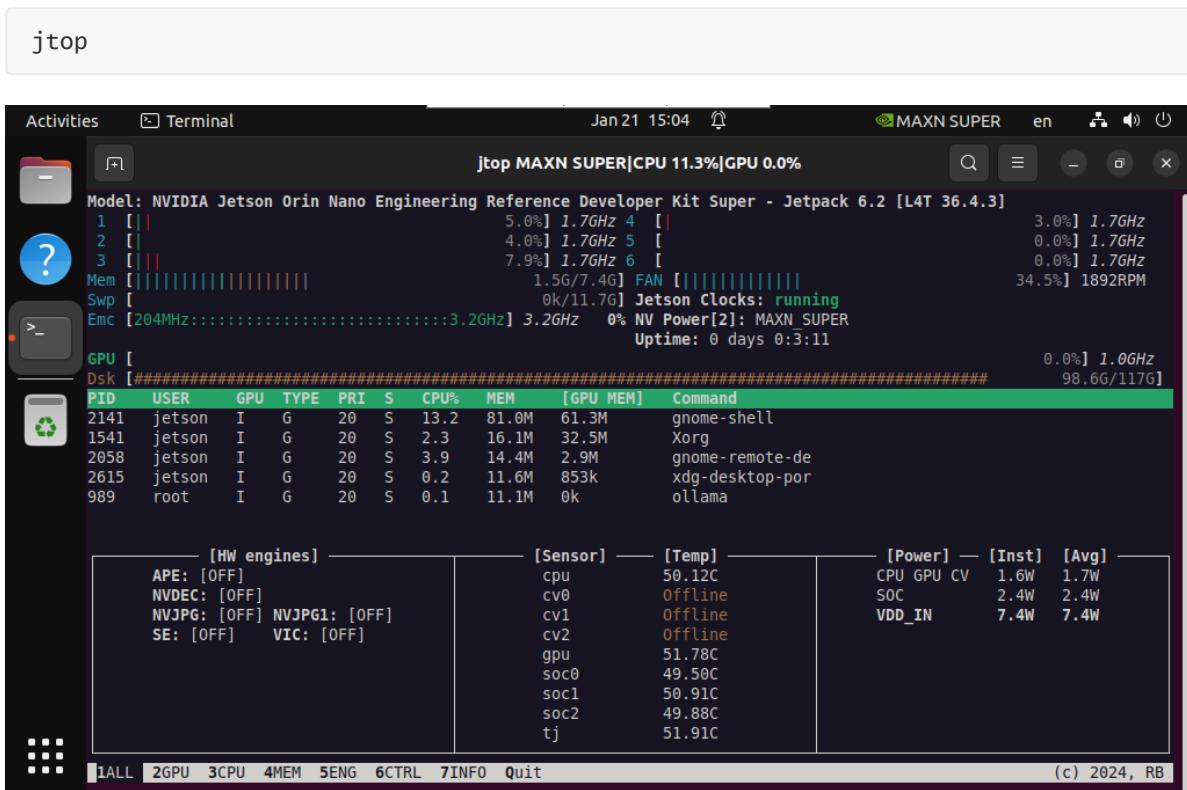
```
sudo nvpmodel -m 2 # Jetson Orin Nano
sudo nvpmodel -m 0 # Jetson Orin NX
```



Enable Jetson clocks: CPU and GPU cores run at maximum frequency

```
sudo jetson_clocks
```

Use the Jtop tool to view system information:



Activities Terminal Jan 16 20:58 MAXN SUPER

jtop 4.3.0 - (c) 2024, Raffaello Bonghi [raffaello@rnnext.it]
Website: https://rnnext.it/jetson_stats

Platform
Machine: aarch64
System: Linux
Distribution: Ubuntu 22.04 Jammy Jellyfish
Release: 5.15.148-tegra
Python: 3.10.12

Serial Number: [s]XX CLICK TO READ XXX

Hardware
Model: NVIDIA Jetson Orin Nano Engineering Reference Developer Kit Super
699-level Part Number: 699-13767-0005-300 R.1
P-Number: p3767-0005
Module: NVIDIA Jetson Orin Nano (Developer kit)
SoC: tegra234
CUDA Arch BIN: 8.7
L4T: 36.4.3
Jetpack: 6.2

Libraries
CUDA: 12.6.68
cuDNN: 9.3.0.75
TensorRT: 10.3.0.30
VPI: 3.2.4
Vulkan: 1.3.204
OpenCV: 4.8.0 with CUDA: NO

Hostname: yahboom

Interfaces
wlPipis0: 192.168.2.121
eno1: 192.168.2.56
l4tbr0: 192.168.55.1
docker0: 172.17.0.1

IALL 2GPU 3CPU 4MEM 5ENG 6CTRL 7INFO Quit (c) 2024, RB