Jetson Flashing Guide.

April, 2018

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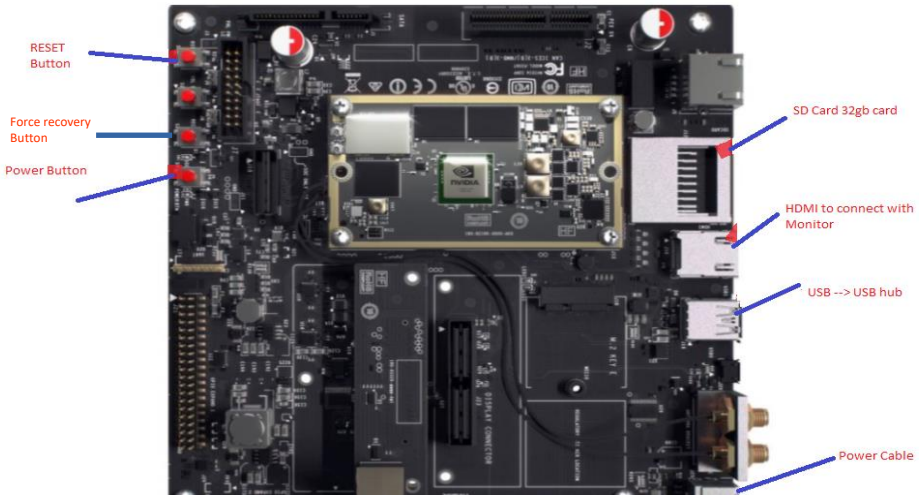
Introduction

We will flash Nvidia jetson board with Linux based OS.

Please refer following image for Jetson board layout.



Prerequisite

1. Host Ubuntu 16.04 machine with at least 35 GB available disk space
2. Jetson board
3. Micro B USB cable
4. Router
5. 3 LAN cables

Steps

Please follow following steps on host machine.

1. Download Nvidia Jetson **Jetpack** for flashing:

https://github.com/MobiliyaTechnologies/SecurityAndSurveillance/blob/Jetpack/Setup/installation/JetPack-L4T-3.2.1-linux-x64.run

