



# Nvidia Jetpack 6 Jetson Orin Nano Software User Guide

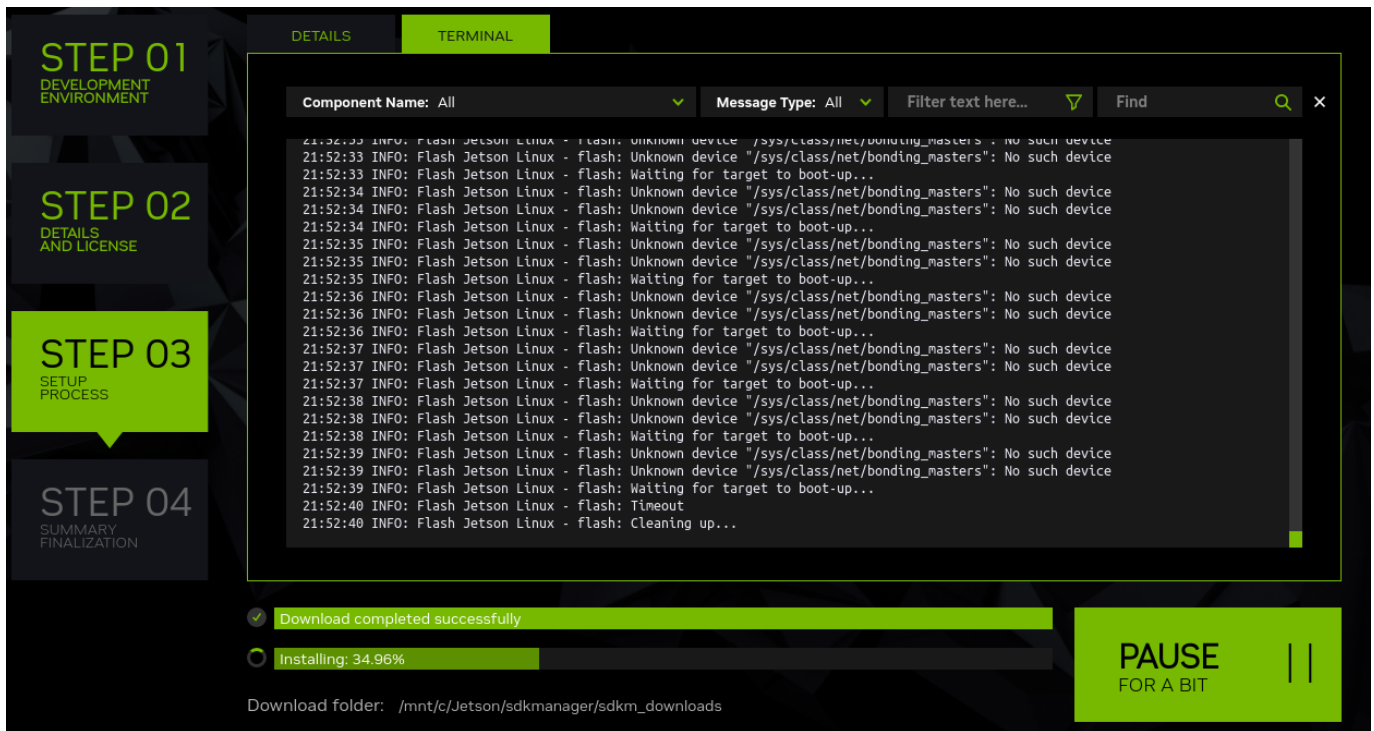
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**Nvidia Jetpack 6 Jetson Orin Nano Software**



## Specifications:

- Product Name: Jetpack 6
- SDK Manager Version: Latest
- Operating Systems: Linux Ubuntu 22.04, Windows

## Product Information

Jetpack 6 is a software development kit used for installing and managing various software packages, including PyTorch, TorchAudio, and TorchVision.

