

How to install Arch Linux

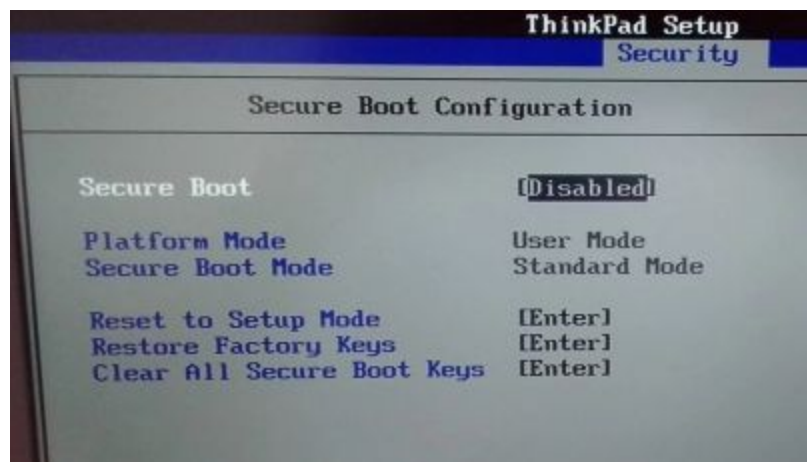
This notes is a collection of instructions from YouTube Channel: *LearnLinuxTV* and my friend *Benjamin Cheng*

1. Make a bootable drive

- a. Go to www.archlinux.org
- b. At “Download” sub-menu, download an “.iso” file
- c. Download *balenaEtcher* at <https://www.balena.io/etcher/>
- d. Select the *iso* file and the usb drive, click flash

2. Reboot the device on the bootable usb

- a. Restart the device and keep pressing the key for boot menu (F12 for Thinkpad P1)
- b. Select the bootable usb key and press “Enter”
- c. (if it is unable to boot into the usb, going into BIOS menu and disabling “*Security Boot*” is needed
 - i. Restart the device and keep pressing the BIOS menu key (F2 for Thinkpad P1)
 - ii. Go to the “Security” sub-menu and disable it



- iii. Now restart the device again to the booting menu, you should be able to boot into the usb

3. Connect to Wifi

- a. Type `wifi-menu`
- b. Select a wifi and input the password
- c. (to test if the wifi is connected, try ping `www.google.com`, press `ctrl + C` to exit)

4. Partition Disk

- a. Use `fdisk -l` to check the device's hard-drive, this tutorial use `nvme0n1` as the hard drive model. (the picture shows model `sda`)

```
root@archiso ~ # fdisk -l
Disk /dev/sda: 465.8 GiB, 500107862016 bytes, 976773168 sectors
```

- b. If you can't see your disk, but only USB, you need to go to BIOS and change Raid mode (under configuration menu) to ahci mode
- c. Use `cfdisk /dev/nvme0n1`
- d. Make one partition with 512 Mb with type EFI System
- e. Make another partition with the rest of the space with type Linux filesystem
- f. Make another pt to dual boot with windows
- g. Write the partition (check the bottom of the screen for the command)

5. Mount the drive

- a. Type `mkfs.ext4 /dev/nvme0n1p2`
 - i. `mkfs.fat -F32 /dev/nvme0n1p1`
 - ii. This is assuming `nvme0n1p2` is the linux main disk and `nvme0n1p1` is the EFI System
- b. `mount /dev/nvme0n1p2 /mnt`
- c. `mkdir /mnt/boot`
- d. `mount /dev/nvme0n1p1 /mnt/boot`
- e. `pacstrap /mnt base nano linux linux-firmware`
- f. (if get stuck, which is normal, just reboot and rerun these command)

6. Configure the system

- a. `genfstab -U /mnt >> /mnt/etc/fstab`
- b. `arch-chroot /mnt`
- c. Set the time zone:
 - i. `ln -sf /usr/share/zoneinfo/Region/City /etc/localtime`
 - ii. Replace the Region and city with your location (Example: `ln -sf /usr/share/zoneinfo/America/Toronto /etc/localtime`)
 - iii. Run `hwclock --systohc`
- d. Set Localization:
 - i. Edit the file "locale.gen" by running `nano /etc/locale.gen`
 - ii. Uncomment `en_US.UTF-8 UTF-8` and `en_CA.UTF-8, zh_CN` (uncommon all 4 for chinese)
 - iii. Write and exit from the file, run `locale-gen`

- iv. Create file “locale.conf” through running `nano /etc/locale.conf`
- v. Write `LANG=en_US.UTF-8` into the file
- vi. Write and exit from the file

e. Set Hostname:

- i. Create file “/etc/hostname” through running `nano /etc/hostname`
- ii. Create your admin hostname by typing into the file, write, quit. (This tutorial use yAya)
- iii. `nano /etc/hosts`
- iv. Write in the rest:

```
127.0.0.1 localhost
```

```
::1 localhost
```

```
127.0.1.1 yAya.localdomain yAya
```

- v. `nano /etc/pacman.d/mirrorlist`
- vi. Uncomment the uwaterloo server with http

f. Set Root Password

- i. Run `passwd`
 - ii. Then type the password twice
- g. `bootctl --path=/boot install`
 - h. `pacman -S networkmanager`
 - i. `mkdir /boot/loader`
 - j. `nano /boot/loader/loader.conf`
 - k. Write default arch, write, quit file
 - l. `mkdir /boot/loader/entries`
 - m. `nano /boot/loader/entries/arch.conf`
 - n. Write the rest into the file

```
title Arch Linux
linux /vmlinuz-linux
initrd /initramfs-linux.img
options root=PARTUUID=blah rw
```

o. To get the value for “**blah**”