2. Create a folder named **jetson_jetpack** for installation of Jetpack libraries in home directory.

3. Place the downloaded JetPack-${VERSION}.run (Eg: **JetPack-L4T-3.2.1-linux-x64.run**) file in above folder

4. Open Terminal(Alt+Ctrl^T). Run -

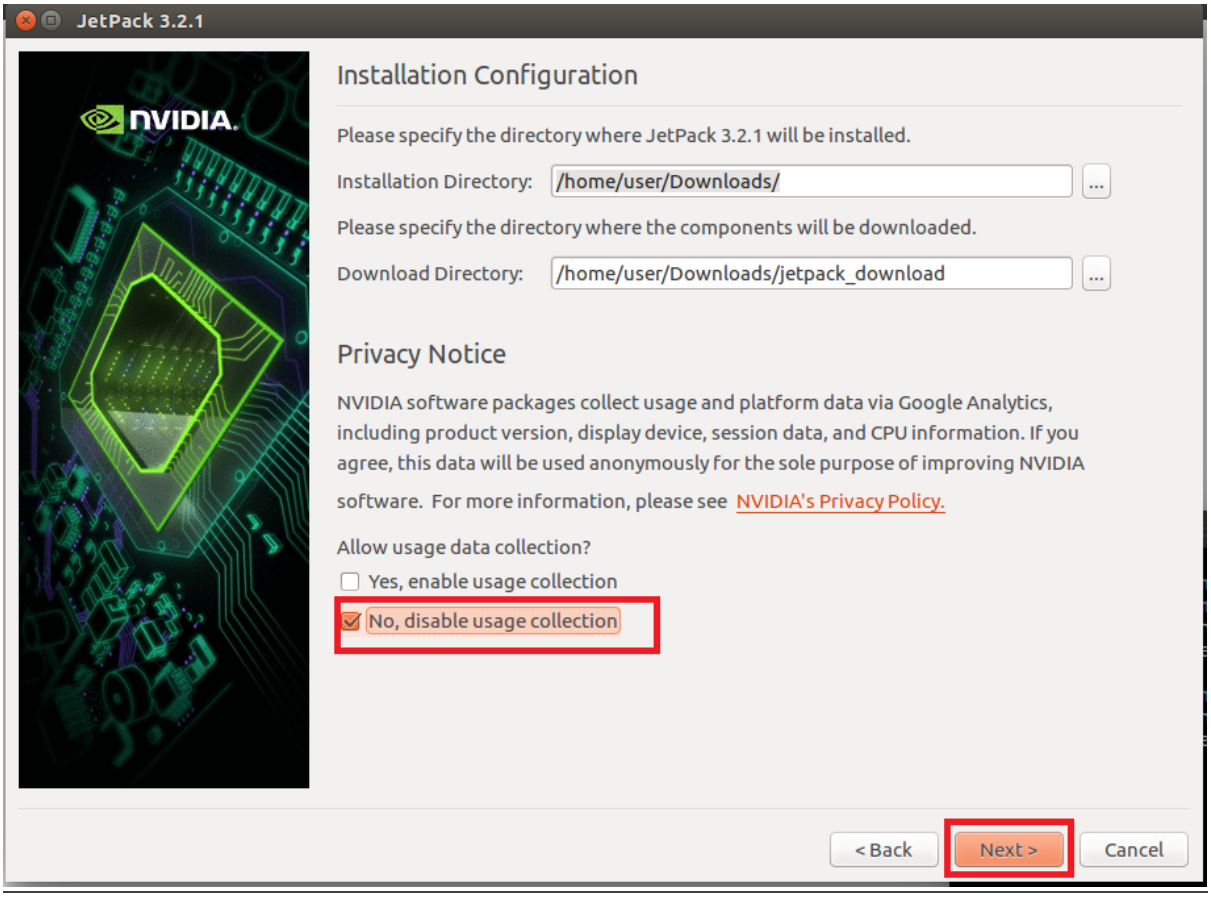
cd jetson_jetpack

chmod +x JetPack-L4T-3.2.1-linux-x64.run

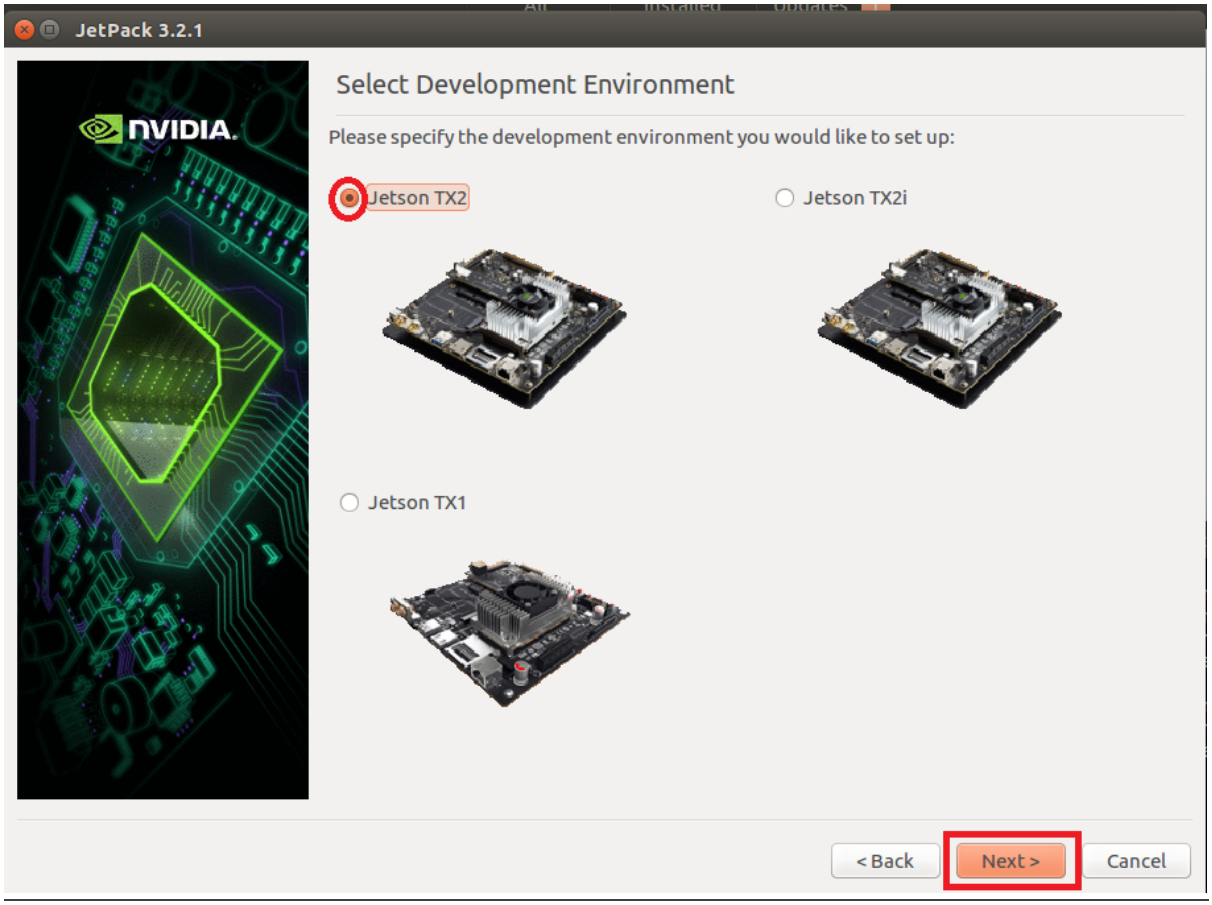
5. Run following command in terminal on your host Ubuntu machine.

./JetPack-L4T-3.2.1-linux-x64.run

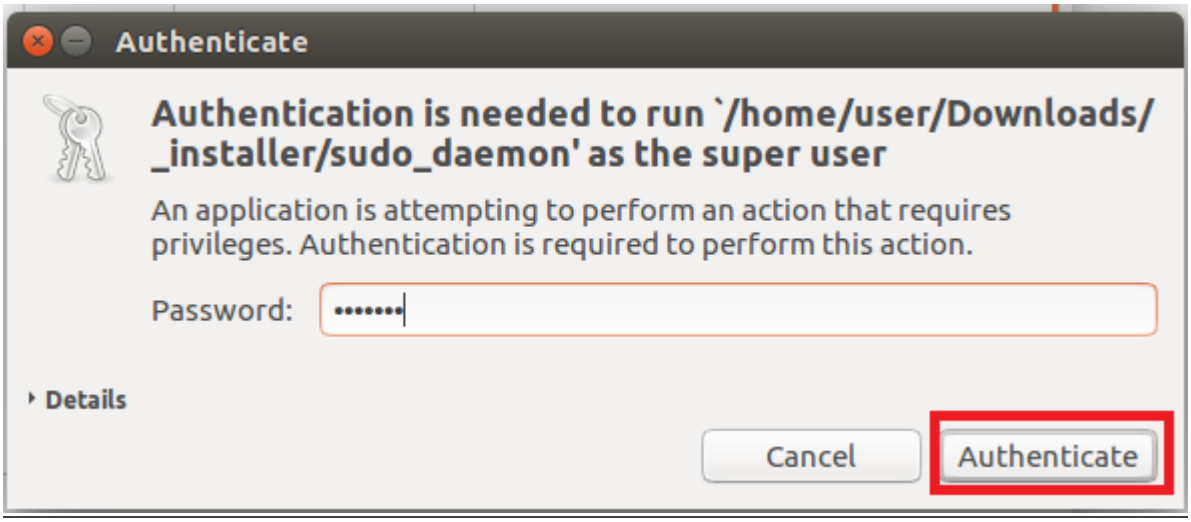
6. Next, the JetPack installer will indicate the installation directory.



