**Jetsonnano Common Queries**

***(For Augmented Startups)***

**Q#01:**

**Where to download Boot Image for jetson Nano?**

You can download Jetson pre-compiled Image that used to boot Jetson from links below.

[***Jetsonnano Image (Jetpack for Jetson 2GB)***](https://developer.nvidia.com/embedded/learn/get-started-jetson-nano-2gb-devkit)

[***Jetsonnano Image (Jetpack for Jetson 4GB)***](https://developer.nvidia.com/jetson-nano-sd-card-image) ***[Used in Course]***

[***Getting started with Jetson-Nano***](https://developer.nvidia.com/embedded/learn/get-started-jetson-nano-devkit)

Once you download, you can make bootable SD Card with [***etcher tool***](https://www.balena.io/etcher)

**Q#02:**

**How much storage in SD Card needed to boot jetson.**

Normally 16GB storage SD card will good to boot jetson Nano, but it will better to use 64GB SD Card for further program to installed, and working on other projects.

**Q#03:**

**How to install torch & torchvision on jetson-Nano for working on deeplearning projects?**

You can install torch & torchvision with pip commands in terminal.

pip install torch torchvision

***Sometimes, torch installation with pip commands, not works on some projects. Therefore, in these cases, we will need to install specific packages first. For that type of installations, you can visit*** [***link***](https://qengineering.eu/install-pytorch-on-jetson-nano.html)

**Q#04:**

**Is Tensorrt, will pre-installed with jetson boot?**

Yes, Tensorrt will pre-installed with jetson boot. You can check it with below command in terminal.

sudo dpkg –l | grep tensorrt

**Q#05:**

**Is Cuda, Cudnn will pre-installed with jetson boot?**

Yes, Cuda, Cudnn and Tensorrt will pre-installed with jetson boot. You can check it with below commands in terminal.

nvcc –version #***for cuda, cudnn***

sudo dpkg –l | grep tensorrt ***# for tensorrt***

**Q#06:**

**Can we train deep learning models on jetsonnano instead of specific GPU?**

Yes, we can use jetsonnano for training of deep learning model but only tiny models (like yolov5n, yolor\_p6 etc) can used for custom training. While jetsonnano will unable to handle other models, also if the dataset size will large, jetsonnano will not recommended using for training.

**Q#07:**

**What is deepstream-sdk?**

Deepstream is software development kit (sdk) developed by nvidia, mainly for embedded devices (Jetson), but we can use it on pc (with gpu support), which aims to simplifies the overall development of scalable intelligent video analytics applications. We can use this to quickly build customs applications of computer vision including object detection, image classification etc.

**Q#08:**

**How to download deepstream-sdk?**

You can follow link to [download](https://medium.com/nerd-for-tech/deepstream-installation-on-jetson-devices-fb55ace0587f) deepstream-sdk. (Nvidia login required)

**Q#09:**

**How to install virtual environment in Jetson/Python3?**

You can use mentioned command to install virtual environment in your system/jetson.

***pip install virtualenv*** ***or*** ***pip3 install virtualenv***

***then***

***python –m venv “Name of virtual environment” or python3 –m venv “Name of virtual environment”***

**Q#10:**

**Where to download Jetson precompiled Image ISO?**

You can download precompiled image used in course from mentioned link.

<https://u.pcloud.link/publink/show?code=XZ1u4XVZxkHWFcgYcW0J2s7p9PfV6hPbrmr7>

**Q#11:**

**How to install precompiled Image (.iso) in jetson?**

Procedure for installation of iso file on jetson bit different; you can check from mentioned link.

<https://forums.developer.nvidia.com/t/install-ubuntu-iso-in-jetson-nano/148121/15>

<https://forums.developer.nvidia.com/t/jetson-xaviernx-iso-image/181883>

**Q#12:**

**What trt used for inferencing?**

Tensorrt is gpu-optimized model for inferencing. Its optimization level varies with infrastructure of different deep learning models.

**Q#13:**

**Why Tensorrt recommending used on system for optimizing model instead on jetson Nano?**

Tensorrt used for optimizing deep learning models. However, This is not recommended converting any deep learning model to trt-engine on jetson, because tensorrt optimization require huge memory in conversion, and jetson have not much memory, so in most of times it hanging up jetson-Nano. For Tensorrt optimization recommended using gpu capable system.

**Q#14:**

**How to install Tlt-convertor on System having GPU for Tensorrt optimization?**

You must have gpu-capable system having deepstream-sdk, cuda, cudnn and tensorrt installed. Then, you can download tlt-convertor from mentioned link and follow its readme inside download zip file for usage.

**TLT-Convertor**: <https://docs.nvidia.com/metropolis/TLT/tlt-user-guide/text/tensorrt.html#installing-the-tlt-converter>