3. Boot up an Embedded Linux Board, login into the system and grab a shell. Try basic Linux commands on the shell.

1. Download Debian Beaglebone Black Image File:-
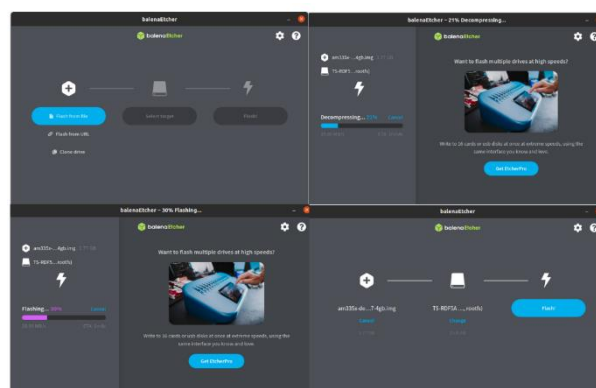   https://www.beagleboard.org/distros/am335x-12-2-2023-10-07-4gb-microsd-iot

2. Download Balena etcher for flashing the Image file SD card:
   https://etcher.balena.io/#download-etcher

3. Install the balena etcher and transfer the image to SD card

4. Complete serial connection on the beagleboneboard

① Connect the USB side of the TTL cable to your computer.
② Connect the wires to the J1 headers on your BeagleBone Black as shown:
  ◦ Black wire to Pin 1
  ◦ Green wire to Pin 4
  ◦ White wire to Pin 5
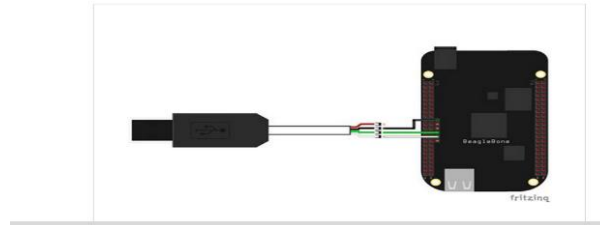
5. Install minicom:

   $ sudo apt-get install minicom

6. **$ sudo minicom -D /dev/ttyUSB0**


```
desd@desd-OptiPlex-5050:/$ sudo minicom -D /dev/ttyUSB0
[sudo] password for desd:
                          230940130006   230940130025   23094013005
```

Place the card inside the BBB; provide power supply to board


```
Welcome to minicom 2.7.1

OPTIONS: I18n
Compiled on Dec 23 2019, 02:06:26.
Port /dev/ttyUSB0, 14:54:18

Press CTRL-A Z for help on special keys

U-Boot SPL 2022.04-ge0d31da5 (Aug 04 2023 - 18:48:26 +0000)
Trying to boot from MMC1

U-Boot 2022.04-ge0d31da5 (Aug 04 2023 - 18:48:26 +0000)

CPU  : AM335X-GP rev 2.1
Model: TI AM335x BeagleBone Black
DRAM:  512 MiB
Reset Source: Power-on reset has occurred.
RTC 32KCLK Source: External.
Core:  150 devices, 14 uclasses, devicetree: separate
WDT:   Started wdt@44e35000 with servicing (60s timeout)
MMC:   OMAP SD/MMC: 0, OMAP SD/MMC: 1
Loading Environment from EXT4... ** File not found /boot/uboot.env **
```

7. Check device details

   $ ifconfig | more

8. Login to BBB board

   $ ssh debian@192.168.7.2

```
Debian GNU/Linux 12 BeagleBone ttyS0
    BEAGLE
BeagleBoard.org Debian Bookworm IoT Image 2023-10-07
Support: https://bbb.io/debian
default username:password is [debian:temppwd]

Web console: https://BeagleBone.localdomain:9090/

BeagleBone login: [   58.396824] davinci-mcasp 48038000.mcasp: IRQ common not found
temppwd
Password:

Login incorrect
BeagleBone login: debian
Password:

The programs included with the Debian GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
debian@BeagleBone:~$
```

9. Checing and confirming device connection setup or not

   $ dmesg | more

```
[246109.499118] pl2303 1-9:1.0: pl2303 converter detected
[246109.499946] usb 1-9: pl2303 converter now attached to ttyUSB0
desd@desd-OptiPlex-5050:/$
```