## Product Usage Instructions

### Installing Jetpack 6 Using SDK Manager:

- Download the SDK Manager from the Nvidia website.
- Follow the steps provided on the Nvidia website to install Jetpack 6 using the SDK Manager.

### Installing PyTorch Package:

After installing Jetpack 6, download the PyTorch package directly from the PyTorch website using the command:

```
pip3 install torch torchaudio torchvision
```

### Checking CUDA Availability:

Run the following code to check if CUDA is available:

```
import torch
import torchaudio

if torch.cuda.is_available():
    print("CUDA is enabled.")
else:
    print("CUDA is not enabled.")

print("Torch version:", torch.__version__)
print("TorchVision version:", torchvision.__version__)
print("TorchAudio version:", torchaudio.__version__)
```

## Checking Nvidia GPU Status:

To check Nvidia GPU status, use the command:

```
nvidia-smi
```

**Hello,**

I'm using Jetpack 6 and installing it with the SDK manager. Below are the version information files that came after the installation:

```
jtop 4.2.7 - (c) 2024, Raffaello Bonghi [raffaello@rnext.it]
Website: https://rnext.it/jetson_stats

Platform
Machine: aarch64
System: Linux
Distribution: Ubuntu 22.04 Jammy Jellyfish
Release: 5.15.122-tegra
Python: 3.10.12

Serial Number: 1420424227856
Hardware
Model: NVIDIA Jetson Orin Nano Developer Kit
699-level Part Number: 699-13767-0005-300 M.1
P-Number: p3767-0005
Module: NVIDIA Jetson Orin Nano (Developer kit)
SoC: tegra234
CUDA Arch BIN: 8.7
L4T: 36.2.0
Jetpack: 6.0 DP

Libraries
CUDA: 12.2.140
cuDNN: 8.9.4.25
TensorRT: 8.6.2.3
VPI: 3.0.10
Vulkan: 1.3.204
OpenCV: 4.8.0 with CUDA: NO

Hostname: ubuntu
Interfaces
l4tbr0: 192.168.55.1
wlan0: 10.254.167.170
docker0: 172.17.0.1

1ALL 2GPU 3CPU 4MEM 5ENG 6CTRL 7INFO Quit (c) 2024, RB
```

## INSTALLATION

While installing, I'm precisely following the steps on the Nvidia website.

Additionally, I'm getting the same response with `nvcc --version`. Then, I'm downloaded the PyTorch package directly from the PyTorch website using `pip3 install torch torchaudio torchvision`. Finally, by running the code below, I'm obtaining version information:

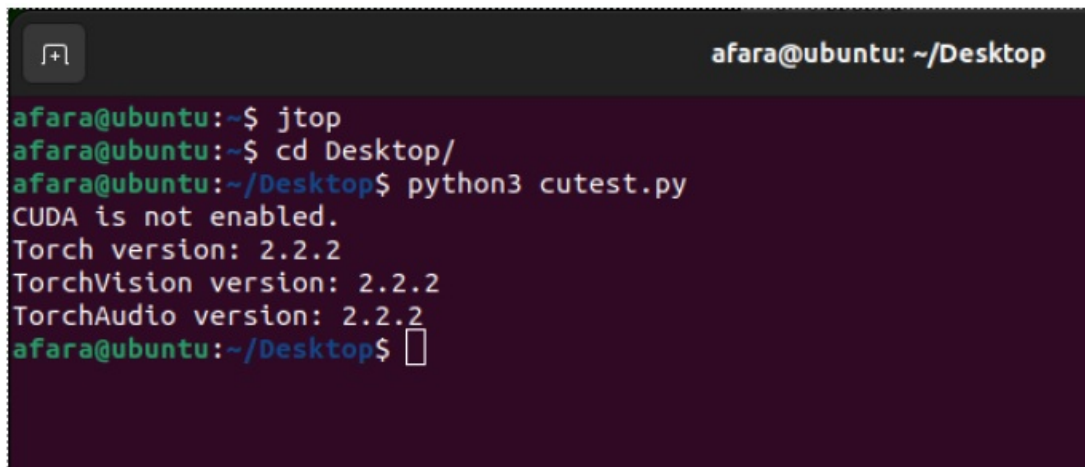
```
import torch
import torchaudio
```

```
# Check if CUDA is available
if torch.cuda.is_available(): print("CUDA is enabled.") else:
```

```
print("CUDA is not enabled.")
```