7. Select the development environment to setup.

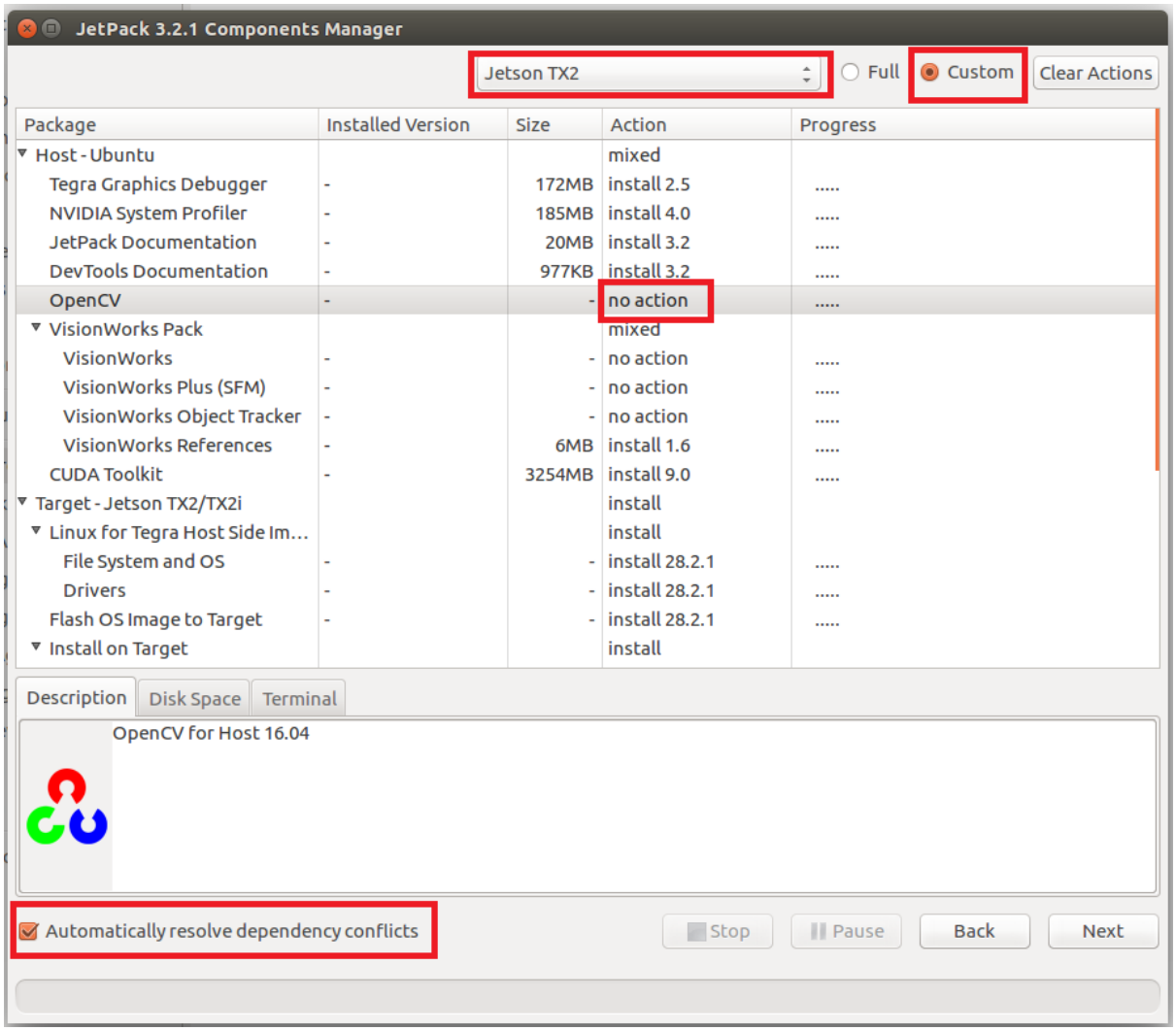


8. The JetPack installer will pop up a window to ask for permission to use during the installation process; you will need to enter your user password(Host machine's password) here.

