



NV200-20516

Military Jetson Orin NX IP65 Rugged Computer



User's Manual

Revision Date: Aug. 30, 2024



Safety Information

Electrical safety

- To prevent electrical shock hazard, disconnect the power cable from the electrical outlet before relocating the system.
- When adding or removing devices to or from the system, ensure that the power cables for the devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing system before you add a device.
- Before connecting or removing signal cables from the motherboard, ensure that all power cables are unplugged.
- Seek professional assistance before using an adapter or extension cord. These devices could interrupt the grounding circuit.
- Make sure that your power supply is set to the correct voltage in your area.
- If you are not sure about the voltage of the electrical outlet you are using, contact your local power company.
- If the power supply is broken, do not try to fix it by yourself. Contact a qualified service technician or your local distributor.

Operation safety

- Before installing the motherboard and adding devices on it, carefully read all the manuals that came with the package.
- Before using the product, make sure all cables are correctly connected and the power cables are not damaged. If you detect any damage, contact your dealer immediately.
- To avoid short circuits, keep paper clips, screws, and staples away from connectors, slots, sockets and circuitry.
- Avoid dust, humidity, and temperature extremes. Do not place the product in any area where it may become wet.
- Place the product on a stable surface.
- If you encounter any technical problems with the product, contact your local distributor

Statement

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- All product specifications are subject to change without prior notice



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Specifications

System

AI Performance	100 TOPS
GPU	NVIDIA® Ampere architecture with 1024 CUDA® cores and 32 Tensor Cores, max freq. 915MHz
CPU	8-core Arm® Cortex®-A78AE v8.2 64-bit CPU, 2MB L2 + 4MB L3, max freq. 2.0GHz
Memory	16GB 128-bit LPDDR5, 3200MHz, 102 GB/s
Expansion Slot	1x M.2 2280 M key (PCIe x4) 1x M.2 2230 M key (PCIe x1) 1x M.2 2030 E Key 1x UART 1x I2S 1x I2C 1x SPI 2x CSI 4-LANE or 4x CSI 2-LAN

Display

Display	1x HDMI 2.0(max resolution 3840x2160)
---------	---------------------------------------

Storage

M.2	1x PCIe x1 M.2 2230 M-Key up to 2TB
M.2	1x PCIe x4 M.2 2280 M-Key, up to 8TB

Ethernet

Ethernet	2x GbE LAN (10/100/1000 Mbps supported)
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Front I/O

Ground Screw	1x
Power In	18V~32V DC-IN with D38999 connector
X1	2x 1GbE LAN with D38999 connector
X2	1x CAN + 1x RS232/422/485 + 2x DI + 2x DO with D38999 connector
X3	1x HDMI with D38999 connector
Power Button	1x Power Button with Back light

Rear I/O

Access Panel	1x Reset Button
	1x Recover Button
	1x USB type-C for Recovery
	2x USB Type-C

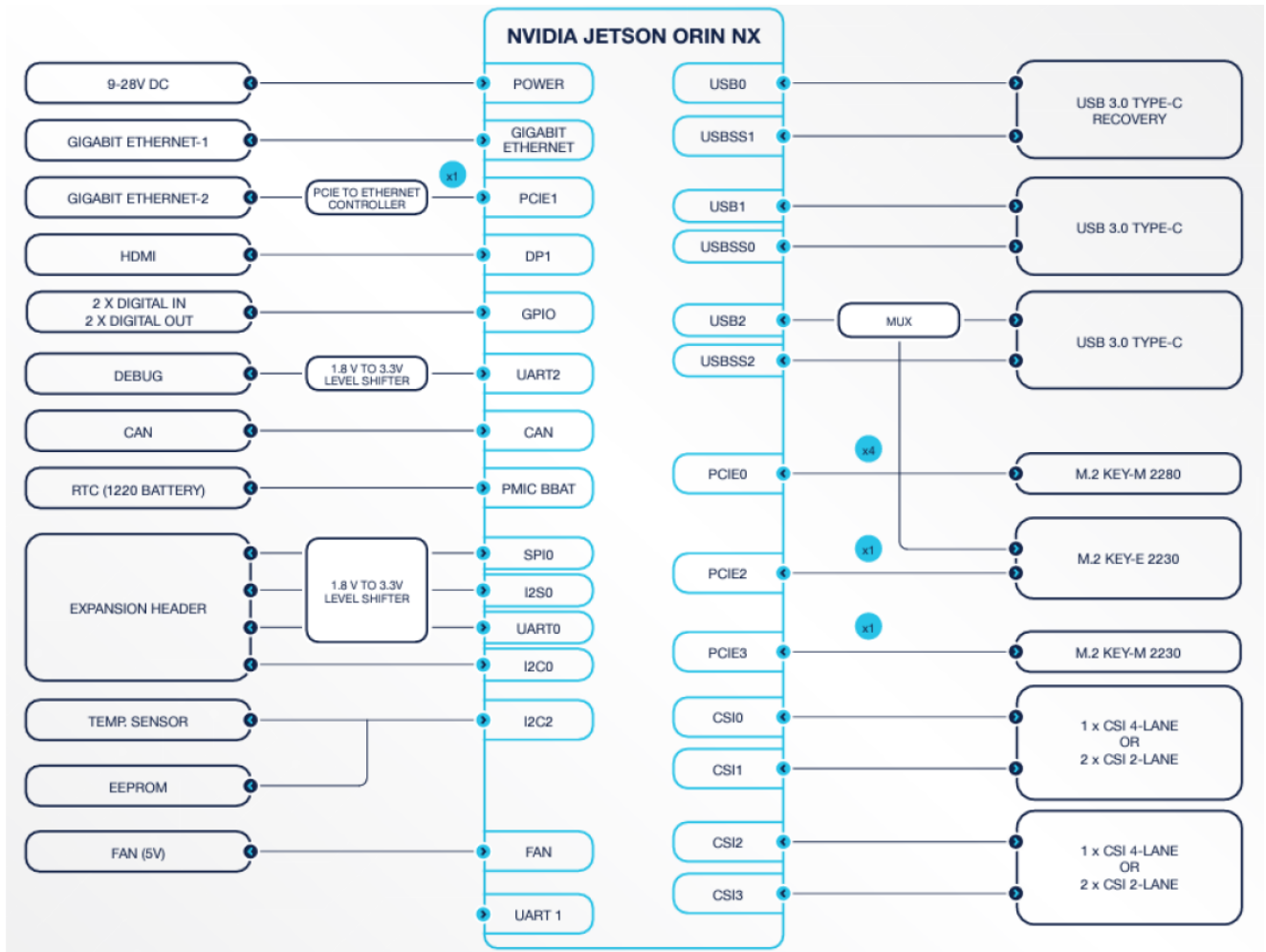
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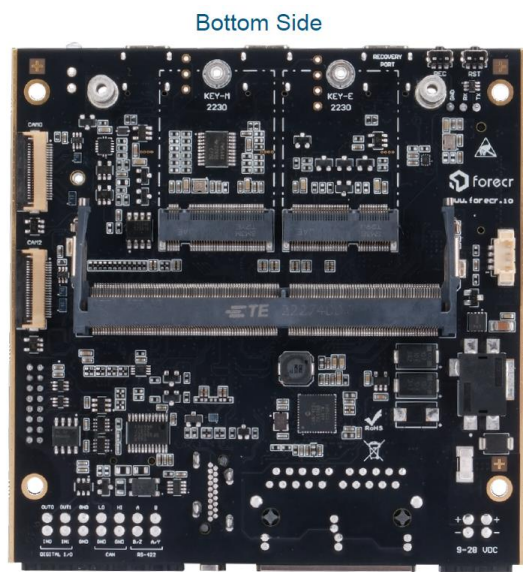
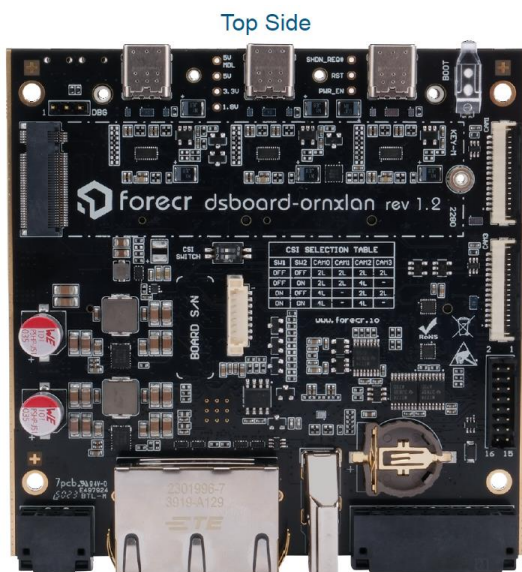


	1x Reboot LED
3G-SDI	2x 3G-SDI in + 2x 3G-SDI out with BNC connector
GMSL	2x2 mini-FAKRA GMSL(2) connector
Power Requirement	
Power Input	12V~32V DC-in
Applications, Operating System	
Applications	Energy/Smart Grid/Power Plant Management, Intelligent Automation and manufacturing applications/ AI
Operating System	Ubuntu 20.04 with JetPack5.X
Physical	
Dimension	220 x 300 x 88 mm (W x D x H)
Weight	3kg
Chassis	Aluminum Alloy
Heatsink	Aluminum Alloy, Corrosion Resistant
Finish	Anodic aluminum oxide
Environmental	
Compliance	MIL-STD-810G, IEC-61850-3, IEEE-1613, CE and FCC, RoHS
Operating Temp.	-20 to 55°C
Storage Temp.	-40 to 85°C
Relative Humidity	5% to 95%, non-condensing

