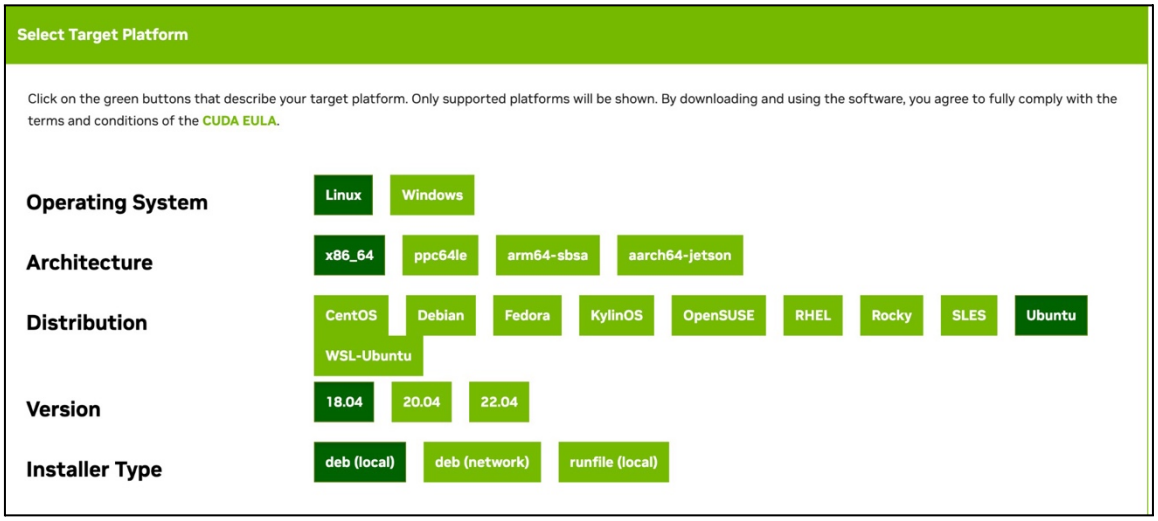
CUDA installation - UBUNTU 18.04

The below document provides the necessary steps to install CUDA on Ubuntu (18.04)

Step1: Download the CUDA Toolkit

Go to the NVIDIA CUDA Toolkit download page(NVIDIA CUDA Toolkit) and download the appropriate version for your system. In our case, we choose the following.



Once the selection is done, the base installer is ready for download. The steps to download the base installer gets generated automatically once we select the operating system followed by Architecture and all on the NVIDIA CUDA Toolkit download page.

The commands that needs to be run are mentioned below:

1. **wget https://developer.download.nvidia.com/compute/cuda/repos/ubuntu1804/x86_64/cuda-ubuntu1804.pin**

2. **sudo mv cuda-ubuntu1804.pin /etc/apt/preferences.d/cuda-repository-pin-600**

3. **wget https://developer.download.nvidia.com/compute/cuda/12.0.0/local_installers/cuda-repo-ubuntu1804-12-0-local_12.0.0-525.60.13-1_amd64.deb**

4. **sudo dpkg -i cuda-repo-ubuntu1804-12-0-local_12.0.0-525.60.13-1_amd64.deb**

5. **sudo cp /var/cuda-repo-ubuntu1804-12-0-local/cuda-*-keyring.gpg /usr/share/keyrings/**

6. **sudo apt-get update**
7. **sudo apt-get -y install cuda**

Note:

If the command **sudo apt-get -y install cuda** gives error, run the following commands to clean cuda else go to step 2

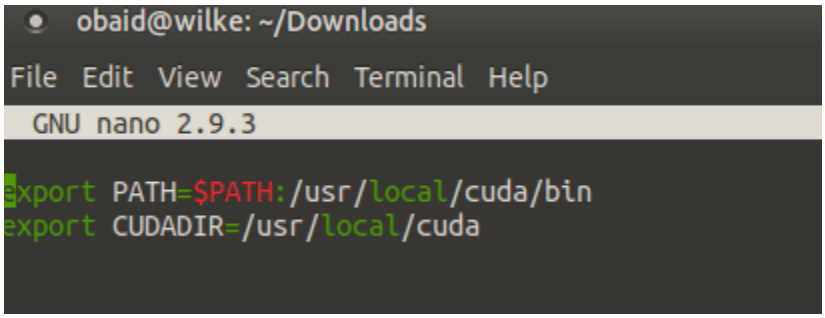
Clean all cuda*:

1. **sudo rm /etc/apt/sources.list.d/cuda***
2. **sudo apt remove --autoremove nvidia-cuda-toolkit**
3. **sudo apt-get autoremove**

Step2: Set the environment variables for CUDA

- In this step we will create two files to set the environment variables. The following steps should be taken to do the same.

  sudo nano /etc/profile.d/cuda.sh



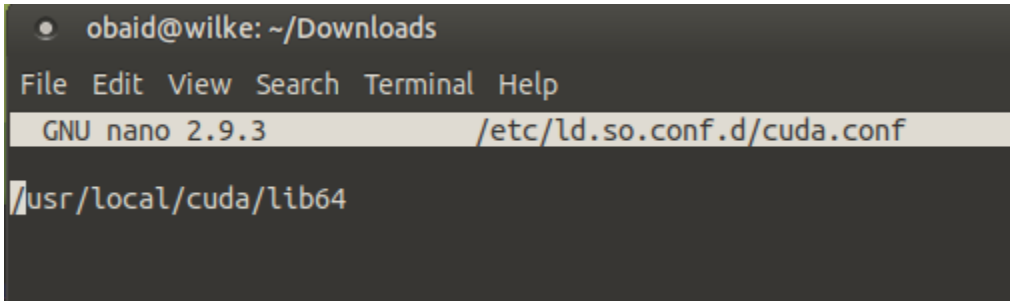
  Save and Exit

  Once the environment variables are configured in the file, run the .sh file with the following command

  sudo chmod +X /etc/profile.d/cuda.sh

- Now we will create one more file using nano command and set the path as shown below:

  sudo nano /etc/ld.so.conf.d/cuda.conf



Save and Exit

Finally run ,

sudo ldconfig

Step3: Reboot the Server

Note:
If you run the command

print(torch.version.cuda) and it returns None then change the installation from cpu version to gpu version by running the below command

! conda install -c pytorch torchvision cudatoolkit=10.1 pytorch -y (from the vs code editor directly)

```
! conda install -c pytorch torchvision cudatoolkit=10.1 pytorch -y
```