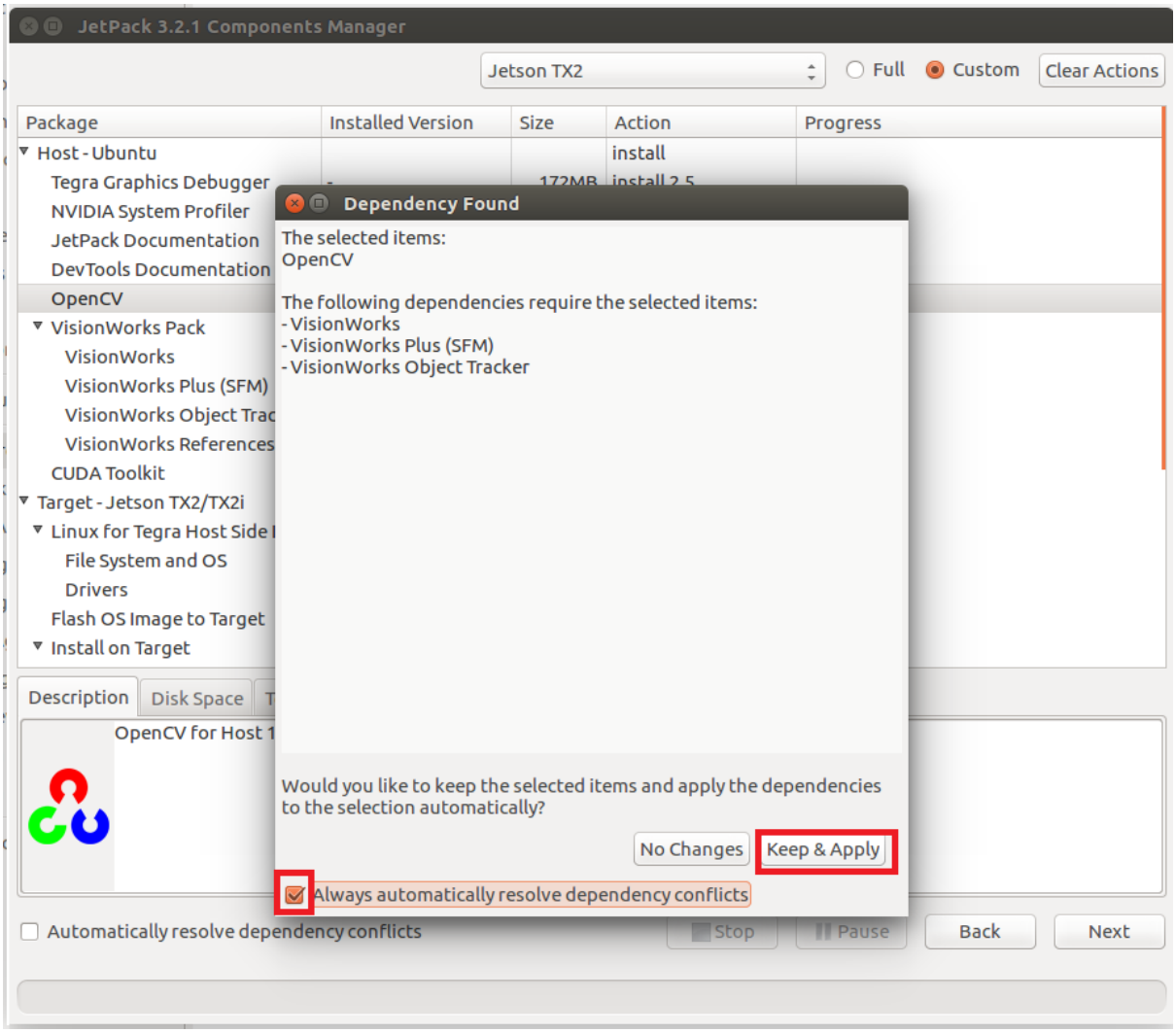


9. Select the **Custom** option for installing the packages on the jetson.

Uncheck OpenCV installation.Select option - no action

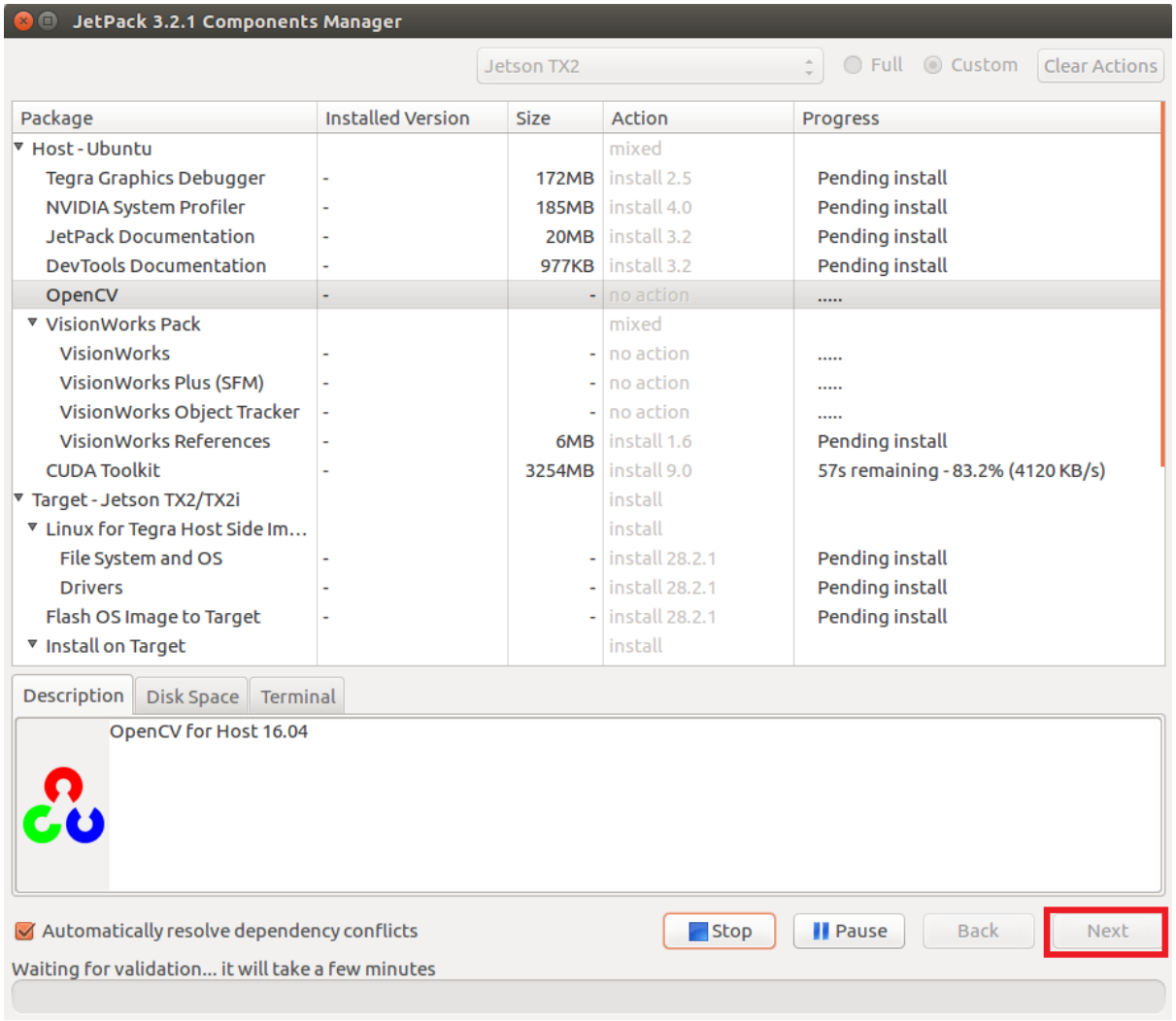


It will pop up one window :

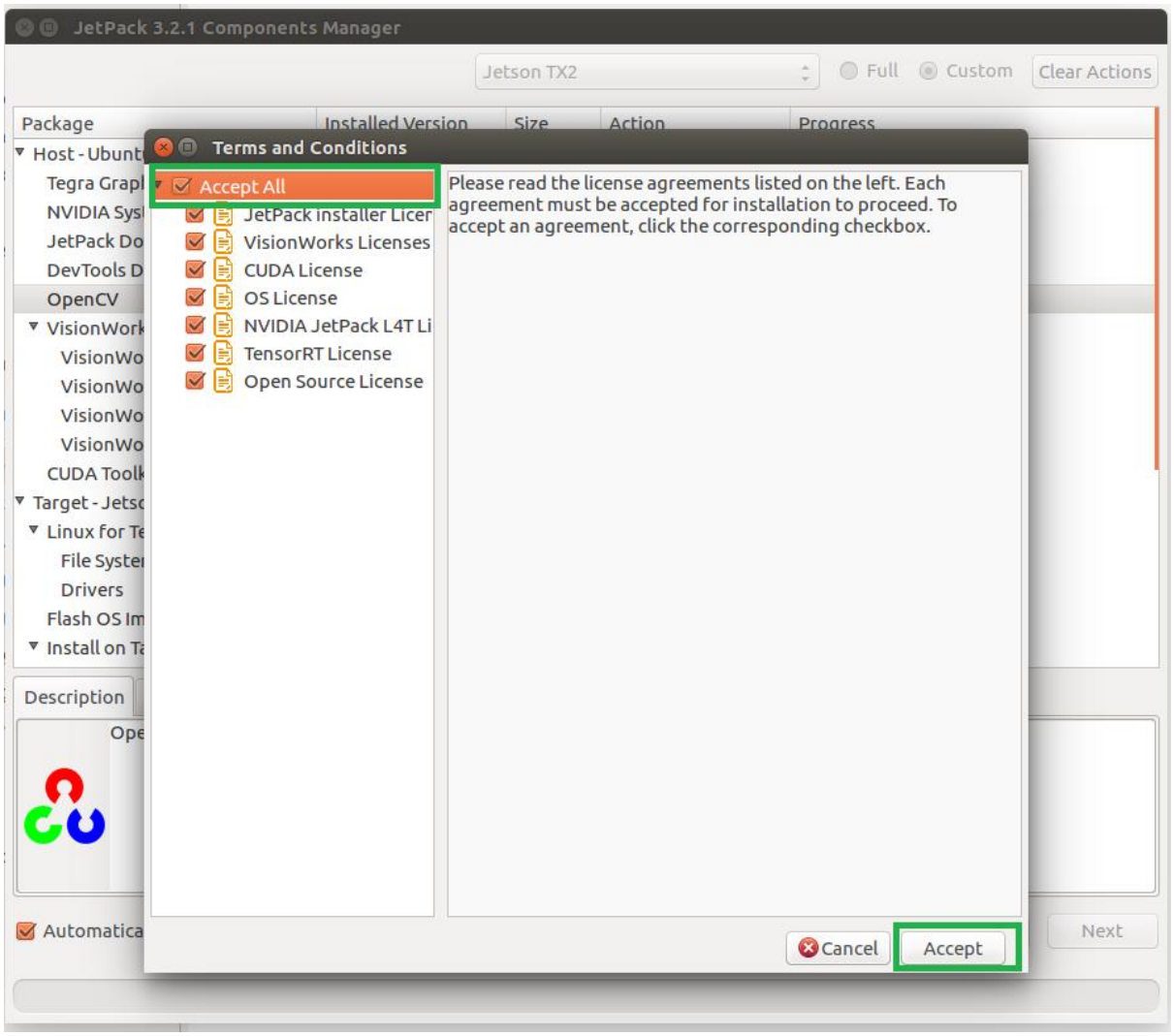


Check **Always Automatically resolve dependency conflicts** and Click **Keep & Apply** above.