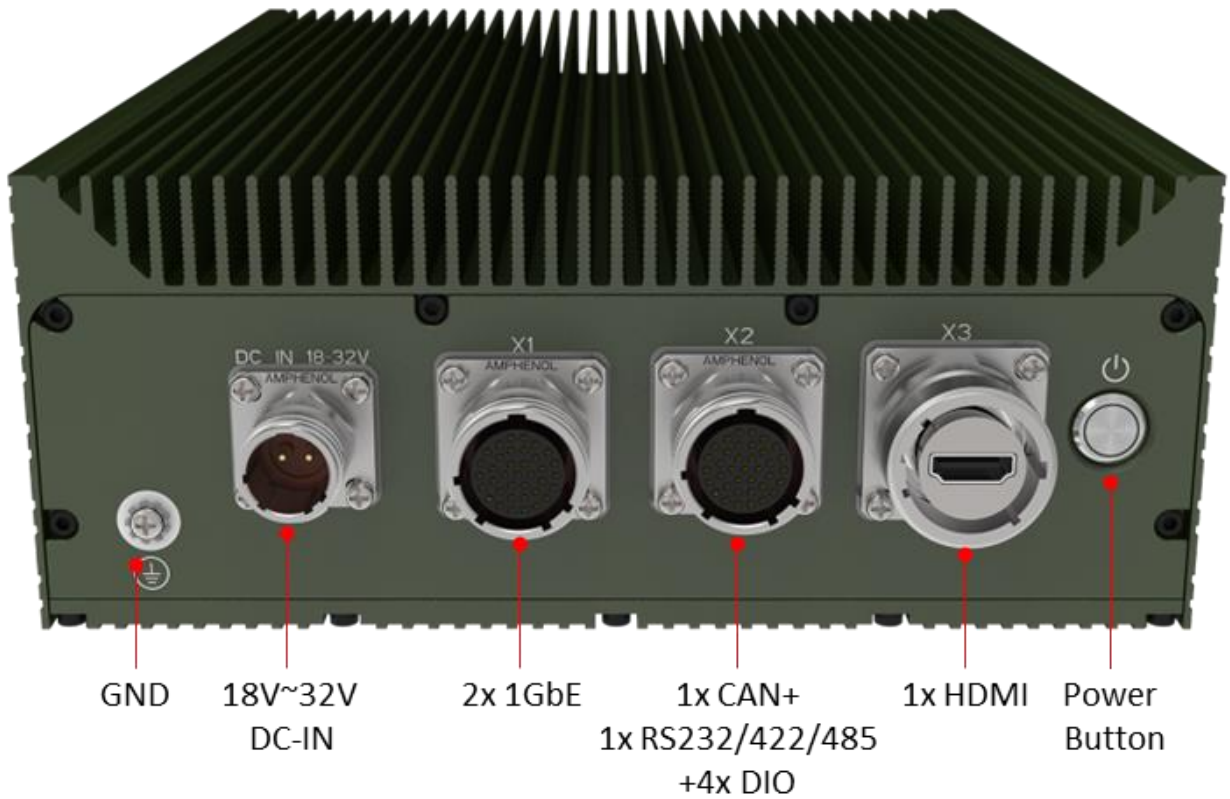
Block Diagram



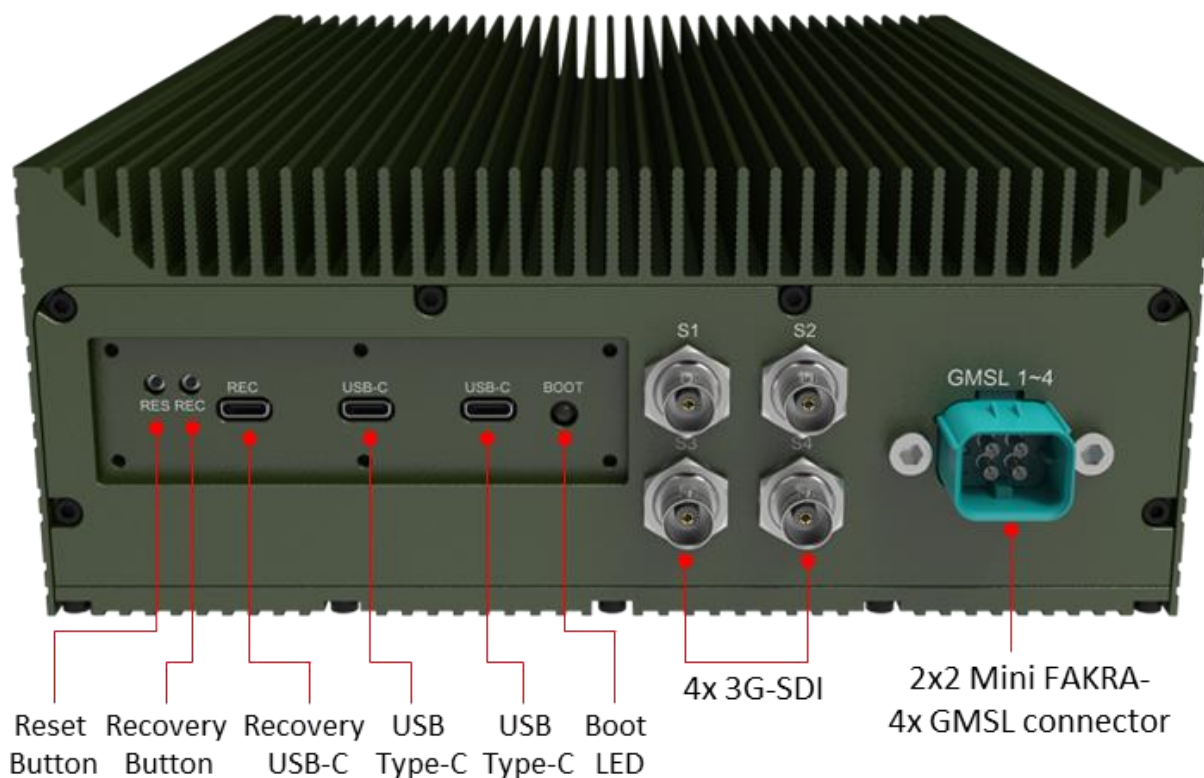
Board Visuals



Front/Rear IO Visuals

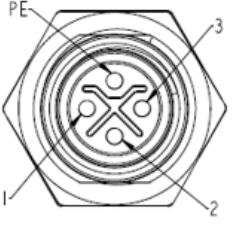


List of Connectors & Buttons



Definition of each I/O

DC Power IN:



Pin Assignment
Front View

	CON1				
棕	1/2	→	TN1	VIN+	外被 接地線綠色
藍	3/PE	→	TN2	VIN -	外被 接地線黑色

X1: 2x 1GbE LAN

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CON1 Amphenol LTW M12A-08PFFS-SF8001		CON2 RJ45 W/metal		Cable color
1	D1+	1	White/Orange	White/Orange
2	D1-	2	Orange	Orange
3	D2+	3	White/Green	White/Green
4	D2-	6	Green	Green
5	D3+	5	White/Blue	White/Blue
6	D3-	4	Blue	Blue
7	D4+	7	White/Brown	White/Brown
8	D4-	8	Brown	Brown
SHELL		SHELL		

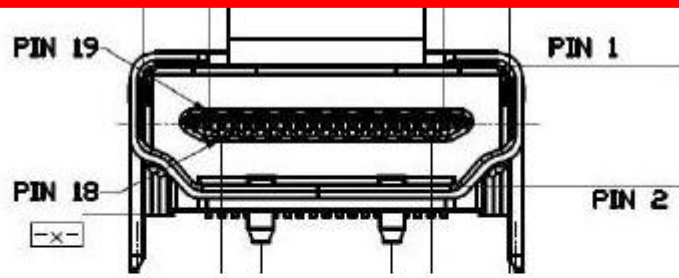
C1
Pin Assignments
Front View

C1
Recommended
Panel Cut-Out

X2: 1x CAN+1x RS232/422/485 + 4x DIO

Pin #	Signal Name
1	USB3.0_P5VA
2	USB2_CMAN
3	USB2_CMAP
4	GND
5	USB3A_CMRXN
6	USB3A_CMRXP
7	GND
8	USB3A_CMTXN
9	USB3A_CMTXP

X3: HDMI 2.0



Pin #	Signal	Pin #	Signal
1	HDMI_TX2_P	2	GND
3	HDMI_TX2_N	4	HDMI_TX1_P
5	GND	6	HDMI_TX1_N
7	HDMI_TX0_P	8	GND
9	HDMI_TX0_N	10	HDMI_CLK_P
11	GND	12	HDMI_CLK_N
13	CEC	14	NC
15	HDMI_SCL	16	HDMI_SDA
17	GND	18	+5 V Power
19	Hot Plug Detect	20	GND
21	GND	22	GND
23	GND		



Ordering Information

Model	NV200-2L8	NV200-2L16	NV200-2LG16	NV200-2LGS16
GPU	1024 NVIDIA® CUDA® cores with 32 Tensor cores, 765 MHz	1024 NVIDIA® CUDA® cores with 32 Tensor cores, 915 MHz	1024 NVIDIA® CUDA® cores with 32 Tensor cores, 915 MHz	1024 NVIDIA® CUDA® cores with 32 Tensor cores, 915 MHz
Memory	8GB	16GB	16GB	16GB
AI Performance	70 TOPs	100TOPs	100TOPs	100TOPs
CPU	six-core Arm® Cortex® A78AE v8.2 (64-bit) (4x 256KB L2 +2MB L3) + 4MB LLC	Eight-core Arm® Cortex® A78AE v8.2 (64-bit) (4x 256KB L2 +2MB L3) + 4MB LLC	Eight-core Arm® Cortex® A78AE v8.2 (64-bit) (4x 256KB L2 +2MB L3) + 4MB LLC	Eight-core Arm® Cortex® A78AE v8.2 (64-bit) (4x 256KB L2 +2MB L3) + 4MB LLC
Module total module power	10W 15W 20W	10W 15W 25W	10W 15W 25W	10W 15W 25W
Storage	1x M.2 2280 (up to 8TB)	1x M.2 2280 (up to 8TB)	1x M.2 2280 (up to 8TB)	N/A
	1x M.2 2230 (up to 2TB)	1x M.2 2230 (up to 2TB)	1x M.2 2230 (up to 2TB)	1x M.2 2230 (up to 2TB)
Front I/O				
Power In	18V-32VDC with D38999	18V-32VDC with D38999	18V-32VDC with D38999	18V-32VDC with D38999
X1	2x GbE LAN	2x GbE LAN	2x GbE LAN	2x GbE LAN
X2	1x RS232/422/485 +1x CAN+ 2x DI+2x DO	1x RS232/422/485 +1x CAN+ 2x DI+2x DO	1x RS232/422/485 +1x CAN+ 2x DI+2x DO	1x RS232/422/485 +1x CAN+ 2x DI+2x DO
X3	1x HDMI	1x HDMI	1x HDMI	1x HDMI
Rear I/O				
GMSL	N/A	N/A	4x	4x
3G-SDI	N/A	N/A	N/A	4x
Access Panel	1x Boot LED	1x Boot LED	1x Boot LED	1x Boot LED
	1x Reset Button	1x Reset Button	1x Reset Button	1x Reset Button
	1x Recovery Button	1x Recovery Button	1x Recovery Button	1x Recovery Button
	2x USB3.1 Type-C	2x USB3.1 Type-C	2x USB3.1 Type-C	2x USB3.1 Type-C
	1x USB3.1 Type-C for Recovery	1x USB3.1 Type-C for Recovery	1x USB3.1 Type-C for Recovery	1x USB3.1 Type-C for Recovery
Dimensions				
	220 x 300 x 88mm(WxDxH)	220 x 300 x 88mm(WxDxH)	220 x 300 x 88mm(WxDxH)	220 x 300 x 88mm(WxDxH)

Software Information

Software Configuration

JetPack-5.x Installation can be found here:

<https://www.forecr.io/blogs/installation/jetpack-5-x-installation-for-dsboard-ornx-lan>

System Recovery

You will need a host PC in order to flash your client device with a new system image.

Host PC

Before flashing the image, you should prepare an OTG cable (USB Type-C) for connecting to NV200-2LGS16 (recovery port), and a host PC with USB Type-A running Ubuntu 20.04.

JetPack-5.x Installation for NV200-2LGS16.

