

Steps to flash L4T to Jetson AGX Xavier and to install CUDA , cuDNN, and TensorRT.

1. Download and extract tarball which includes L4T, CUDA , cuDNN, and TensorRT

- Download JetPack_4.3_DP_Xavier.tar to your host computer running Ubuntu 18.04 or Ubuntu 16.04
- Extract the tarball
\$ tar xpf JetPack_4.3_DP_Xavier.tar
\$ cd JetPack_4.3_DP_Xavier

2. Prepare the BSP build on host

```
$ cd bsp_build/  
$ tar xpf Jetson_Linux_R32.2.2_aarch64.tbz2  
$ cd Linux_for_Tegra/rootfs/  
$ sudo tar xpf ../../Tegra_Linux_Sample-Root-Filesystem_R32.2.2_aarch64.tbz2  
$ cd ..  
$ sudo ./apply_binaries.sh
```

3. Connect your developer kit to the host computer

Use a USB cable to connect the host computer to the front USB Type-C connector on the Jetson AGX Xavier Developer Kit

4. Put your developer kit into Force Recovery Mode

1. Device should be powered off
2. Press and hold down the Force Recovery button
3. Press and hold down the Power button
4. Release both buttons

5. Verify if the device is in recovery mode

Run the following command on host computer. If output matches, Jetson AGX Xavier is in Force Recovery Mode.

```
$ lsusb | grep NVidia  
Bus 001 Device 009: ID 0955:7019 NVidia Corp.
```

6. Flash the device

From the directory “JetPack_4.3_DP_Xavier/bsp_build/Linux_for_Tegra” on the host computer, run this command:

```
$ sudo ./flash.sh jetson-xavier mmcblk0p1
```

7. Complete initial configuration of device.

If the HDMI/other display is connected to the Jetson AGX Xavier Developer Kit

- Follow the instructions on Screen and complete the system configuration via GUI.

OR

If the HDMI/other display is not connected to the device ,

- Open /dev/ttyACM0 UART serial console (e.g., using minicom) to complete the system configuration via serial console.

8. Copy deb files from cuda, cudnn and tensorrt subdirectories of JetPack_4.3_DP_Xavier directory to Jetson AGX Xavier using scp. (Use the credentials you created in the step above for scp)

On host computer:

```
scp *.deb <user>@<jetson_ip>:~/<path_to_copy>/.
```

9. Install CUDA on Jetson AGX Xavier

On Jetson AGX Xavier:

```
sudo dpkg -i cuda-repo-l4t-10-0-local-10.0.326_1.0-1_arm64.deb
sudo apt-key add /var/cuda-repo-10-0-local-10.0.326/7fa2af80.pub
sudo apt-get -y update
sudo apt-get -y install cuda-toolkit-10-0 libgomp1 libfreeimage-dev libopenmpi-dev
openmpi-bin
```

10. Install cuDNN on Jetson AGX Xavier

On Jetson AGX Xavier:

```
sudo dpkg -i libcudnn7_7.6.3.28-1+cuda10.0_arm64.deb
sudo dpkg -i libcudnn7-dev_7.6.3.28-1+cuda10.0_arm64.deb
sudo dpkg -i libcudnn7-doc_7.6.3.28-1+cuda10.0_arm64.deb
```

11. Install TensorRT on Jetson AGX Xavier

On Jetson AGX Xavier:

```
sudo dpkg -i libnvinfer6_6.0.1-1+cuda10.0_arm64.deb
```

```
sudo dpkg -i libnvinfer-dev_6.0.1-1+cuda10.0_arm64.deb
sudo dpkg -i libnvinfer-plugin6_6.0.1-1+cuda10.0_arm64.deb
sudo dpkg -i libnvinfer-plugin-dev_6.0.1-1+cuda10.0_arm64.deb
sudo dpkg -i libnvonnxparsers6_6.0.1-1+cuda10.0_arm64.deb
sudo dpkg -i libnvonnxparsers-dev_6.0.1-1+cuda10.0_arm64.deb
sudo dpkg -i libnvparsers6_6.0.1-1+cuda10.0_arm64.deb
sudo dpkg -i libnvparsers-dev_6.0.1-1+cuda10.0_arm64.deb
sudo dpkg -i libnvinfer-bin_6.0.1-1+cuda10.0_arm64.deb
sudo dpkg -i libnvinfer-doc_6.0.1-1+cuda10.0_all.deb
sudo dpkg -i libnvinfer-samples_6.0.1-1+cuda10.0_all.deb
sudo dpkg -i tensorrt_6.0.1.5-1+cuda10.0_arm64.deb
sudo dpkg -i python-libnvinfer_6.0.1-1+cuda10.0_arm64.deb
sudo dpkg -i python-libnvinfer-dev_6.0.1-1+cuda10.0_arm64.deb
sudo dpkg -i python3-libnvinfer_6.0.1-1+cuda10.0_arm64.deb
sudo dpkg -i python3-libnvinfer-dev_6.0.1-1+cuda10.0_arm64.deb
sudo dpkg -i graphsurgeon-tf_6.0.1-1+cuda10.0_arm64.deb
sudo dpkg -i uff-converter-tf_6.0.1-1+cuda10.0_arm64.deb
```