Installation of SDK on Linux/Ubuntu System

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To install the SDK on a Jetson device, you typically use the **NVIDIA SDK Manager** on a host PC. While some components of JetPack (the full SDK) are pre-flashed on developer kits, for a complete and updated installation, especially for flashing a custom image or adding specific components, the SDK Manager is the most common and recommended method.
Here's the process:
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1. On Your Host PC (Laptop/Desktop)
The NVIDIA SDK Manager is a graphical tool that runs on your Ubuntu Linux host PC.
System Requirements: Your host PC should be running **Ubuntu Linux (20.04 or 22.04 LTS)**. Windows or macOS are not directly supported for flashing the Jetson via SDK **Manager**.
Download SDK Manager:
Go to the official NVIDIA SDK Manager download page:
https://developer.nvidia.com/nvidia-sdk-manager](https://developer.nvidia.com/nvidia-sdk-manager)
Download the `.deb` package for your Ubuntu version. You'll need an NVIDIA Developer account (free to create).
Install SDK Manager:** Open a terminal on your host PC and navigate to the directory where you downloaded the `.deb` file. Then run:
```bash
**sudo apt install ./sdkmanager__amd64.deb**
```
(Replace `` with the actual version number you downloaded).
Launch SDK Manager: After installation, you can launch SDK Manager from your applications menu or by typing `sdkmanager` in the terminal.
Log In: Log in with your NVIDIA Developer account.
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2. Using SDK Manager to Install JetPack on the Jetson
Once SDK Manager is running on your host PC:

- **Select Hardware:** Choose the "Jetson" tab and select your specific Jetson module (e.g., Jetson AGX Orin Developer Kit).
- **Choose JetPack Version**: Select the desired JetPack SDK version you want to install. It includes the OS image, CUDA, cuDNN, TensorRT, and other development tools.
- **Prepare Jetson for Flashing (Recovery Mode)**:
- **Power off** the Jetson device.

* Connect the **USB-C cable** from your host PC to the **recovery port** on the Jetson AGX Orin (it's often next to the power button or on the side, check your specific dev kit's documentation).
* Hold down the **FORCE RECOVERY** button (often a small pinhole button) and then press the **POWER** button. Continue holding the FORCE RECOVERY button for about 2 seconds, then release it. The Jetson should now be in recovery mode. It won't display anything on the screen.
Follow SDK Manager Instructions: The SDK Manager will guide you through the remaining steps:
* It will detect your Jetson in recovery mode.
* You'll be prompted to flash the operating system and install the SDK components directly onto the Jetson. This process involves downloading large files and can take a significant amount of time.
* The Jetson will reboot multiple times during the process.
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3. On the Jetson Itself (Post-Flash)
While the SDK Manager handles the full installation from a host PC, if you've already got a basic JetPack OS running and just want to ensure specific components are installed or updated **on the Jetson itself**, you can use the command line:
Update and Upgrade: Always a good first step.
```bash
sudo apt update
sudo apt upgrade
```
Install Specific JetPack Components (if not fully installed or you need to re-install):
JetPack components are often available as `apt` packages. For example:
To install CUDA:
```bash
sudo apt install nvidia-cuda-toolkit
```
To install specific cuDNN or TensorRT versions, you might need to consult NVIDIA's documentation as they sometimes involve specific repository setups or manual installs. However, they are usually installed with the full JetPack flash via SDK Manager.
You can also list available packages:
```bash
apt search nvidia-jetpack
```
This will show you what JetPack-related packages are available to install directly via `apt`. However, for a clean, comprehensive, and version-matched installation of the entire JetPack SDK (including the OS image), the NVIDIA SDK Manager on a host PC is the definitive method.