In this tutorial, we will install JetPack-5 for NV200-2LGS16. First, we will include our BSP files in Jetson OS image. Then, we will install the Jetson OS into the NV200-2LGS16. Finally, we will install the Jetson SDK

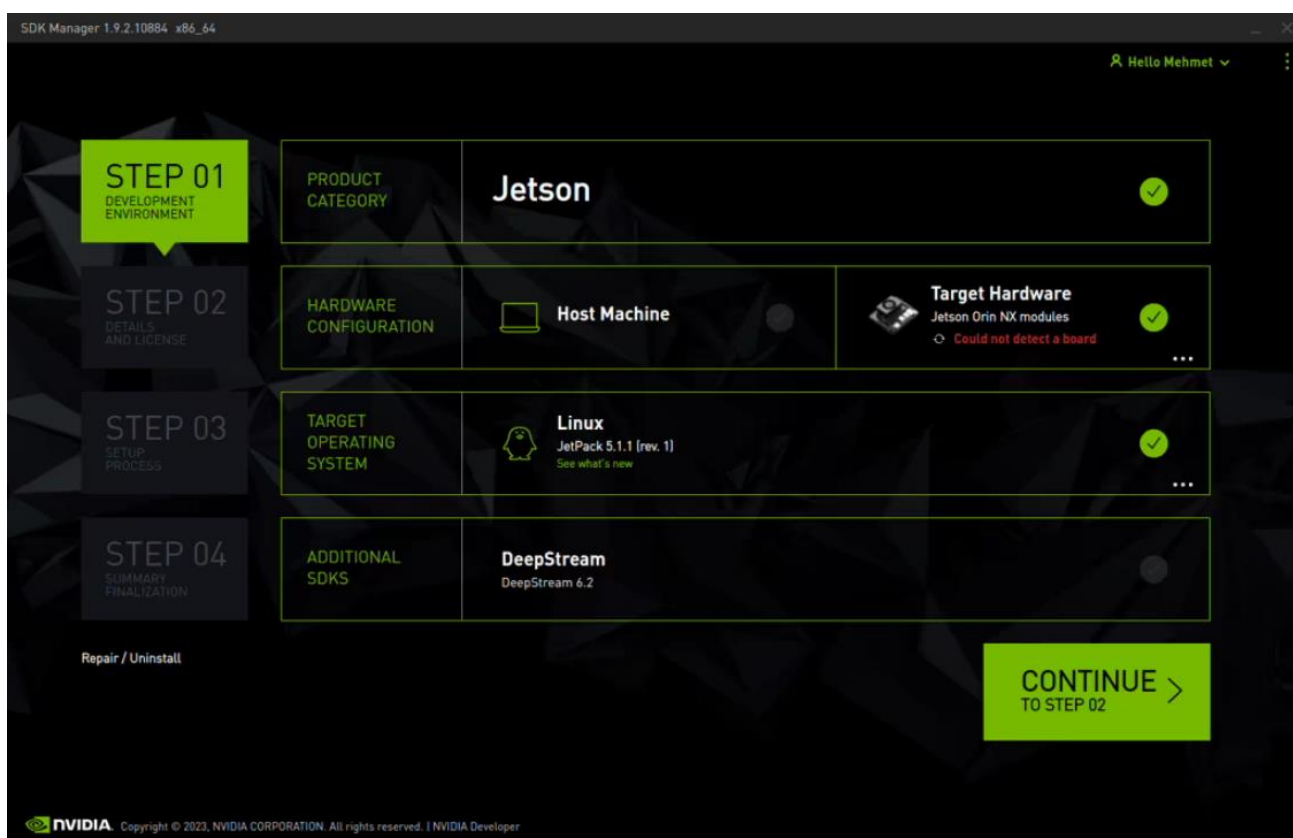
components into it.

Attention: This tutorial is compatible for all types of Jetson Orin NX and Orin Nano modules. Only the BSP archive differs.

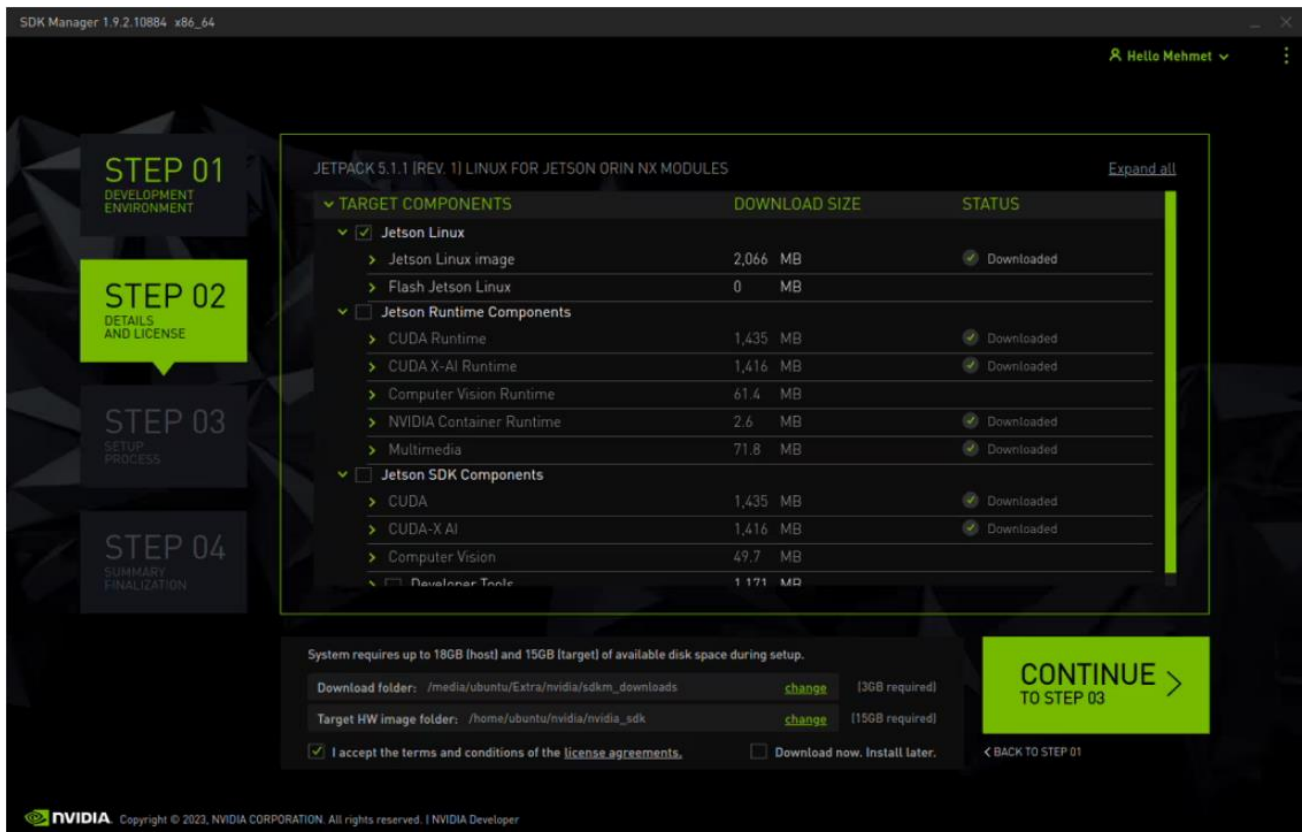
Including the Kernel Files in Jetson OS Image

Open the NVIDIA SDK Manager (<https://developer.nvidia.com/sdk-manager>). Select the correct JetPack version for Target Operating System and select the correct module for your installation (“Jetson Orin Nano modules” or “Jetson Orin NX modules”). The “Host Machine” components are not required.

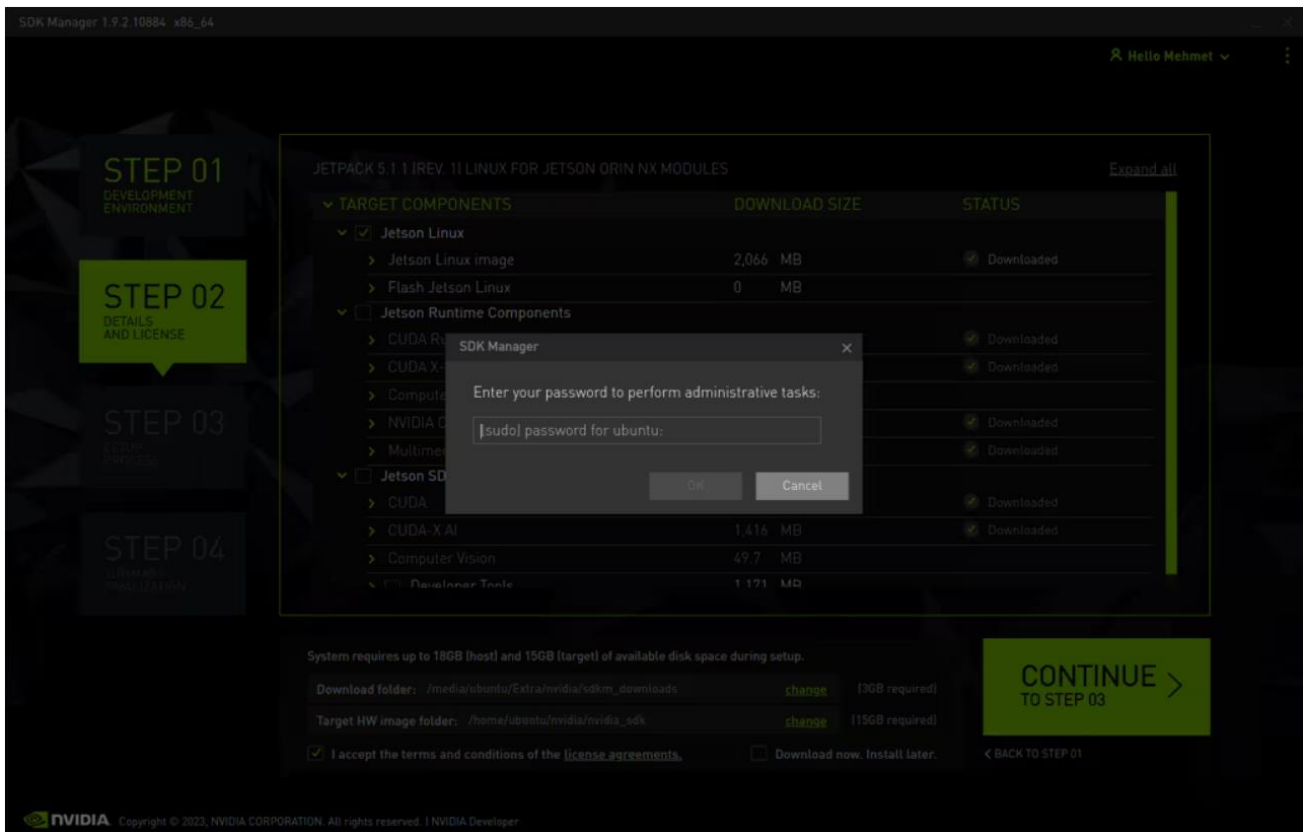
Then, continue to Step 2.

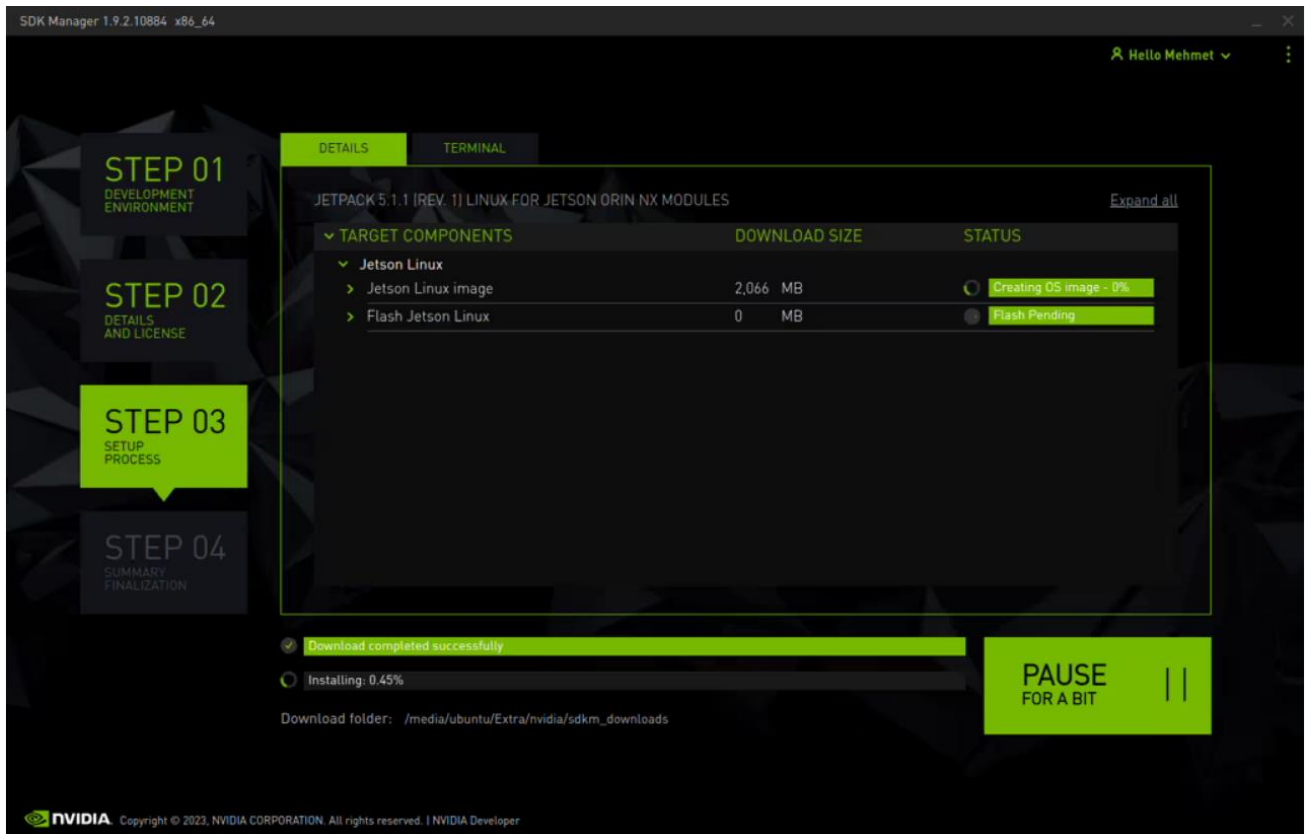


Choose only “Jetson Linux”, accept the terms & conditions and continue to Step 3.

