Installing Debian 10 buster on a flash drive with debootstrap

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1 Installing debootstrap

Just run `apt install debootstrap` and you'll be all set!

2 Preparing and formatting the drive

1. Locate your USB drive by typing `fdisk -l` as root or sudo. My USB drive is assigned to `/dev/sdc`, but yours will likely be another letter.
2. Make sure your drive's partition table is set to `MBR (dos)`.
3. Use your favorite disk partitioning command (I use `cfdisk`) and create at least one partition, that will contain the whole linux filesystem. If you want, you can also add a swap partition if your flash drive is big enough, I won't because mine is only 2GB...
4. Format your new partition as ext4 with the command `mkfs.ext4 /dev/sdc1`. Replace `/dev/sdc1` with your new partition.

3 Installing debian on your flash drive with debootstrap

5. After partitioning, my new linux filesystem partition is assigned to `/dev/sdc1`. You need to mount it in order to run debootstrap on it. Use `mount /dev/sdc1 /mnt` to mount it to the `/mnt` directory.
6. Run `sudo debootstrap --arch amd64 buster /mnt` to download a fresh copy of all the debian packages and extract them into /mnt.
7. Run `sudo -- bash -c 'for i in proc sys dev dev/pts run; do mount --bind /$i $i;done'` [1] in order to mount and bind all necessary directories such as /proc, /dev, and so on to the new system for the installation process to work properly.
8. Run `sudo chroot /mnt /bin/bash` to chroot (change the root directory) into the new system.

[1] Thank you to papy-tux for this one-liner! http://papy-tux.legtux.org/doc1162/index.html#mozTocId945542

9. Run `apt update`, then `apt install vim linux-image-amd64 dkms` to install a decent text editor, the linux kernel to be able to boot without chrooting into the system from another linux install, and dkms, for kernel modules. This will take a while, even with a good internet connection.
10. Find the UUID of your root partition by typing `blkid` and locating your new linux filesystem, in my case, `/dev/sdc1`.
11. Add the root partition to `/etc/fstab` with your text editor of choice (`vim` for example):

```
UUID=4d8dac3a-5232-49d9-abc0-8c4d39114290   /   ext4   defaults   0   1
```

12. Install grub2 (the bootloader) to be able to boot your new system outside of a chroot: `apt install grub2` (the package might be called `grub-pc`).
13. If the package's post-install script does not do everything automatically, run `grub-install /dev/sdc` and `update-grub`.
14. Set a new password for root using `passwd`, you can even create a new user with `adduser`.

Your flash drive should now be ready to boot. Unmount everything and eject the drive.

4 In the new system

- You might not be on a desktop computer hooked up to