ls /sys/firmware/efi/efivars (verify the boot mode)

ip link (make sure my network interface is enable)

ping archlinux.org ( test whether my internet work)

timedatectl set-ntp true (update the system clock)

fdisk -l ( show me the situation of my disk)

fdisk /dev/sda first partition

press g then press n , use +512M to limit the size , press t ,press ef to change the type of partition type ,press w to save it. Partition 1 is EFI system partition and 512 M size.(efi)

mkfs.fat -F32 /dev/sda1 (format the partition.) (first time I forgot to format sda1, sothat I can not mount the file system)

fdisk /dev/sda press n, press +1G to set the size. This one is Linux swap with 1G size. (swap)

mkswap /dev/sda2(initialize this partition)

fdisk /dev/sda , press n to partition it. (This is root and size is remainder of the device, 18.5G (root))

mkfs.ext4 /dev/sda3 (format this partition)

mount /dev/sda3 /mnt (mount the root)

mkdir /mnt/boot (make a directory for sda1)

mount /dev/sda1 /mnt/boot (mount sda1 to /mnt/boot)

swapon /dev/sda2 (enable swap volume)

vim /etc/pacman.d/mirrorlist(change the mirror if you want)

pacstrap /mnt base base-devel linux linux-firmware dhcpcd iwd vim sudo nano bash-completion(install essential packages)

(first time I didn’t install dhcpcd so that my system can not connect internet after I complete install process)

genfstab -L /mnt >> /mnt/etc/fstab (generate an fstab file)

cat /mnt/etc/fstab (check the file just created)

arch-chroot /mnt (change root into the new system)

**TimeZone**

ln -sf /usr/share/zoneinfo/Asia/Shanghai /etc/localtime ( change the local time to shanghai)

hwclock –systohc (generate /etc/adjtime)

pacman -S vim dialog wpa\_supplicant ntfs-3g networkmanager netctl (install some package)

**Localization**

vim /etc/locale.gen (edit the file) and uncomment en\_US.UTF-8 UTF-8

locale-gen(generate locales)

vim /etc/locale.conf (insert “LANG=en\_US.UTF-8”)

vim /etc/hostname (Arch is myhostname)

vim /etc/hosts

insert the below content.

(127.0.0.1 localhost

::1 localhost

127.0.1.1 Arch.localdomain Arch)

Passwd (123456 , set the root password)

pacman -S intel-ucode (install intel ucode, because my device is intel cpu)

pacman -S os-prober ntfs-3g (install 2 package which helpful)

pacman -S grub efibootmgr (install grub and efibootmgr)

grub-install --target=x86\_64-efi --efi-directory=/boot --bootloader-id=grub

grub-mkconfig -o /boot/grub/grub.cfg (generate config file)

exit

umount /mnt/boot

umount /mnt

reboot

dhcpcd ( after reboot, I have to make sure my device internet works fine)

**Swap file:**

dd if=/dev/zero of=/swapfile bs=1M count=512 status=progress （I create a swap file which 512 M）

chmod 600 /swapfile

mkswap /swapfile

swapon /swapfile

vim /etc/fstab

/swapfile none swap defaults 0 0

**Add user:**

useradd -m -G wheel zhr6212

passwd zhr6212 1234567

useradd -m -G wheel sal

passwd sal GraceHopper1906

passwd -e sal

useradd -m -G wheel codi

passwd codi GraceHopper1906

passwd -e codi

visudo(uncomment the ‘%wheel ALL=(ALL)ALL’ to make sure ‘sal’ and ‘codi’ has sudo power)

pacman -S sudo (install sudo package)

pacman -Ss xf86-video-nouveau (install nvidia open source drive ,because my device is RTX 3060)

sudo pacman -S xorg (install Xorg)

sudo pacman -S xfce4 xfce4-goodies (install Xfce)

sudo pacman -S sddm (install sddm)

sudo systemctl enable sddm (enable sddm)

sudo systemctl disable netctl (disable netctl)

sudo systemctl enable NetworkManager （enable networkmanager）

sudo pacman -S network-manager-applet

pacman -S openssh (install ssh)

pacman -S zsh (install zsh)