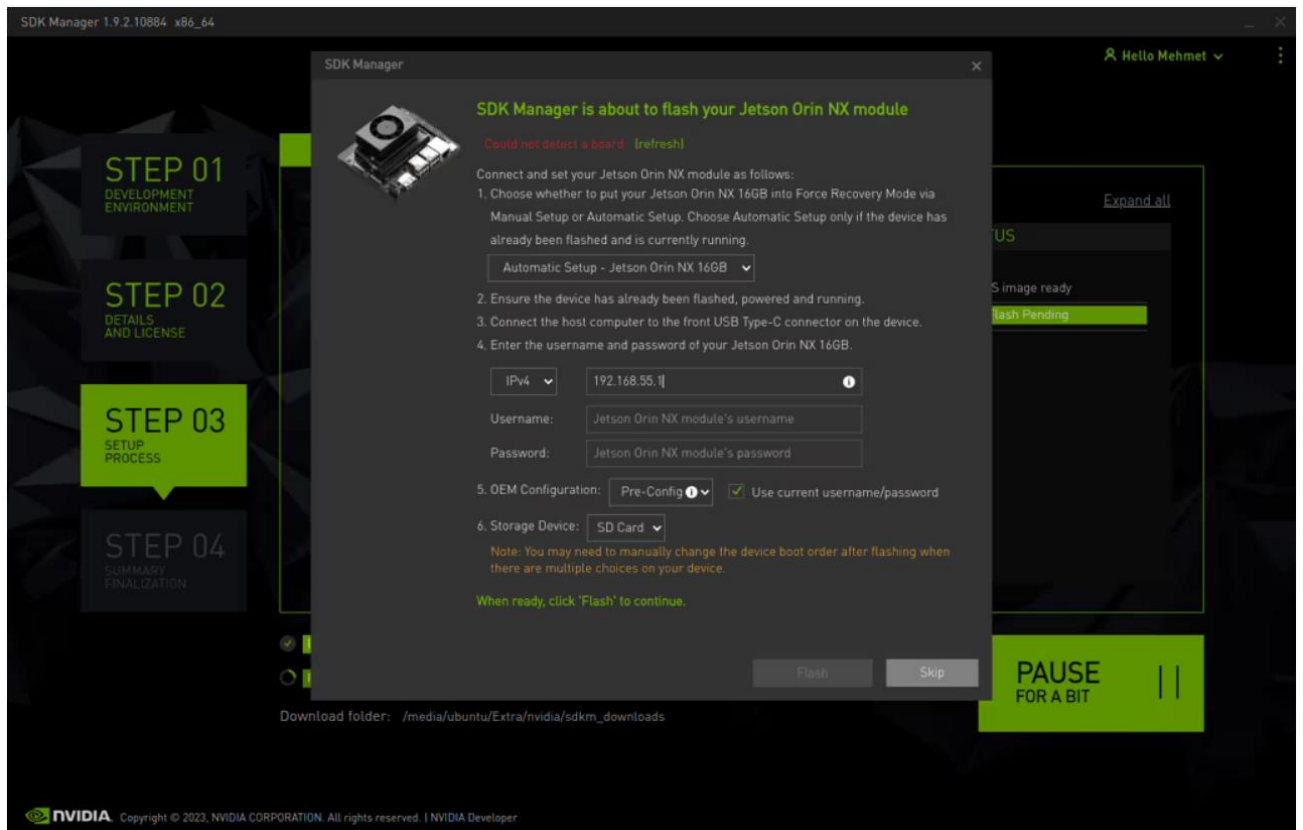


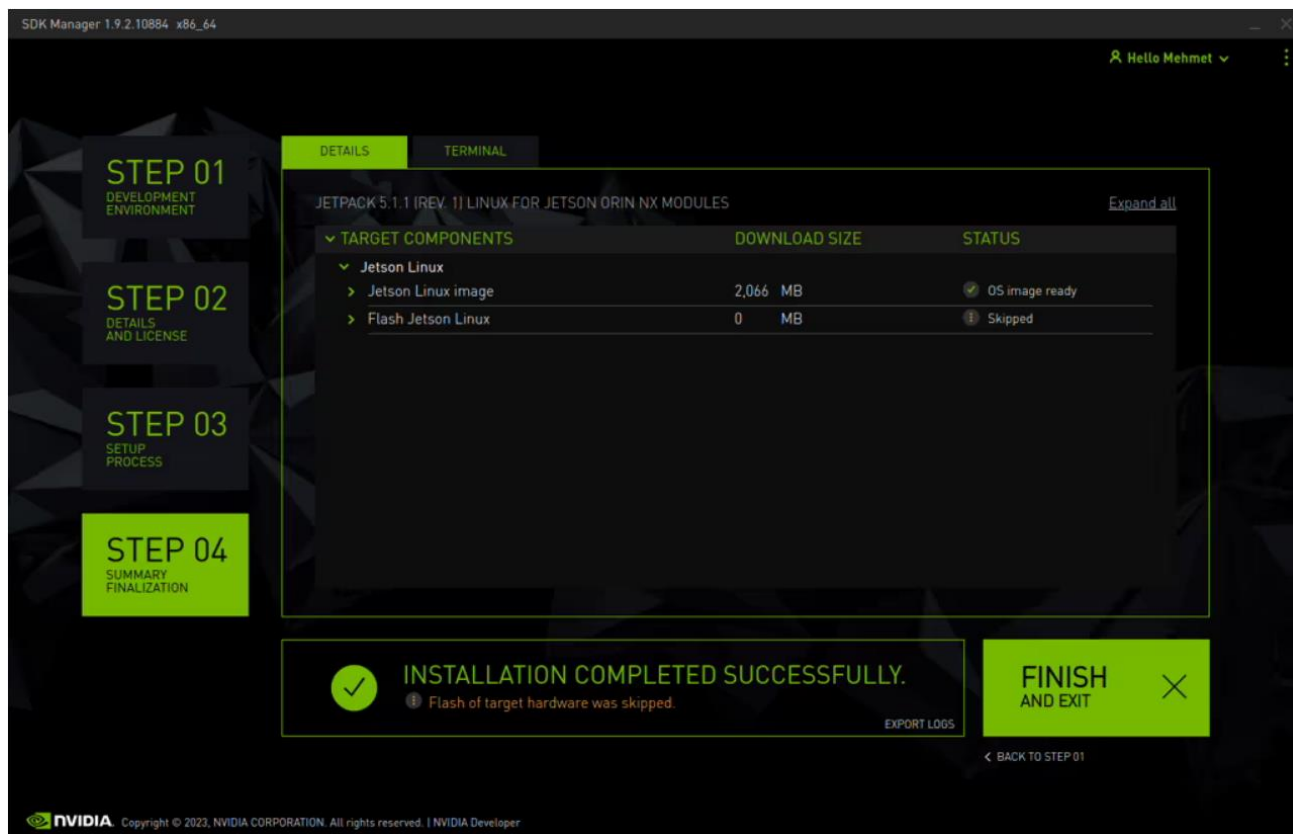
The SDK Manager will ask the username's password. Fill it and continue.





After the Jetson OS has created, the SDK Manager asks the Jetson module's flashing style. Just skip it and exit from the SDK Manager.





Open the target HW image folder.

For JetPack-5.1.1

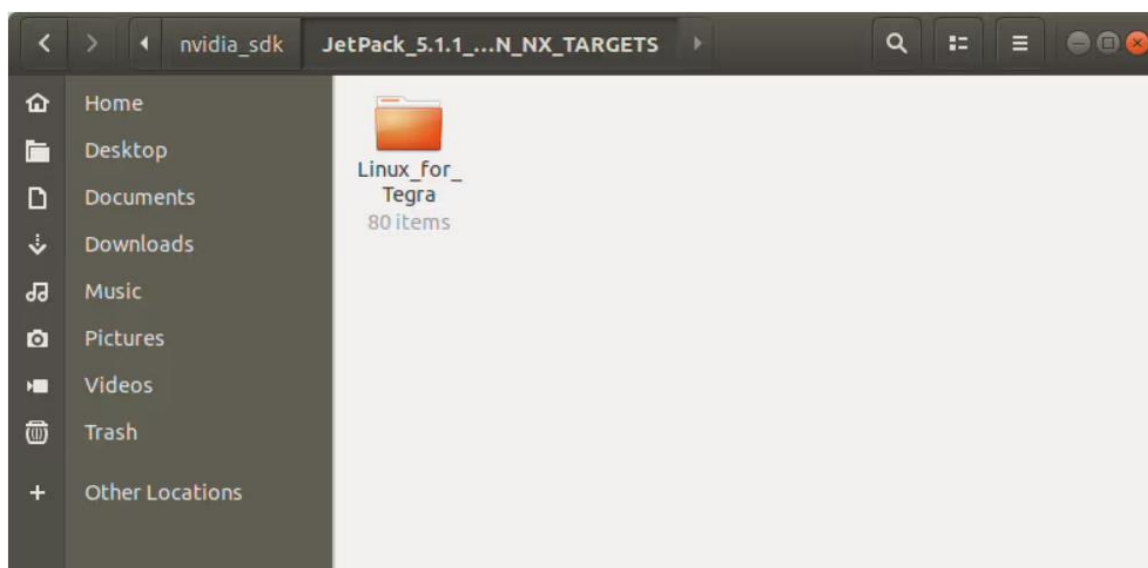
Orin NX: `~/nvidia/nvidia_sdk/JetPack_5.1.1_Linux_JETSON_ORIN_NX_TARGETS/`

For JetPack-5.1.2

Orin NX: `~/nvidia/nvidia_sdk/JetPack_5.1.2_Linux_JETSON_ORIN_NX_TARGETS/`

For JetPack-5.1.3

Orin NX: `~/nvidia/nvidia_sdk/JetPack_5.1.3_Linux_JETSON_ORIN_NX_TARGETS/`



For JetPack-5.1.1

Download the BSP files from GitHub link and extract it (Orin NX, Orin Nano).