- i. Run `blkid`
- ii. Look for the line with `/dev/nvme0n1p2 xxxx PARTUUID`
- iii. (to save time run `blkid >`
`/boot/loader/entries/arch.conf` and delete those extra stuff)

p. Make user account

- i. Install sudo via `pacman -S sudo`
 - ii. `EDITOR=nano visudo`
 - iii. Uncomment `%wheel ALL=(ALL) ALL`
 - iv. `useradd -m -G wheel -s /bin/bash yaya`
 - v. (you can replace “yaya” with whatever username you want, decapitalized name only)
 - vi. Set password by run `passwd yaya`
- q. Now you can install desktop environment (can also be done after reboot, just make sure you have everything to connect to internet)
- r. To reboot:
 - i. Run ``exit``
 - ii. Unmount everything ``umount -R /mnt`` (-R for recursive, since EFI partition is mounted to `/mnt/boot`)
 - iii. ``reboot``

Congrats, you have now officially installed Arch Linux

7. Install Desktop Environment (Gnome)

- a. Get into chroot:
 - i. `mount /dev/nvme0n1p2 /mnt`
 - ii. `mount /dev/nvme0n1p1 /mnt/boot`
 - iii. `arch-chroot /mnt`
- b. `sudo pacman -S gnome gnome-extra`
- c. `Systemctl start gdm`
- d. Create a file by `sudo nano /etc/modprobe.d/nvidia.conf` and write `blacklist nouveau` into the file
- e. Exit
- f. Umount using `umount -R /mnt`
- g. Reboot
- h. Open terminal
 - i. `systemctl enable gdm`
 - j. `systemctl enable NetworkManager`
- k. reboot
- l. Connect to wifi via top right icon
- m. Install git via `sudo pacman -S git`

- n. git clone <https://aur.archlinux.org/yay.git>
- o. sudo pacman -S fakeroot
- p. cd yay
- q. makepkg -si
- r. cd ..
- s. rm -rf yay

8. Install Chrome as Browser

- a. sudo yay -S google-chrome

9. To display chinese

- a. sudo pacman -S adobe-source-han-sans-otc-fonts
- b. sudo pacman -S adobe-source-han-sans-otc-fonts
- c. sudo pacman -S noto-fonts noto-fonts-cjk
- d. sudo pacman -S noto-font-emoji
- e. Install ibus package for input
 - i. sudo pacman -S ibus-rime
 - ii. More option in here
https://wiki.archlinux.org/index.php/IBus#Initial_setup
 - iii. Manually open the ibus setup:
 - 1. \$ibus-setup
 - iv. Auto start at log in for gnome
 - 1. \$sudo vim ~/.bashrc
 - 2. Add the following into the file
 - a. export GTK_IM_MODULE=ibus
 - b. export XMODIFIERS=@im=ibus
 - c. export QT_IM_MODULE=ibus
 - d. ibus-daemon -d -x
 - 3. Log out and relogin
- f. (make sure you uncomment the zh_CN stuff in the previous installation process in /etc/locale.conf

10. To display real-time

- a. Timedatectl set-ntp true
- b. (make sure you follow the previous step while setting the time and date during the installation)

11. To install Wechat

- a. <https://www.jianshu.com/p/6e2f25f86379>
- b. <https://aur.archlinux.org/packages/deepin.com.wechat2/>
- c. \$ yay deepin-wine-tim

- d. Install gnome-settings-daemon
- e. Install <https://aur.archlinux.org/packages/deepin-wine-apps-kde-fix/> to start up gnome-settings-daemon at startup
- f. \$ yay [deepin.com.wechat2](https://aur.archlinux.org/packages/deepin-com-wechat2)

12. To install Baidu Net Disk

- a. https://blog.csdn.net/weixin_44315945/article/details/104499362
- b. \$ yay -S debtap
- c. Go to baidu official website to download .deb file
- d. Go to the folder and \$ debtap filename.deb
- e. Enter: baidunetdisk for file name
- f. LICENSE for license
- g. Press any key

```

root ~ root > linuxwork > other > debtap baidunetdisk_linux_3.0.1.2.deb
==> Extracting package data...
==> Fixing possible directories structure differences...
==> Generating .PKGINFO file...

.: Enter Packager name:
baidunetdisk

.: Enter package license (you can enter multiple licenses comma separated):
LICENSE

*** Creation of .PKGINFO file in progress. It may take a few minutes, please wait...
==> Checking and generating .INSTALL file (if necessary)...

.: If you want to edit .PKGINFO and .INSTALL files (in this order), press (1) For vi (2) For nano (3) For default editor (4) For a custom editor or any other key to continue: n
==> Generating .MTREE file...

==> Creating final package...
==> Package successfully created!
==> Removing leftover files...

root ~ root > linuxwork > other >

```

- h. There will be a pkg.tar.xz file show up
- i. \$ sudo pacman -U filename.pkg.tar.xz

13. To install video player

- a. <https://www.jianshu.com/p/6e2f25f86379>
- b. \$ sudo pacman -S deepin-movie