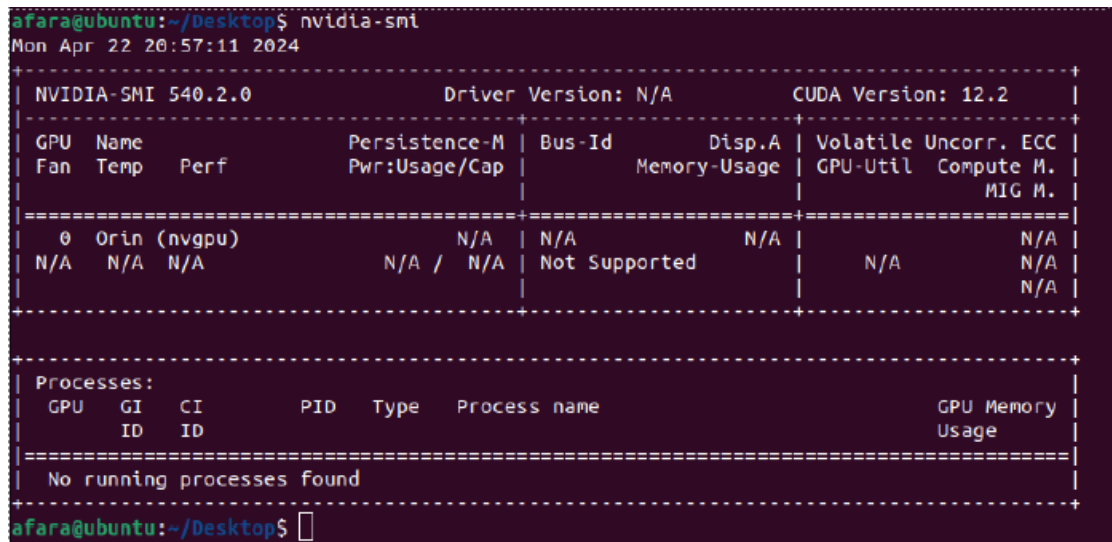
```
# Print Torch and TorchVision versions
print("Torch version:", torch.__version__) print("TorchVision version:", torch.__version__)
```

```
# Print TorchAudio version
print("TorchAudio version:", torchaudio.__version__)
```



```
afara@ubuntu: ~$ jtop
afara@ubuntu:~$ cd Desktop/
afara@ubuntu:~/Desktop$ python3 cutest.py
CUDA is not enabled.
Torch version: 2.2.2
TorchVision version: 2.2.2
TorchAudio version: 2.2.2
afara@ubuntu:~/Desktop$
```

Additionally, when I check with `nvidia-smi`, the only thing



```
afara@ubuntu:~/Desktop$ nvidia-smi
Mon Apr 22 20:57:11 2024

+-----+
| NVIDIA-SMI 540.2.0                  Driver Version: N/A          CUDA Version: 12.2        |
+-----+-----+
| GPU   Name                Persistence-M | Bus-Id  Disp.A | Volatile Uncorr. ECC |
| Fan  Temp  Perf              Pwr:Usage/Cap |         Memory-Usage | GPU-Util  Compute M. |
|                                           MIG M. |
+-----+-----+
|  0  Orin (nvgpu)                N/A      |  N/A     N/A    |           N/A        |
| N/A   N/A   N/A               N/A /  N/A | Not Supported      |           N/A        |
+-----+-----+

+-----+
| Processes:                          |
| GPU   GI   CI        PID   Type   Process name                      GPU Memory |
| ID   ID   ID           |          |                     Usage          |
+-----+-----+
| No running processes found          |
+-----+

afara@ubuntu:~/Desktop$
```

I've downloaded many different versions, but the result didn't change, I couldn't activate CUDA. I've reinstalled it many times. I've tried it with a Linux Ubuntu 22.04 computer via SDK Manager and also tried it with a Windows device, but nothing changed.