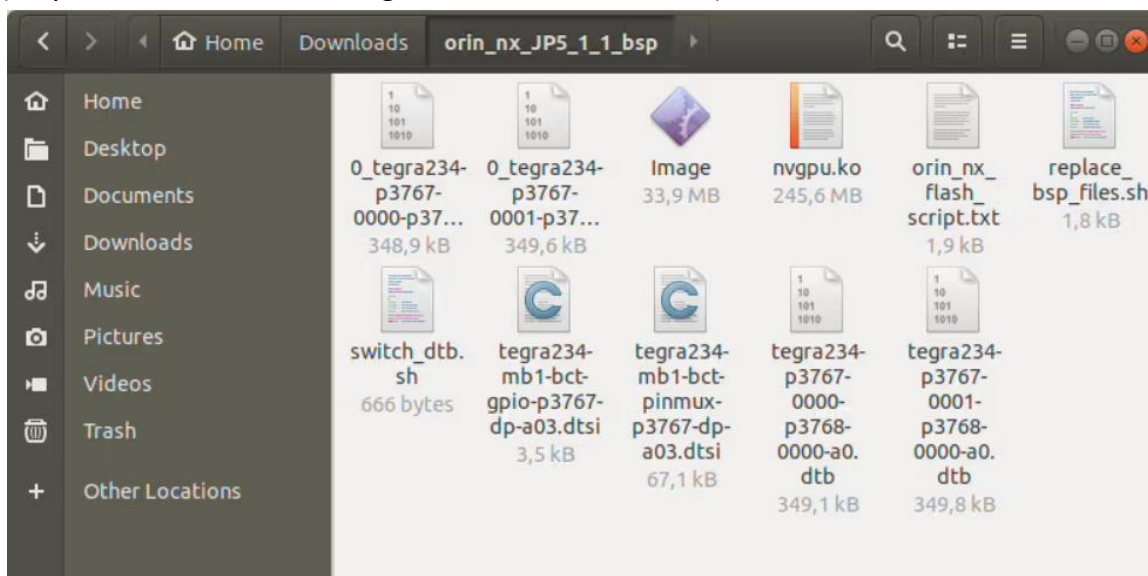
For JetPack-5.1.2

Download the BSP files from GitHub link and extract it (Orin NX, Orin Nano).

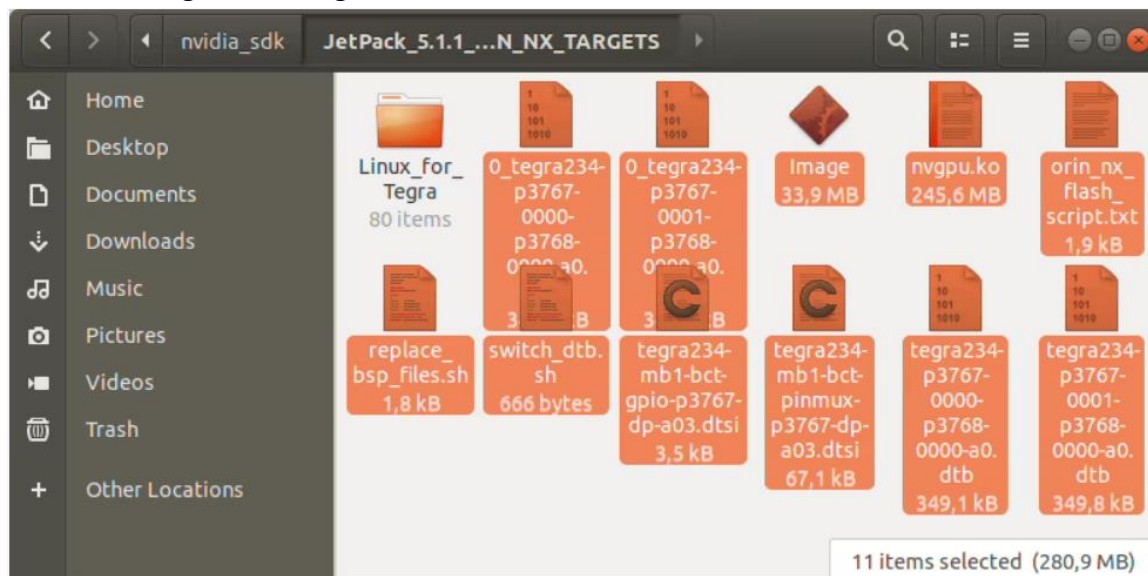
For JetPack-5.1.3:

Download the BSP files from GitHub link and extract it (Orin NX, Orin Nano)

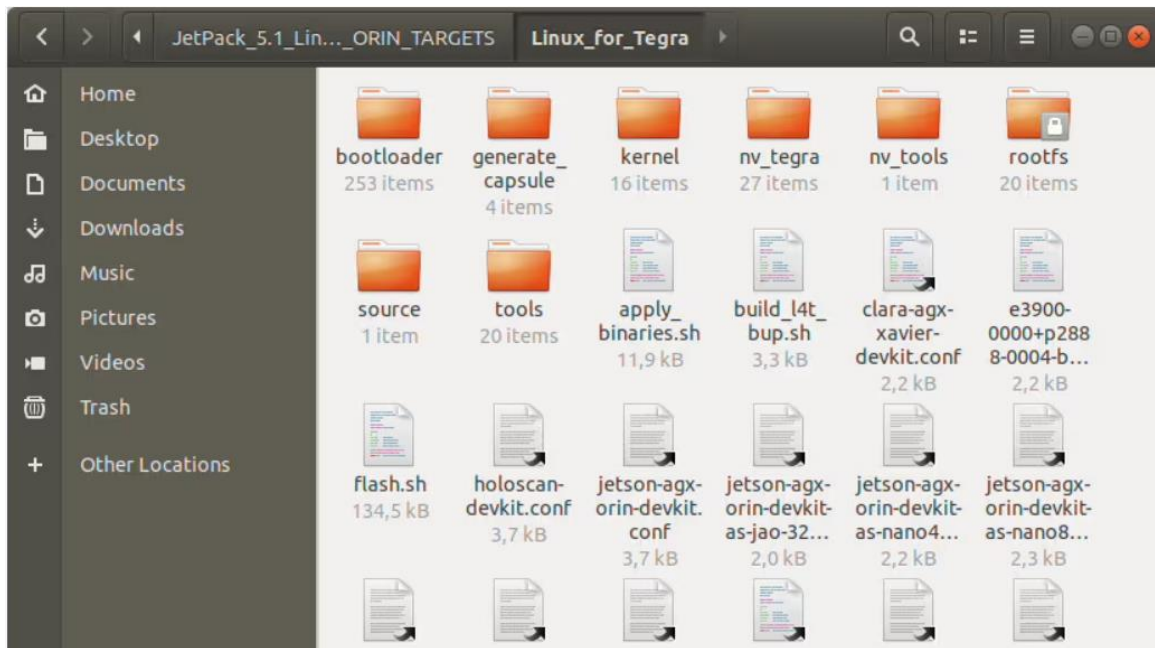
Hint: The following steps have done for Orin NX, but they are the same for the other Jetson module types (only the BSP files and flashing commands are different).



Copy all files to the target HW image folder.



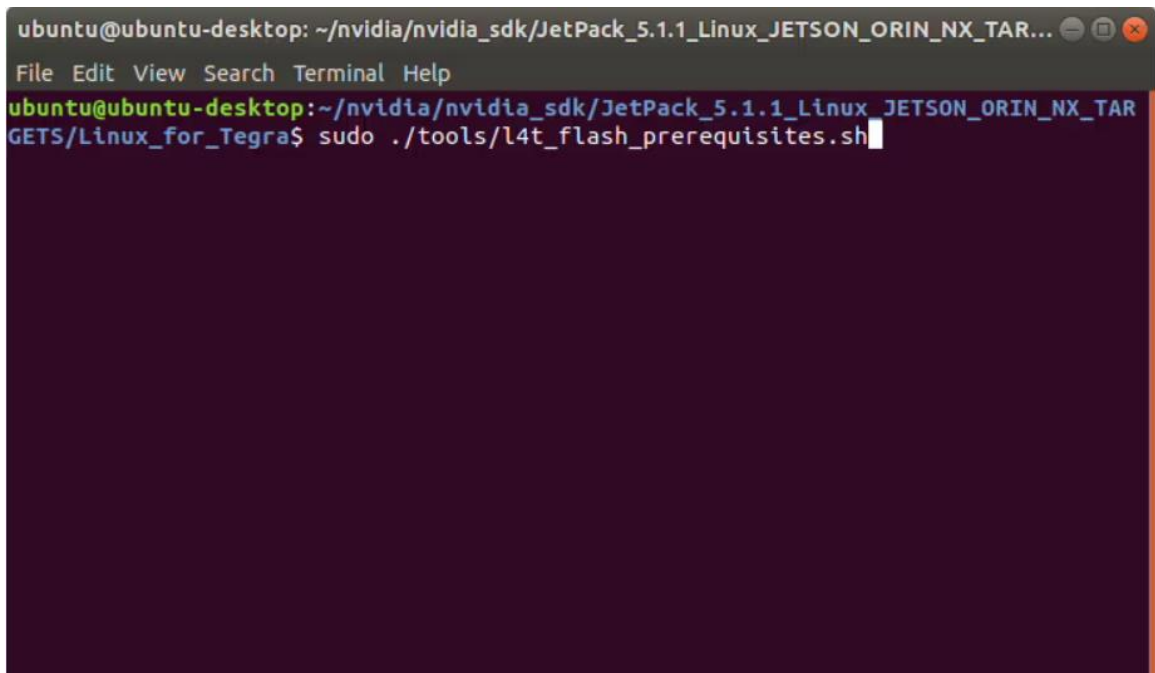
Open a Terminal in the "Linux_for_Tegra" folder.



Create the system binaries with these commands below:

```
sudo ./tools/l4t_flash_prerequisites.sh
```

```
sudo ./apply_binaries.sh
```




```
ubuntu@ubuntu-desktop: ~/nvidia/nvidia_sdk/JetPack_5.1.1_Linux_JETSON_ORIN_NX_TAR...
File Edit View Search Terminal Help
libclucene-core1v5 libcmis-0.5-5v5 libcolamd2 libcommons-logging-java
libcommons-parent-java libconfuse-common libconfuse2 libe-book-0.1-1
libel-api-java libeot0 libepubgen-0.1-1 libetonyek-0.1-1 libexttextcat-2.0-0
libexttextcat-data libfreehand-0.1-1 libgpgmepp6 libgtkmm-3.0-1v5
libhsqldb1.8.0-java libjsp-api-java liblangtag-common liblangtag1 libmhash2
libmng2 libmispub-0.1-1 libmwaw-0.3-3 libmythes-1.2-0 libneon27-gnutls
libodfgen-0.1-1 liborcus-0.13-0 libpagemaker-0.0-0 libqt4-dbus
libqt4-declarative libqt4-network libqt4-script libqt4-sql libqt4-sql-mysql
libqt4-xml libqt4-xmlpatterns libqtcore4 libqtdbus4 libqtgui4 libraptor2-0
librasqal3 librdf0 librevenge-0.0-0 libservlet-api-java libservlet3.1-java
libsuitesparseconfig5 libvisio-0.1-1 libwebsocket-api-java libwpd-0.10-10
libwpg-0.3-3 libwps-0.4-4 libxmlsec1 libxmlsec1-nss
linux-hwe-5.4-headers-5.4.0-100 linux-hwe-5.4-headers-5.4.0-107
linux-hwe-5.4-headers-5.4.0-109 linux-hwe-5.4-headers-5.4.0-124
linux-hwe-5.4-headers-5.4.0-84 linux-image-5.4.0-125-generic
linux-modules-5.4.0-125-generic linux-modules-extra-5.4.0-125-generic
linux-objects-nvidia-510-5.4.0-100-generic
linux-objects-nvidia-510-5.4.0-105-generic lp-solve qdbus qt-at-spi
qtchooser qtcore4-l10n smartmontools suckless-tools unetbootin-translations
uno-libs3 ure
Use 'sudo apt autoremove' to remove them.
0 upgraded, 0 newly installed, 0 to remove and 200 not upgraded.
ubuntu@ubuntu-desktop:~/nvidia/nvidia_sdk/JetPack_5.1.1_Linux_JETSON_ORIN_NX_TAR
GETS/Linux_for_Tegra$ sudo ./apply_binaries.sh
```

