**How to boot BBB with SD card and expand linux filesystem partition**

Useful links:

* <https://www.youtube.com/watch?v=FK6wfV_19ac&list=PLT0Eo8IbtFyCdIS4L89T7mOEpf3m8-htm&index=21&t=0s>
* <https://elinux.org/Beagleboard:Expanding_File_System_Partition_On_A_microSD>
* <https://dev.iachieved.it/iachievedit/expanding-your-beaglebone-microsd-filesystem/>
* <https://billwaa.wordpress.com/2014/08/03/beaglebone-black-expand-file-system-capacity-on-the-microsd/>
* <https://wiki.somlabs.com/index.php/How_to_resize_Debian_9.2_root_partition_to_fit_SD_card>

**Burn image file to the SD card**

1. Download and extract the image file (<https://beagleboard.org/latest-images>) without the graphical desktop;
2. <https://help.ubuntu.com/community/Installation/FromImgFiles>

Write the downloaded image to a bootable device (SD card)

1. 2 options:
   1. Command line interface (WARNING! May cause irreparable damages)

$ lsblk (find the SD card "/dev/node")

or:

$ sudo su

$ fdisk -l

Ctrl+D (sai do sudo su)

$ sudo mount /dev/devicenode (devidenode = mmcblk0)

$ sudo de if=/pathto/\_\_\_.img of=/dev/devicenode bs=1M

* 1. Graphical interface: etcher (https://www.balena.io/etcher/)

**Boot the board with SD card**

1. Insert SD card on the board
2. Hold down the USER/BOOT button and apply power (5V or USB)
3. Release the button when the user LEDs start blinking
4. The board now booted with SD card and you may connect normally via USB or ethernet (tutorial 0)

**Expand the partition to the maximum capacity of the SD card**

1. Boot the board with the SD card and connect to it
2. $ ssh debian@boardIP (password: temppwd)
3. Enter the root

$ sudo su

you can leave with $ su debian

1. Check the current partitions

$ df -k --human

1. $ fdisk /dev/mmcblk0
2. p (print partitions, look at the start value of the linux partition)
3. In fdisk mode, you should delete the linux partition and create another with the maximum size
4. d>1 (delete linux partition)
5. n>p>1 (create new primary partition on the place of the deleted one)
6. Start: it is recommended to mantain the same start as before deleting the linux partition
7. End: default
8. If asked to remove ext4 signature, answer No
9. p (print partitions to check if it was created)
10. w (write changes)
11. $ reboot (reboot needed to apply changes)
12. Connect to the board again and

$ ssh debian@boardIP (password: temppwd)

1. $ sudo su
2. $ resize2fs /dev/mmcblk0p1
3. $ df -k --human