**Note:** I've also downloaded these libraries using pip3 and conda (miniconda3), but the result didn't change. While providing the versions, I request you to share how to download them and, if possible, the terminal commands.

**Note:** When I print rand after importing the torch library, I received a response, so the torch part also worked. We're quite exhausted and our work has been greatly delayed due to all of these situations. We urgently request your assistance. We kindly ask you to please provide us with a quick response on this matter.

## How i download conda

I downloaded the file first.

Then I ran ``bash Miniconda3-latest-Linux-x86_64.sh`` (worked)

## What else did I do for PyTorch?

**First, I got the entire folder.**

```
`git clone --recursive https://github.com/pytorch/pytorch`  
`cd pytorch`  
# if you are updating an existing checkout  
`git submodule sync`  
`git submodule update --init --recursive`
```

**Then I ran these codes inside the file.**

```
`conda install cmake ninja`  
# Run this command from the PyTorch directory after cloning the source code using the "Get the PyTorch Source"  
section below  
`pip install -r requirements.txt`
```

**I tried these commands but they didn't work (both inside and outside of pytorch).**

```
# Add this package on intel x86 processor machines only  
`conda install intel::mkl-static intel::mkl-include`  
# Add these packages if torch. distributed is needed  
`conda install pkg-config libuv`  
I tried adding this again with the above conda install intel, but the result didn't change. `export  
_GLIBCXX_USE_CXX11_ABI=1`  
And finally, I tried the following codes inside pytorch.
```

### #try 1

```
`export CMAKE_PREFIX_PATH=${CONDA_PREFIX:-"$(dirname $(which conda))/../"} `python setup.py develop`
```

### #try 2

```
`export CMAKE_PREFIX_PATH=${CONDA_PREFIX:-"$(dirname $(Miniconda3))/../"} `python setup.py develop`  
However, in both cases, after 80%, the Jetson froze and didn't come back. I checked if CUDA was active many  
times, but the result didn't change.  
I've really tried a lot of things.
```

I've watched a lot of videos, and now my head is quite confused. I need a step-by-step guide on what exactly I  
need to do.

I'm using Jetson Orin Nano (developer kit), Jetpack 6 Ubuntu 22.04."

- Best Regards,
- Good Works
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## Frequently Asked Questions

## How do I download conda?

To download conda, follow these steps:

- Download the Miniconda installer file.
- Run the following command in the terminal: `bash Miniconda3-latest-Linux-x86_64.sh`


## What else can I do for PyTorch installation?

To further set up PyTorch, follow these steps:

Clone the PyTorch repository using: `git clone --recursive https://github.com/pytorch/pytorch`

- Navigate into the cloned directory and run: `conda install cmake ninja`
- Install additional requirements by running: `pip install -r requirements.txt`
- If needed, add the following packages:
  - `conda install intel::mkl-static intel::mkl-include` (for Intel x86 processors)
  - `conda install pkg-config libuv` (if torch.distributed is needed)
- Set environment variable: `export _GLIBCXX_USE_CXX11_ABI=1`
- Try running the setup script with different CMAKE\_PREFIX\_PATH configurations.

## Documents / Resources

	<p><a href="#">Nvidia Jetpack 6 Jetson Orin Nano Software</a> [pdf] User Guide</p> <p>Jetpack 6 Jetson Orin Nano Software, Jetpack 6, Jetson Orin Nano Software, Orin Nano Software, Nano Software, Software</p>
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## References

- [GitHub - pytorch/pytorch: Tensors and Dynamic neural networks in Python with strong GPU acceleration](#)
- [User Manual](#)

[Manuals+](#), [Privacy Policy](#)

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