Apply the new BSP files and interface configurations with the following commands below:

```
cd ..
sudo ./replace_bsp_files.sh
cd Linux_for_Tegra/
```

```
ubuntu@ubuntu-desktop: ~/nvidia/nvidia_sdk/JetPack_5.1.1_Linux_JETSON_ORIN_NX_TAR...
File Edit View Search Terminal Help
ubuntu@ubuntu-desktop:~/nvidia/nvidia_sdk/JetPack_5.1.1_Linux_JETSON_ORIN_NX_TAR
GETS/Linux_for_Tegra$ cd ..
ubuntu@ubuntu-desktop:~/nvidia/nvidia_sdk/JetPack_5.1.1_Linux_JETSON_ORIN_NX_TAR
GETS$ sudo ./replace_bsp_files.sh
Done.
ubuntu@ubuntu-desktop:~/nvidia/nvidia_sdk/JetPack_5.1.1_Linux_JETSON_ORIN_NX_TAR
GETS$ cd Linux_for_Tegra/
ubuntu@ubuntu-desktop:~/nvidia/nvidia_sdk/JetPack_5.1.1_Linux_JETSON_ORIN_NX_TAR
GETS/Linux_for_Tegra$
```

Hint: If you want to configure your username-password & hostname with default settings, you can create user without the Ubuntu installation wizard. To do this, the user generation command structure should be:



```
sudo tools/l4t_create_default_user.sh -u {USERNAME} -p {PASSWORD} -a -n {HOSTNAME} --accept-license
```

For example (username:"nvidia", password:"nvidia", device-name:"nvidia-desktop"):

```
sudo tools/l4t_create_default_user.sh -u nvidia -p nvidia -a -n nvidia-desktop --accept-license
```

Jetson OS Installation

Connect the recovery USB (between installer PC & NV200-2LGS16's recovery USB) and power connection of your NV200-2LGS16.

While the NV200-2LGS16's power connector plugged in,

- press reset & recovery buttons together
- release reset button
- release the recovery button after 3 seconds later. This will set it to Recovery mode.

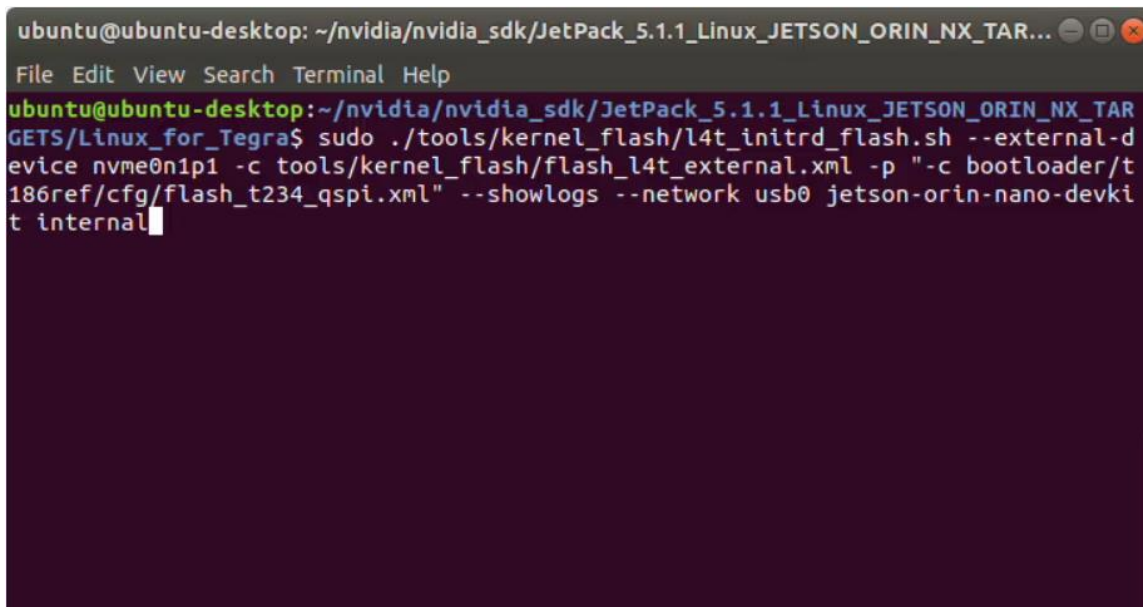
Then, type "lsusb" and check the device connected in Recovery mode.

- **"0955:7323 NVidia Corp."** for Orin NX 16GB
- "0955:7423 NVidia Corp." for Orin NX 8GB
- "0955:7523 NVidia Corp." for Orin Nano 8GB
- "0955:7623 NVidia Corp." for Orin Nano 4GB

```
ubuntu@ubuntu-desktop: ~/nvidia/nvidia_sdk/JetPack_5.1.1_Linux_JETSON_ORIN_NX_TAR...
File Edit View Search Terminal Help
ubuntu@ubuntu-desktop:~/nvidia/nvidia_sdk/JetPack_5.1.1_Linux_JETSON_ORIN_NX_TAR
GETS/Linux_for_Tegra$ lsusb
Bus 008 Device 001: ID 1d6b:0003 Linux Foundation 3.0 root hub
Bus 007 Device 019: ID 0c45:636d Microdia
Bus 007 Device 004: ID 046d:0a8f Logitech, Inc.
Bus 007 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub
Bus 006 Device 001: ID 1d6b:0003 Linux Foundation 3.0 root hub
Bus 005 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub
Bus 004 Device 001: ID 1d6b:0003 Linux Foundation 3.0 root hub
Bus 003 Device 003: ID 0b05:18f3 ASUSTek Computer, Inc.
Bus 003 Device 085: ID 03f0:134a Hewlett-Packard Optical Mouse
Bus 003 Device 084: ID 1c4f:0026 Sigma Micro Keyboard
Bus 003 Device 083: ID 0409:005a NEC Corp. HighSpeed Hub
Bus 003 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub
Bus 002 Device 001: ID 1d6b:0003 Linux Foundation 3.0 root hub
Bus 001 Device 003: ID 8087:0029 Intel Corp.
Bus 001 Device 002: ID 05e3:0610 Genesys Logic, Inc. 4-port hub
Bus 001 Device 080: ID 04b4:0003 Cypress Semiconductor Corp.
Bus 001 Device 081: ID 0955:7323 NVidia Corp.
Bus 001 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub
ubuntu@ubuntu-desktop:~/nvidia/nvidia_sdk/JetPack_5.1.1_Linux_JETSON_ORIN_NX_TAR
GETS/Linux_for_Tegra$
```

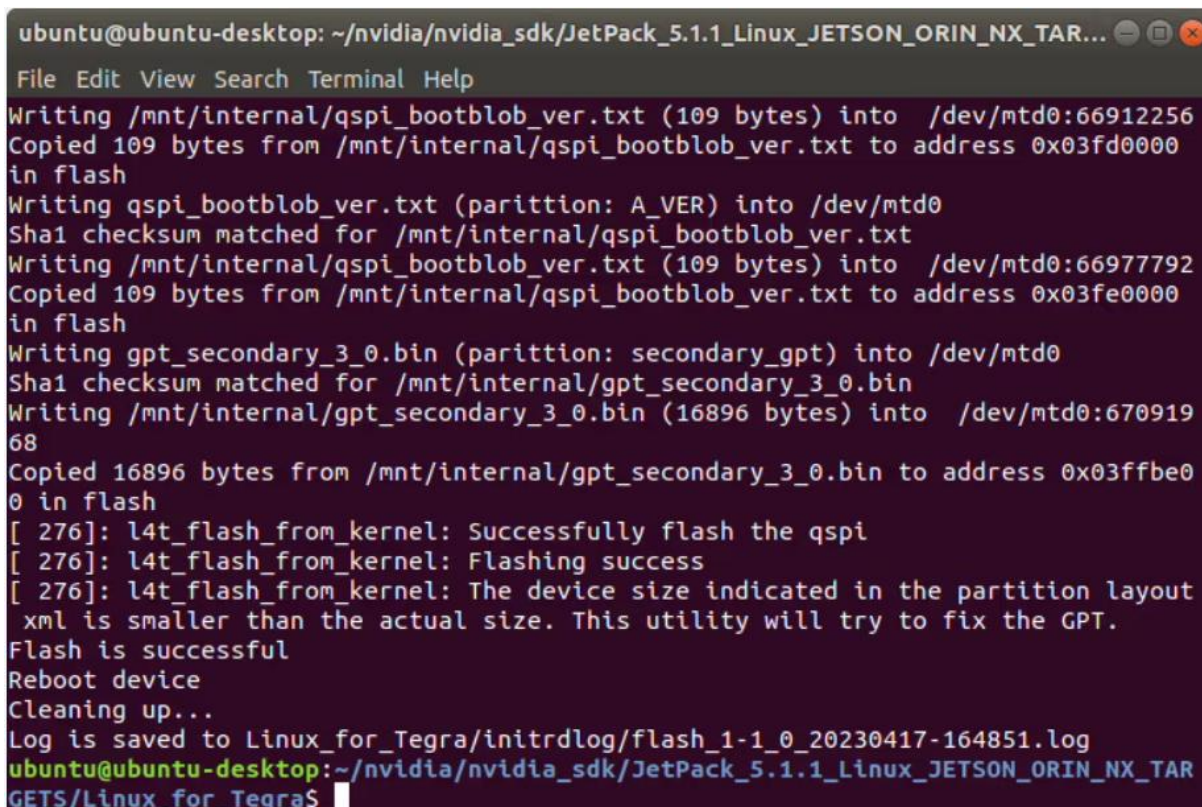
Flash the Jetson OS with this command below:

```
sudo ./tools/kernel_flash/l4t_initrd_flash.sh --external-device nvme0n1p1 -c
tools/kernel_flash/flash_l4t_external.xml -p "-c bootloader/t186ref/cfg/flash_t234_qspi.xml" --showlogs --network
usb0 jetson-orin-nano-devkit internal
```



```
ubuntu@ubuntu-desktop: ~/nvidia/nvidia_sdk/JetPack_5.1.1_Linux_JETSON_ORIN_NX_TAR...
File Edit View Search Terminal Help
ubuntu@ubuntu-desktop:~/nvidia/nvidia_sdk/JetPack_5.1.1_Linux_JETSON_ORIN_NX_TAR
GETS/Linux_for_Tegra$ sudo ./tools/kernel_flash/l4t_initrd_flash.sh --external-d
evice nvme0n1p1 -c tools/kernel_flash/flash_l4t_external.xml -p "-c bootloader/t
186ref/cfg/flash_t234_qspi.xml" --showlogs --network usb0 jetson-orin-nano-devki
t internal
```

At the end of the script, the device will reboot. Complete your Ubuntu installation wizard (if you have not created a user with tools/l4t_create_default_user.sh script file) from the DSBOARD-ORNX-LAN (language, keyboard type, location, username & password etc.).