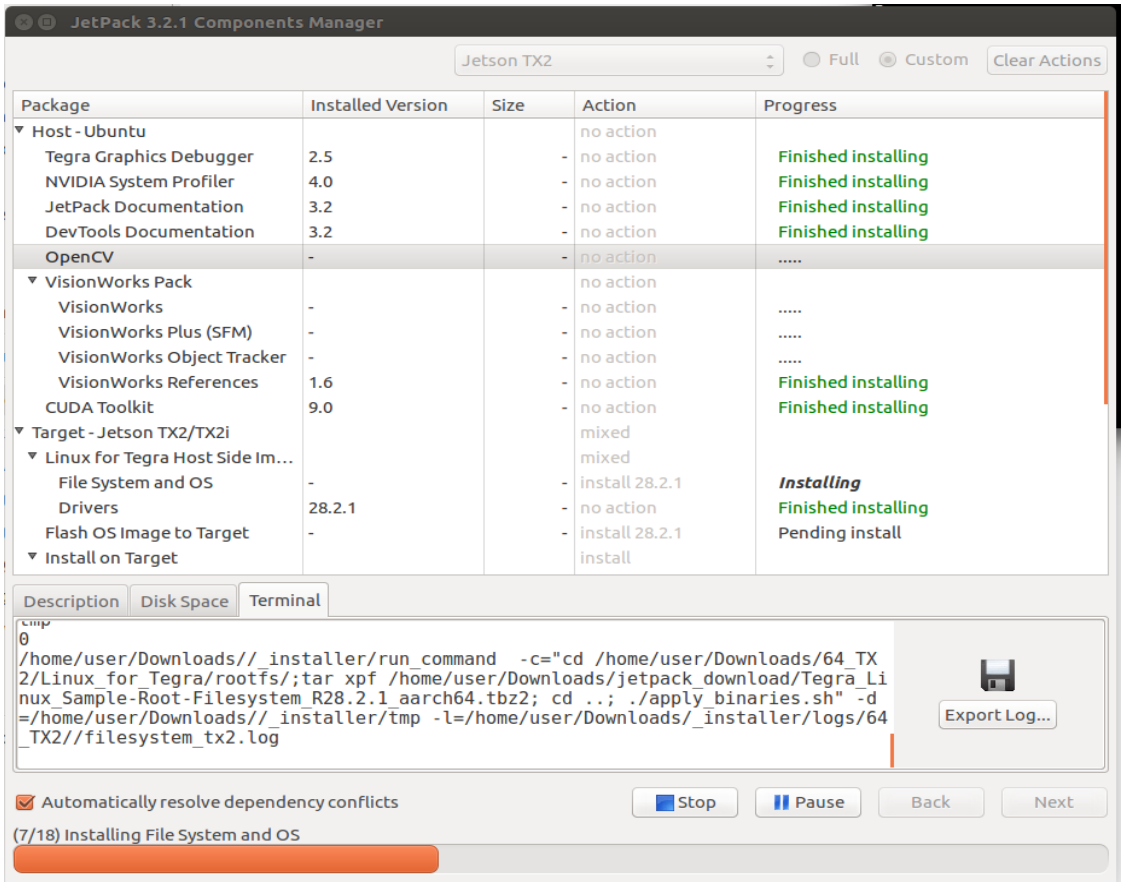
Then, Click '**Next**'.

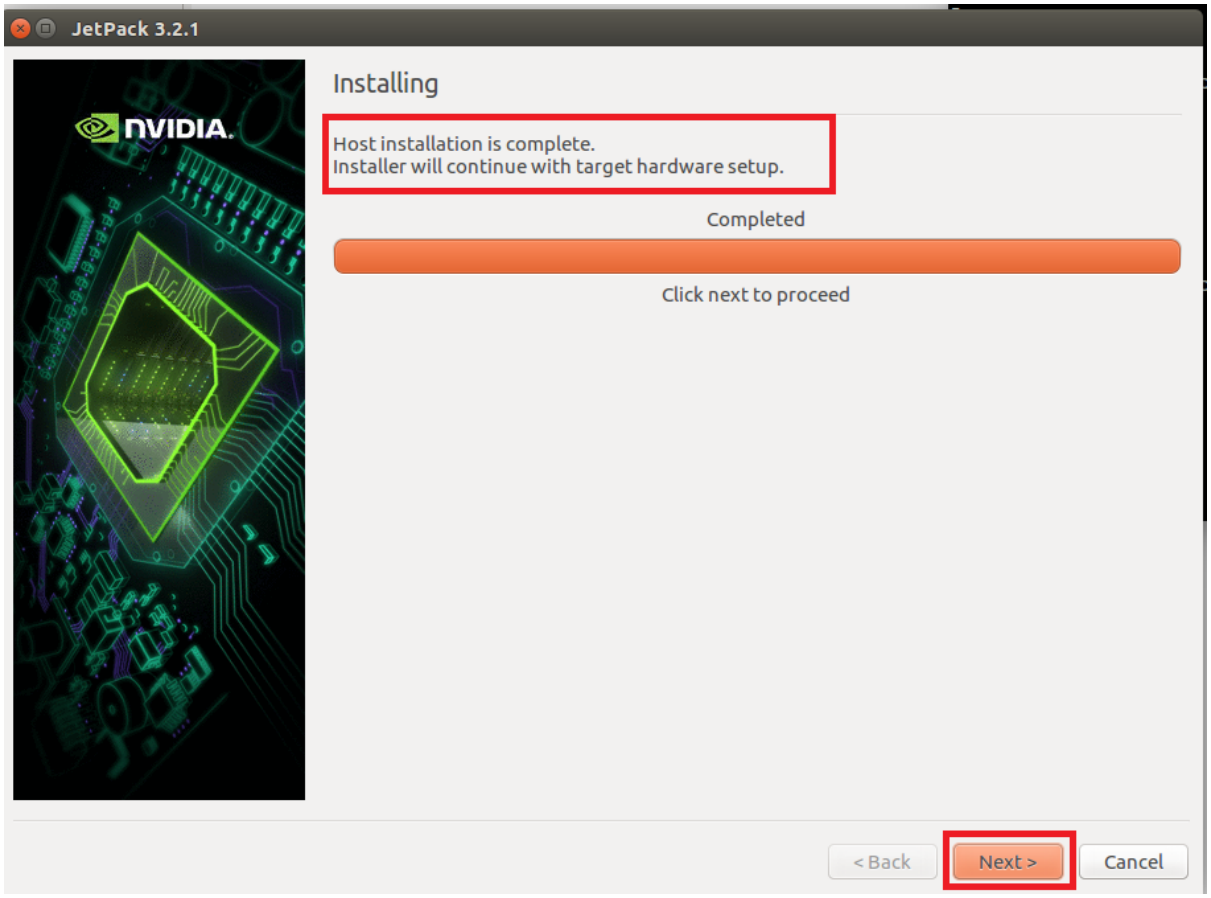


10. Accept all Terms and conditions. Click '**Accept.**



11. The Component Manager will proceed with the installation (~ 20 minutes). Once the host installation steps are completed, click the '**Next**' button to continue with the installation of target components. It will look like -





