# Setting Up a Jetson Orin AGX Device

Here is a step-by-step tutorial explaining how to set up a Jetson Orin AGX device

## **Step 1: Install the NVIDIA SDK Manager**

- 1. Visit the NVIDIA SDK Manager webpage and download the installation package for your host system (x86 Linux machine).
  - The SDK Manager is a tool that helps install the Jetson development environment, including flashing the Jetson device with the desired Jetpack version.
- 2. Install the downloaded package on your host machine.
  - This can typically be done by double-clicking the `.deb` file or using the `dpkg` command
    in the terminal.

## **Step 2: Launch the SDK Manager**

- 1. Open the NVIDIA SDK Manager application on your host machine.
- 2. If prompted, enter your NVIDIA Developer account credentials.
  - o If you don't have an account, you can create one for free.

## **Step 3: Configure the SDK Manager**

- 1. In the SDK Manager interface, locate the "Target Hardware" section and select your Jetson model (e.g., Jetson Xavier NX).
- 2. Disable the "Host Machine" option if you're not planning to cross-compile on the host.
- 3. Choose the desired Jetpack version from the "Target Operating System" section.
  - The latest version is selected by default, but you can choose a different one if needed.
- 4. Enable or disable additional components like DeepStream based on your requirements.
- 5. Review the license agreements and accept them to proceed.

## **Step 4: Download the Required Components**

- 1. The SDK Manager will download the necessary components, including the Jetson Linux image and the Jetson runtime/SDK components.
- 2. Set the desired download and target hardware image folders if prompted.
- 3. The download process may take some time, depending on your internet connection speed.

# **Step 5: Set Up the Jetson for Flashing**

There are two methods for setting up the Jetson for flashing:

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#### Automatic Setup (if the Jetson is already running)

- 1. Connect the Jetson device to the host machine via a USB cable.
- 2. The SDK Manager should automatically detect the Jetson model.
- 3. Provide the Jetson's username and password when prompted.
- Configure the storage device where the root file system (rootFS) will be installed (e.g., NVMe SSD for native boot).

#### Manual Setup (if the Jetson is not running)

- 1. Select the "Manual Setup" option in the SDK Manager.
- 2. Follow the instructions to put the Jetson into force recovery mode by jumper pins on the J50 header.
- 3. Connect the Jetson to the host machine via a USB cable.
- 4. The SDK Manager should detect the Jetson in force recovery mode.
- 5. Configure the desired storage device for the rootFS installation.
- 6. Set the OEM configuration to "Runtime" if you want to configure the Jetson during the first boot.

## Step 6: Flash the Jetson

- 1. Click the "Flash" button in the SDK Manager to begin the flashing process.
- 2. The SDK Manager will flash the Jetson Linux image to the selected storage device.

# Step 7: Configure the Jetson (if OEM configuration is set to "Runtime")

- 1. After the initial flash, the Jetson will boot up, and you may need to configure it.
- 2. Follow the on-screen prompts to set up features like language, username, password, and partition sizes.
- 3. Choose any additional components you want to install, such as Chromium.

## **Step 8: Install Jetpack Components**

- 1. Go back to the SDK Manager on the host machine.
- 2. Provide the Jetson's IP address and the username/password you set during the configuration.
- 3. Click the "Install" button to begin installing the selected Jetpack components (runtime, SDK, etc.) on the Jetson device.

# **Step 9: Verify the Installation**

- 1. Once the installation is complete, you can verify the installed components on the Jetson itself.
- 2. Open a terminal on the Jetson and run commands like `sudo apt update` and `jtop` (after installing the `jetson-stats` package) to check the installed Jetpack version, libraries, and other

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details.

3. You can also use the "Disks" application to view the storage device and its partitions.

**Note:** This tutorial covers the basic steps for setting up a Jetson Orin AGX device using the NVIDIA SDK Manager. Always refer to the official documentation for the latest instructions and any updates, as the process may change over time.

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