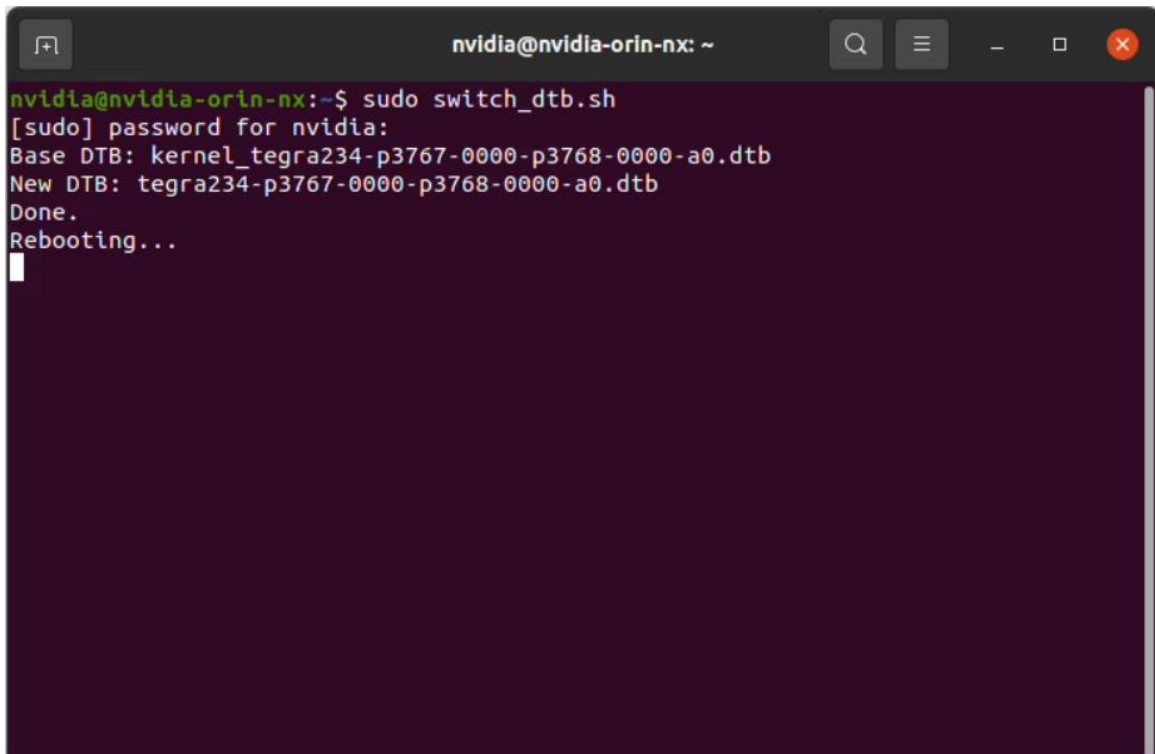


```
ubuntu@ubuntu-desktop: ~/nvidia/nvidia_sdk/JetPack_5.1.1_Linux_JETSON_ORIN_NX_TAR...
File Edit View Search Terminal Help
Writing /mnt/internal/qspi_bootblob_ver.txt (109 bytes) into /dev/mtd0:66912256
Copied 109 bytes from /mnt/internal/qspi_bootblob_ver.txt to address 0x03fd0000
in flash
Writing qspi_bootblob_ver.txt (parittion: A_VER) into /dev/mtd0
Sha1 checksum matched for /mnt/internal/qspi_bootblob_ver.txt
Writing /mnt/internal/qspi_bootblob_ver.txt (109 bytes) into /dev/mtd0:66977792
Copied 109 bytes from /mnt/internal/qspi_bootblob_ver.txt to address 0x03fe0000
in flash
Writing gpt_secondary_3_0.bin (parittion: secondary_gpt) into /dev/mtd0
Sha1 checksum matched for /mnt/internal/gpt_secondary_3_0.bin
Writing /mnt/internal/gpt_secondary_3_0.bin (16896 bytes) into /dev/mtd0:670919
68
Copied 16896 bytes from /mnt/internal/gpt_secondary_3_0.bin to address 0x03ffbe0
0 in flash
[ 276]: l4t_flash_from_kernel: Successfully flash the qspi
[ 276]: l4t_flash_from_kernel: Flashing success
[ 276]: l4t_flash_from_kernel: The device size indicated in the partition layout
xml is smaller than the actual size. This utility will try to fix the GPT.
Flash is successful
Reboot device
Cleaning up...
Log is saved to Linux_for_Tegra/initrdlog/flash_1-1_0_20230417-164851.log
ubuntu@ubuntu-desktop:~/nvidia/nvidia_sdk/JetPack_5.1.1_Linux_JETSON_ORIN_NX_TAR
GETS/Linux_for_Tegra$
```

[Optional] If you will use the recovery USB port as host (to be able to connect USB-2 & USB-3 devices), please open a terminal **from the Jetson Orin** and type the following command below. This will update its current device-tree and reboot it.

Otherwise, you can use this port for virtual network communication (file transfer etc. between host PC with 192.168.55.1 IP address) in default.

```
sudo switch_dtb.sh
```



```
nvidia@nvidia-orin-nx: ~  
nvidia@nvidia-orin-nx:~$ sudo switch_dtb.sh  
[sudo] password for nvidia:  
Base DTB: kernel_tegra234-p3767-0000-p3768-0000-a0.dtb  
New DTB: tegra234-p3767-0000-p3768-0000-a0.dtb  
Done.  
Rebooting...  
█
```




```
ubuntu@ubuntu-desktop: ~/nvidia/nvidia_sdk/JetPack_5.1.1_Linux_JETSON_AGX_ORIN_TA...
File Edit View Search Terminal Help
pt
[ 625.6922 ] Bootloader version 01.00.0000
[ 626.1584 ] Writing partition A_MEM_BCT with mem_coldboot_sigheader.bct.encrypt
[ 243712 bytes ]
[ 626.1588 ] [.....] 100%
[ 629.1610 ] tegradevflash_v2 --write B_MEM_BCT mem_coldboot_sigheader.bct.encrypt
pt
[ 629.1624 ] Bootloader version 01.00.0000
[ 629.6343 ] Writing partition B_MEM_BCT with mem_coldboot_sigheader.bct.encrypt
[ 243712 bytes ]
[ 629.6347 ] [.....] 100%
[ 632.6356 ] Flashing completed

[ 632.6356 ] Coldbooting the device
[ 632.6369 ] tegrarcv2 --chip 0x23 0 --ismb2
[ 632.6381 ] MB2 version 01.00.0000
[ 633.1064 ] Coldbooting the device
[ 633.1079 ] tegrarcv2 --chip 0x23 0 --reboot coldboot
[ 633.1092 ] MB2 version 01.00.0000
*** The target t186ref has been flashed successfully. ***
Reset the board to boot from internal eMMC.

ubuntu@ubuntu-desktop:~/nvidia/nvidia_sdk/JetPack_5.1.1_Linux_JETSON_AGX_ORIN_TA
RGETS/Linux_for_Tegra$
```

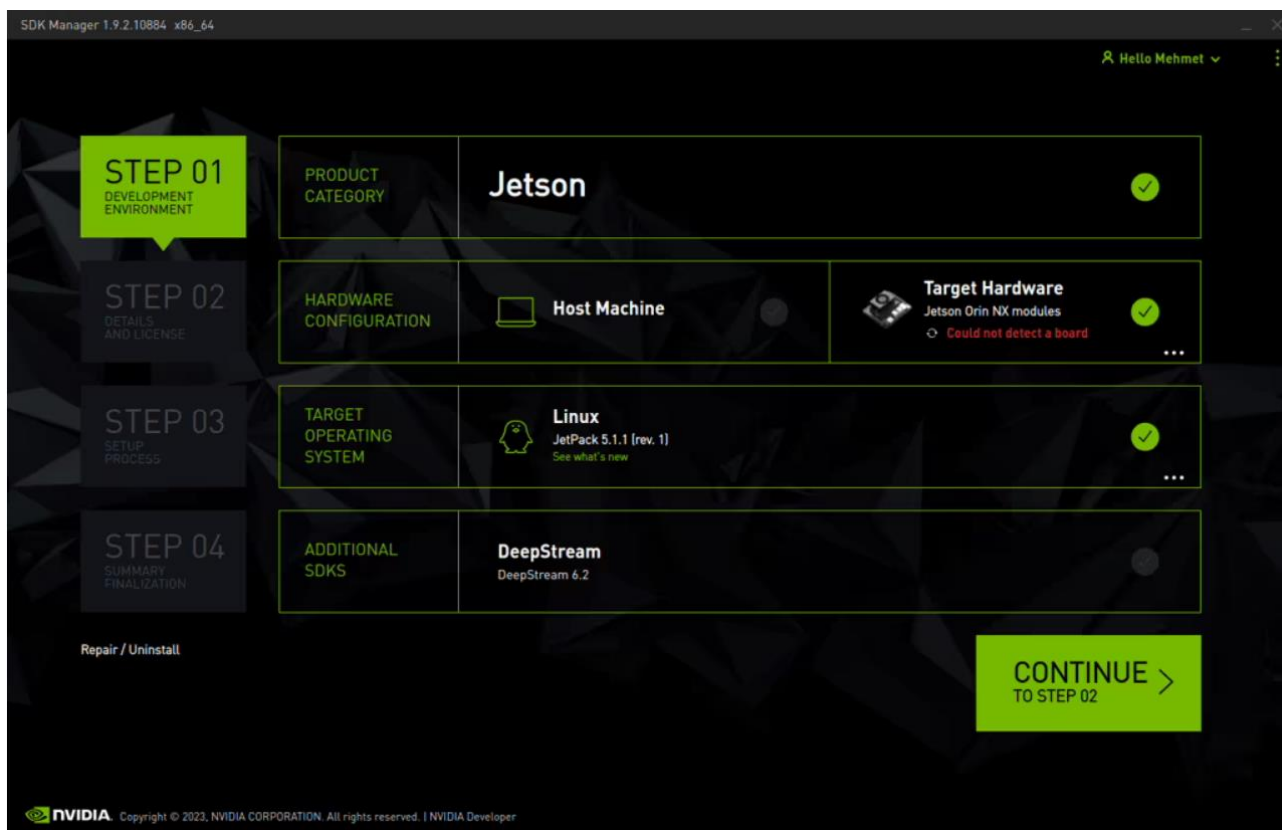
Jetson SDK Components Installation

[Optional] Delete LibreOffice & ThunderBird packages (if you don't need) and remove the unnecessary packages to increase the free space. To do this, type these commands to the NV200-2LGS16 side:

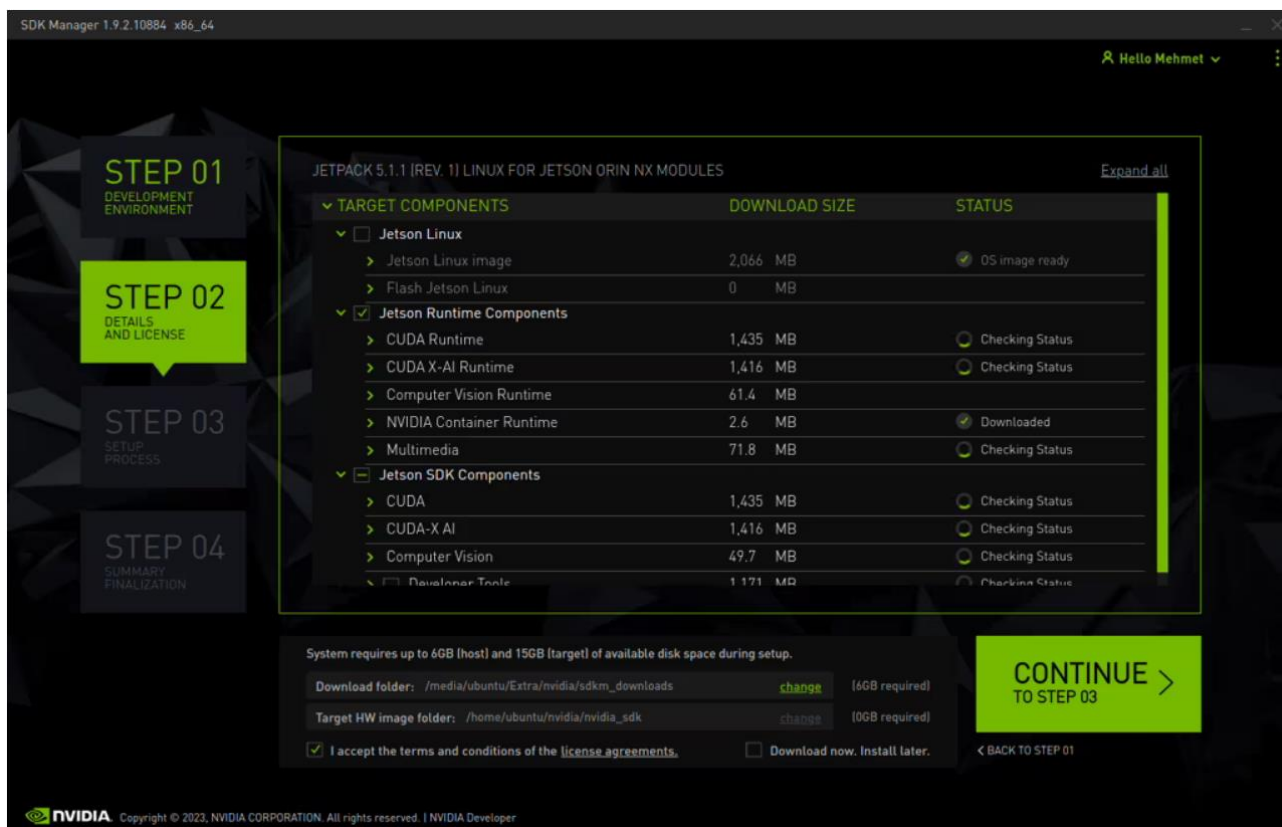
```
sudo apt remove -y libreoffice* thunderbird*
sudo apt autoremove -y
sudo apt clean
```