12. Please refer following setup for flashing jetson.

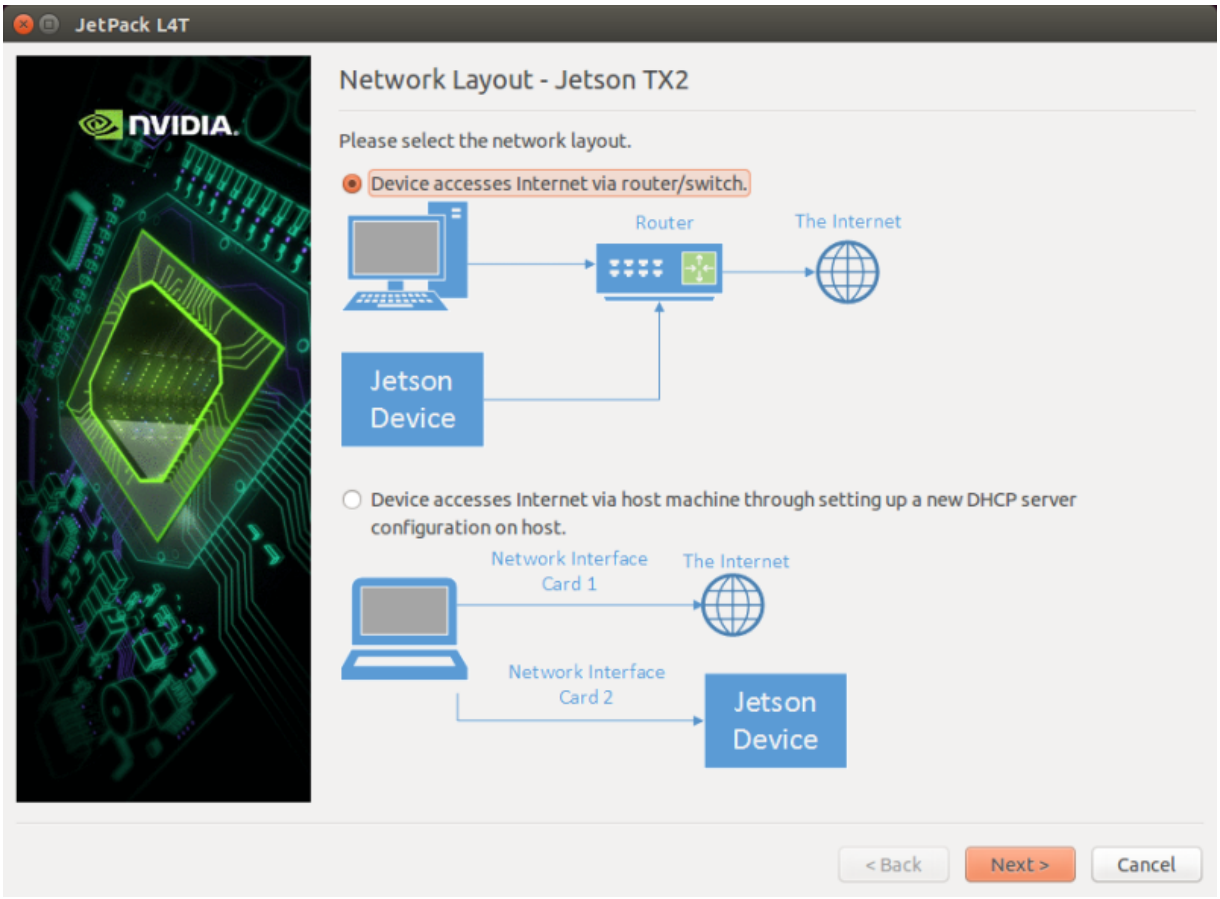
You need a router connected to internet.

Connect Host machine to router via ethernet.

Jetson to the same router via ethernet.

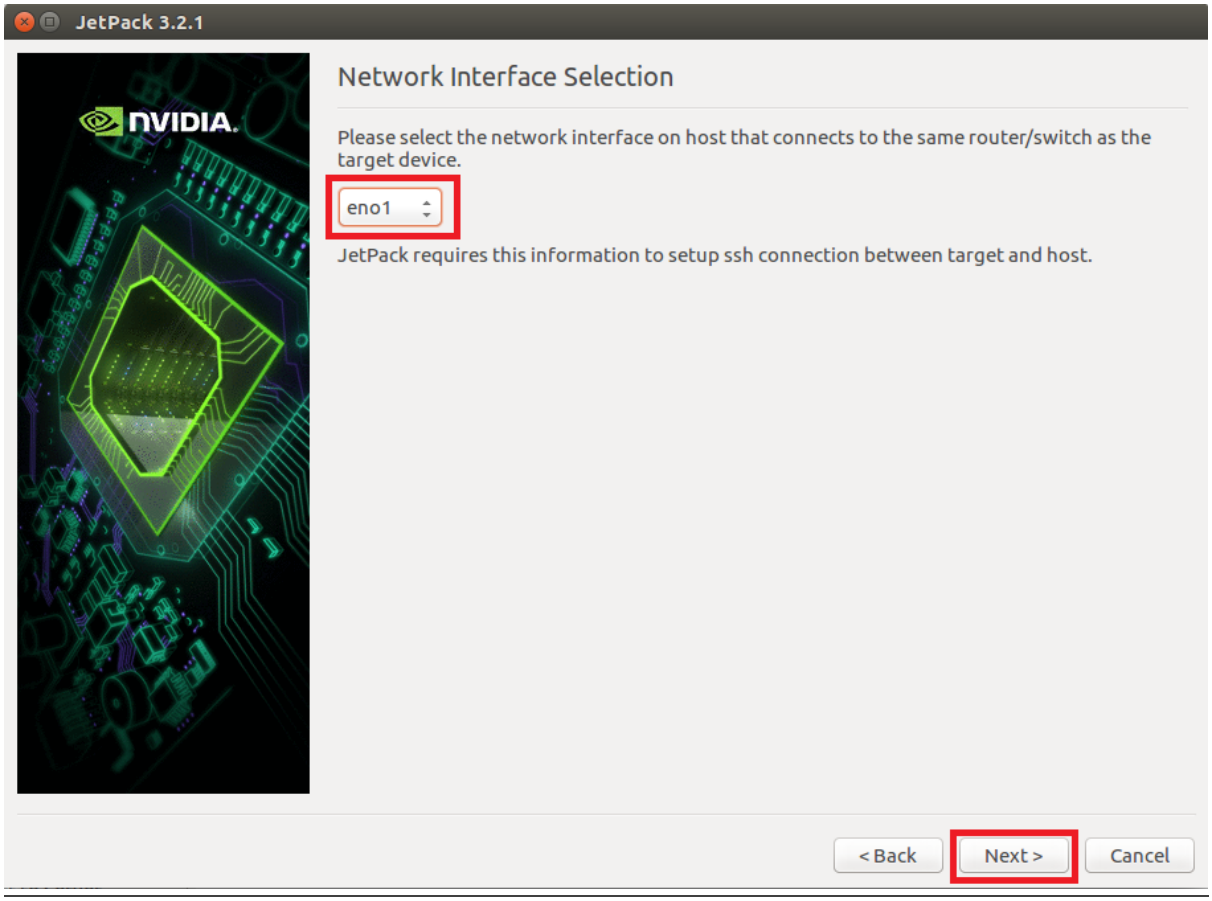
Note: Jetson and Host machine should be in same sub network after this setup and internet connection should be working on host machine(check in browser if needed).

After above setup is done, press <NEXT>



13. If you selected the **Device access Internet via router/switch** layout, you will be asked to select which interface to use for Internet access.

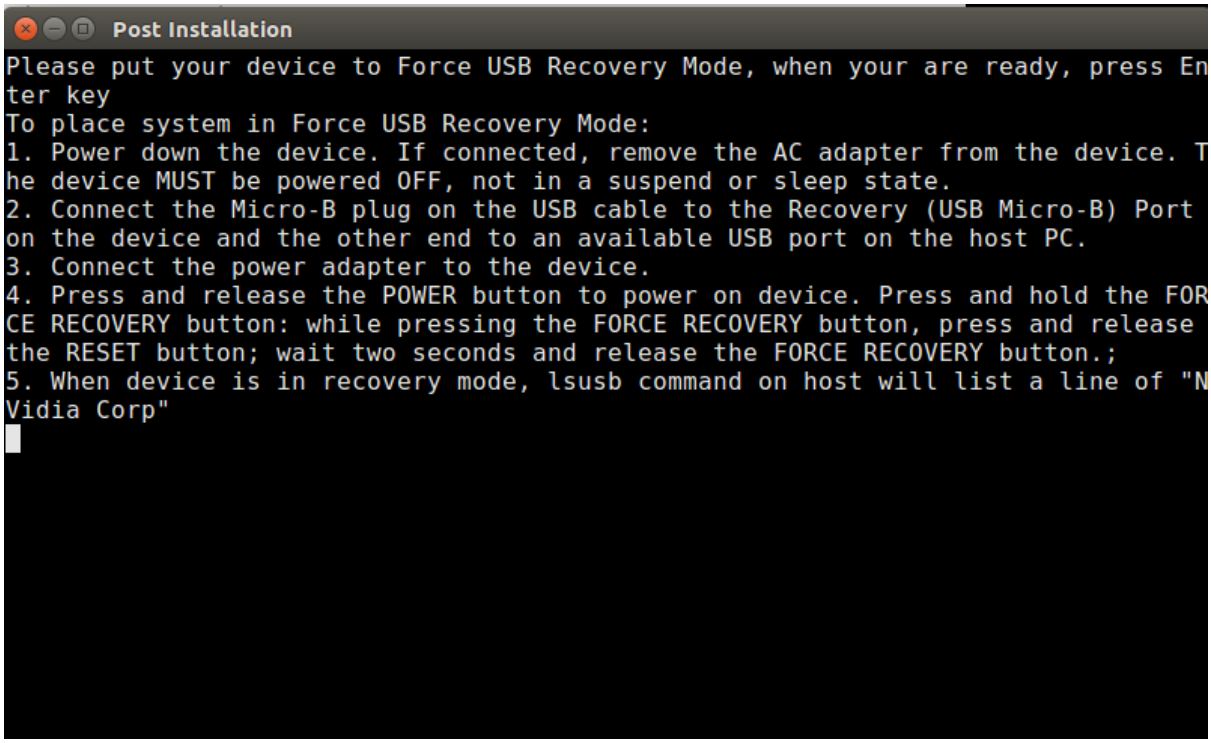
Note: eth0 or ensp0 or eno1 will be displayed as option.