Connect the NV200-2LGS16 to the Ethernet. Then, Open the NVIDIA SDK Manager. Select the correct JetPack version for Target Operating System and select the correct module for your installation ("Jetson Orin Nano modules" or "Jetson Orin NX modules"). The "Host Machine" components are not required. (Additional SDKs (DeepStream) are optional).

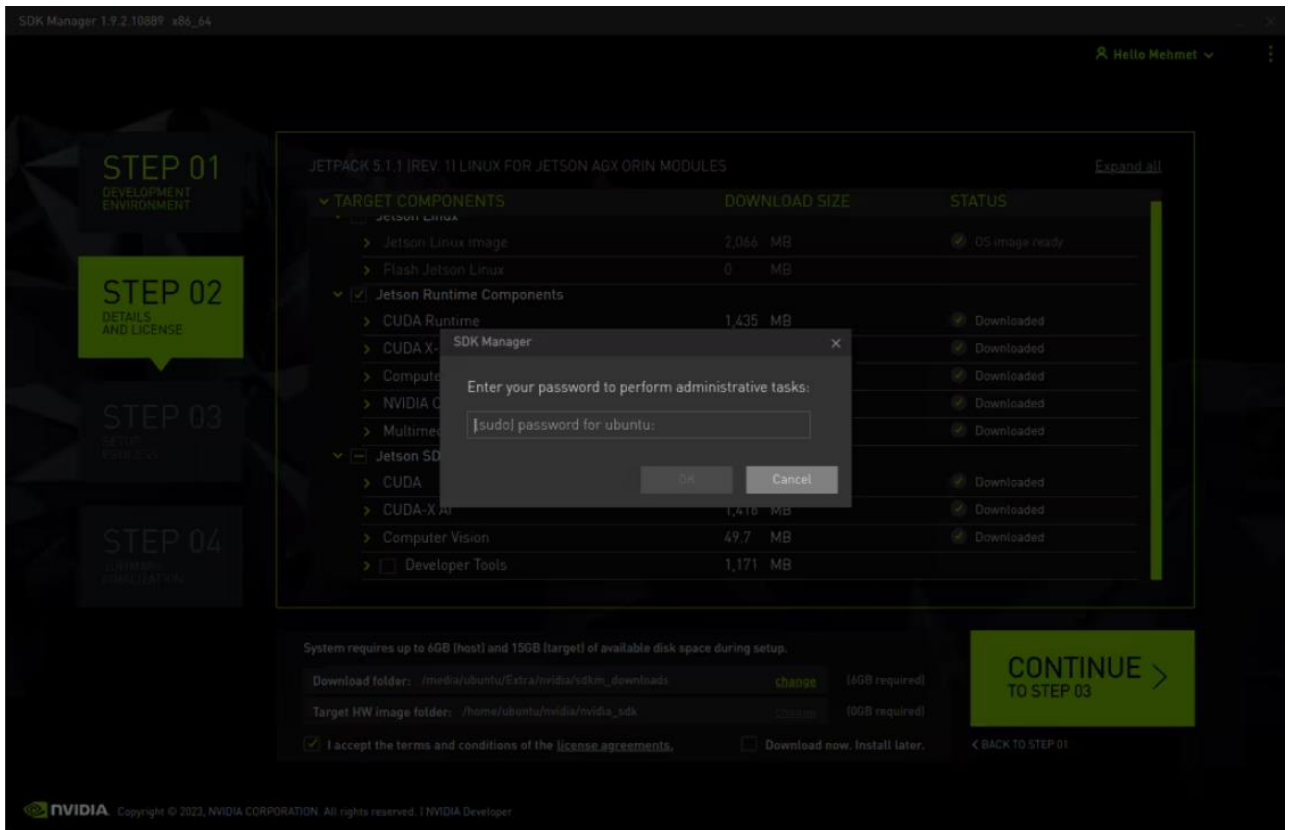
Then, continue to Step 2.



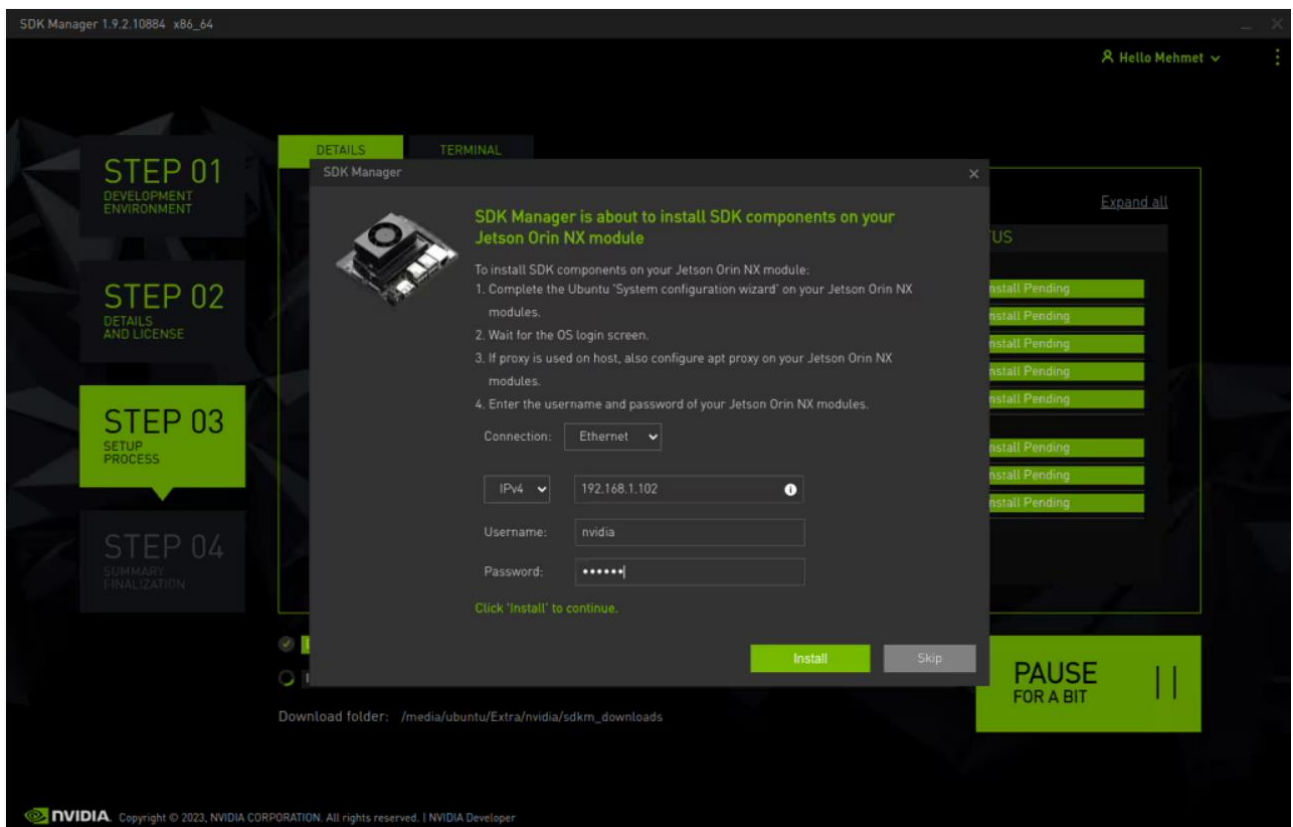
Choose at least “Jetson Runtime Components” (“Jetson SDK Components” are optional. It depends on your use case), accept the terms & conditions and continue to Step 3..



The SDK Manager will ask the username's password. Fill it and continue.



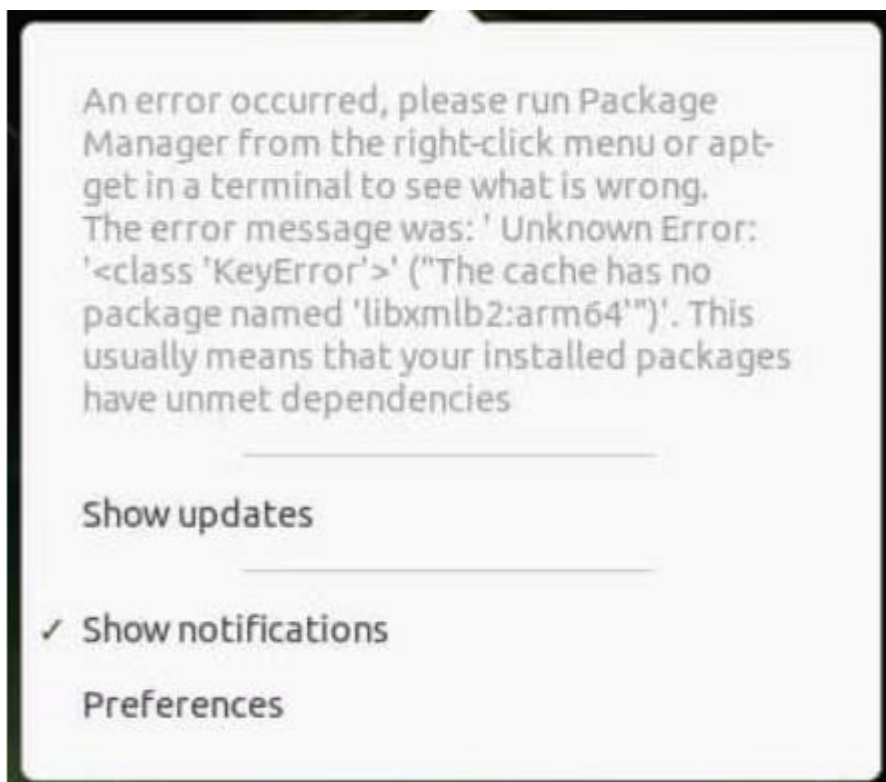
Type the IP address, username and password of Jetson Orin module and install the SDK Components.



At the end of the installation, the NV200-2LGS16 becomes ready.

To avoid kernel update with "apt upgrade" or "apt-get upgrade" commands, please follow this guide on the Jetson module.

Attention: If you will have unmet dependencies after the SDK components installed, please open a terminal from the Jetson side and type the following command below. This will fix the problem.



```
sudo apt install -y libxmlb2 ubuntu-advantage-desktop-daemon libfwupdplugin5 libpciaccess-dev ubuntu-pro-client*
```

Install the driver for Capture Card