14. A pop-up window will instruct you to put your device into Force USB Recovery Mode, so you can flash the OS.

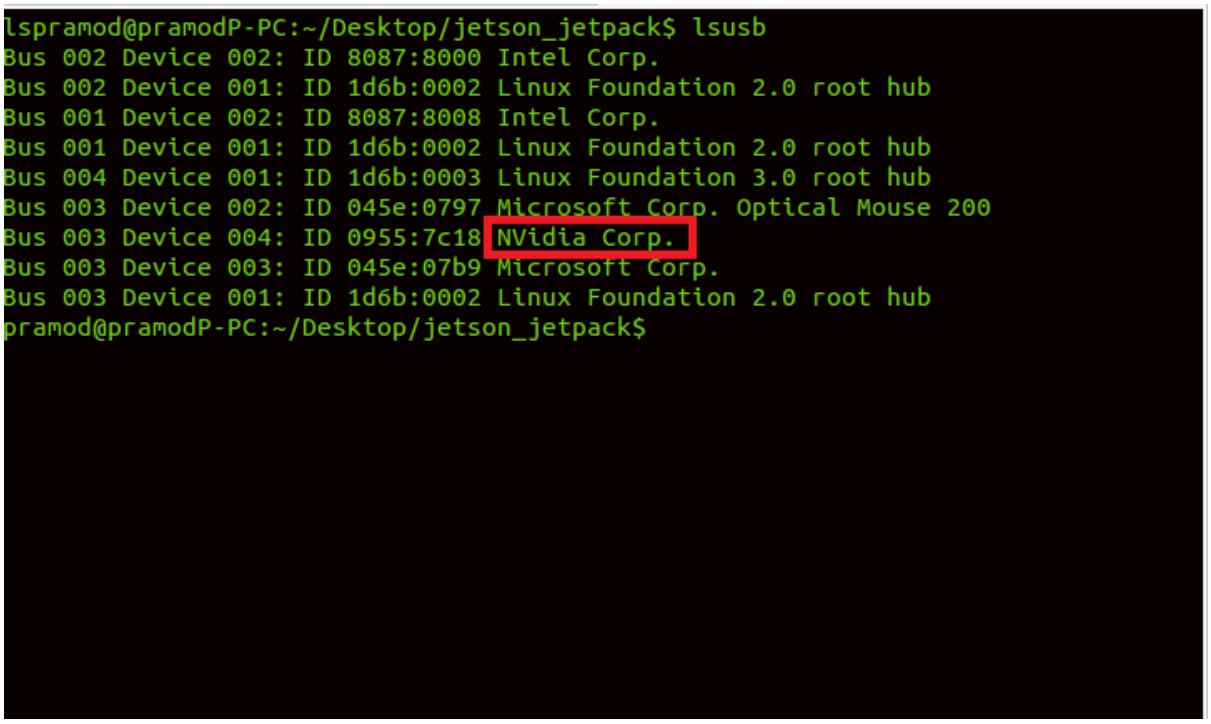
Refer following diagram for button layout.

Follow the steps from pop up window.



Note: In 5th step, verify that Device with 'Nvidia Corp' is listed in lsusb output. Open another terminal(Alt+Ctrl^T). Run -

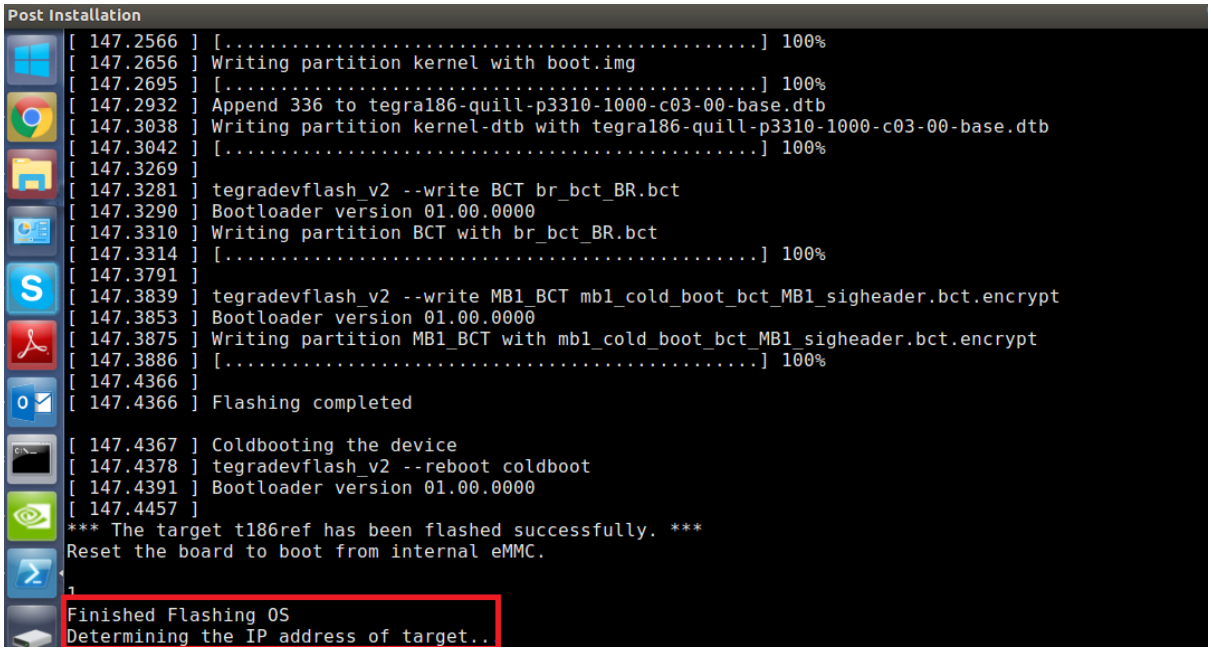
$lsusb



Then, press Enter in the Post Installation window.

After this, it will take around 15 minutes.

15. After around 15 minutes , the host will try to identify the IP address of Jetson system. If it **gives up**, enter IP manually.

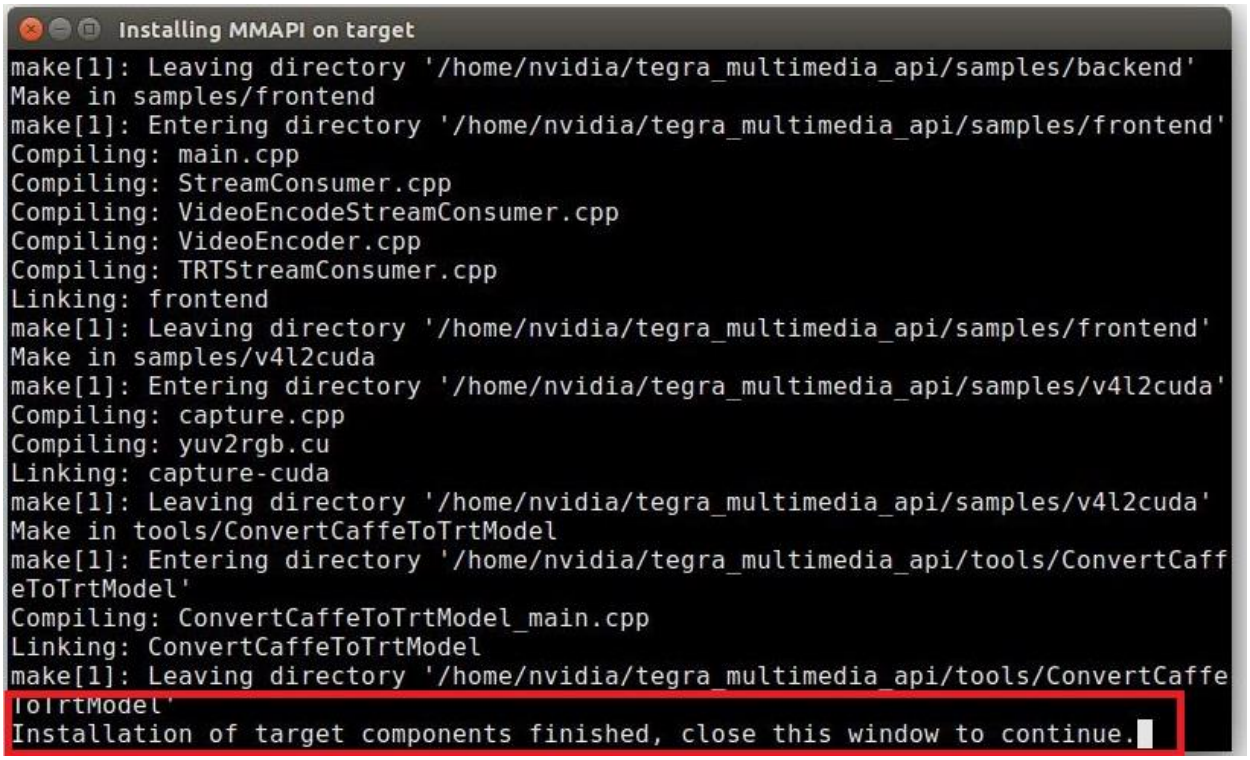


Note: To know IP of Jetson: Open Terminal on Jetson machine->**ifconfig**. Use HDMI cable to connect monitor/display. Credentials to login nvidia:nvidia

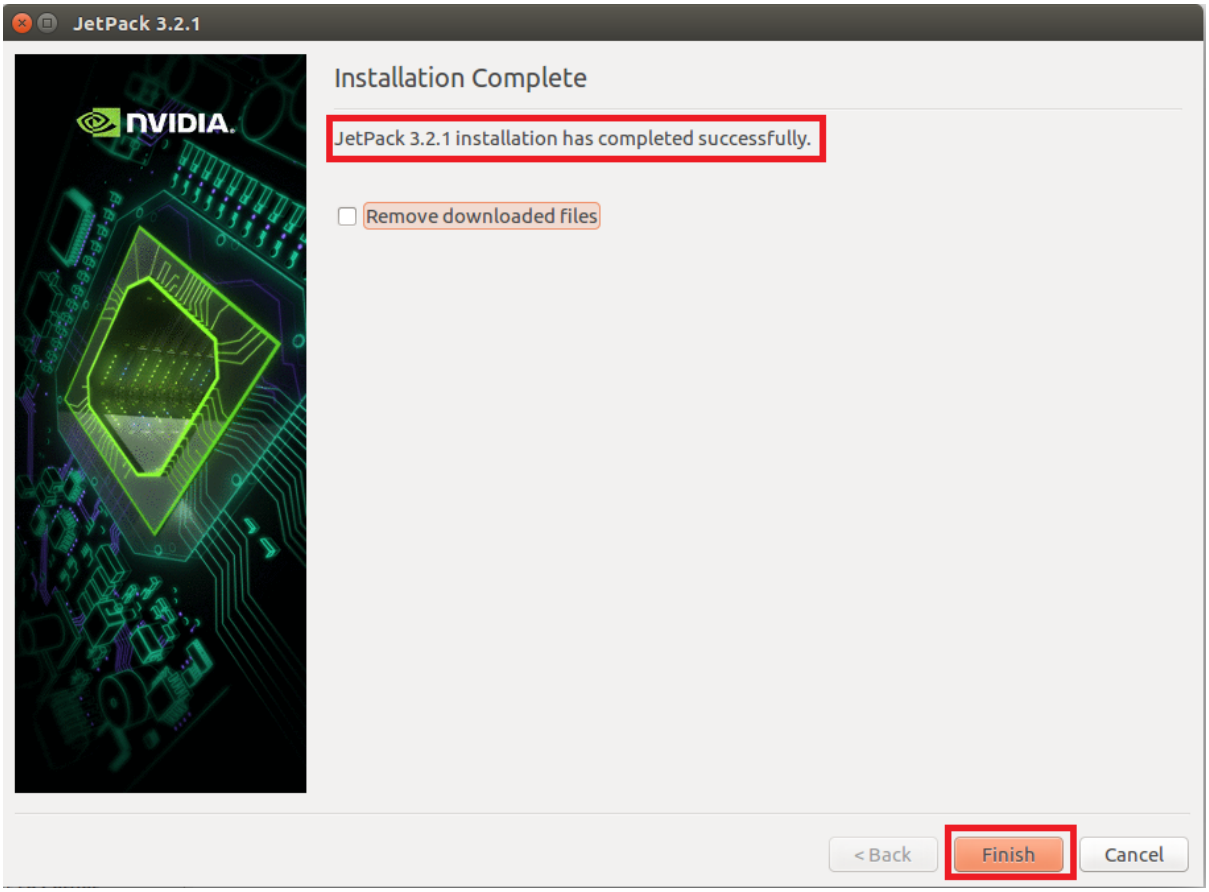
16. After obtaining the IP the host PC will install all the libraries on Jetson device. This will take around 15 minutes.

17. After all the processing the host PC will give a 'Done Installation' message. Then Jetson is completely flashed.

18. Please make sure below message is displayed after installation in complete.



Also check the following message - saying installation is complete. Click '**Finish**'.



19. Connect monitor, keyboard, mouse to jetson for further steps. Login credentials nvidia:nvidia