Arch Linux Installation Guide

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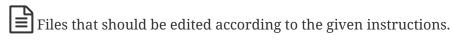
This is just a small memory helper for our personal use.

To gain deeper knowledge, the fabulous Arch Wiki should be considered.

Explanation for used icons.



_ Commands that should literrally being input to the console.



1. Check Harddisks



Choose the disk you are going to format wisely!

>_ List all installed harddisks.

lsblk



In this document sda1 is used as the boot partition, sda2 is the root partition. This might be different on each computer, depending on hardware and individual settings.

2. Download current Arch Linux iso

Go to the Arch Linux homepage and townload the boot image to install.

>_ Write downloaded image to USB thumb-drive.

sudo dd if=archlinux-2017.04.01-x86_64.iso of=/dev/sdX bs=4M && sync



Check again wich drive you are going to overwrite with dd. That command overwrites the whole drive and is **not** reversible. If you are sure replace /dev/sdX.

3. Set keyboard layout

>_ List all available keyboard maps and optionally filter for your preferred language.

ls /usr/share/kbd/keymaps/**/*.map.gz | grep -i ch

>_ Load preferred keyboard layout.

4. Create Partitions

>_ Create new partitions with gdisk.

gdisk /dev/sda

4.1. Delete current partitions

>_

p Enter

display current partitions.

d Enter

delete partition

1 Enter

select partition to delet

d Enter

delete partition (automatically selected if only one)

If you have 8GB or less of memory, a swap partition might be a good idea. Create a separate partiotion /dev/sdaX and set it up for swap.



mkswap /dev/sdaX swapon /dev/sdaX

4.2. Create first partition for boot

>_ Create new partitions with gdisk.

n Enter

create new partition

Enter

start from first free sector

+512M Enter

set size of EFI partition

set type of partition to EFI

4.3. Create second partition for root

>_ Create new partitions with gdisk.

n Enter

create new partition

Enter

start from first free sector

Enter

set size of Linux partition (use full size)

8300 Enter

set type of partition to Linux

w Enter

write changes to disk

y Enter

confirm

5. Make Filesystem

>_ Format the /boot partition as FAT32. The /root partition can be formated as btrfs, ext4 or whatever you prefer.

```
mkfs.vfat /dev/sda1
mkfs.btrfs /dev/sda2
```

6. Mount Partitions

>_ Mount the root partition to folder /mnt and then create a folder boot in it, where you mount the other partition boot.

```
mount /dev/sda2 /mnt
mkdir /mnt/boot
mount /dev/sda1 /mnt/boot
```

7. Optionally set mirrors

You can place servers near your country on top to increase speed.

/etc/pacman.d/mirrorlist

8. Setup Network connections

Either plugin a Ethernet cable or setup WiFi.

wifi_menu

 \bigcirc

Check connection

ping nba.com

9. Start installing base system

>_

pacstrap /mnt base base-devel

10. Generate fstab File

>_ Write currently mounted partitions to *fstab* file to make it persistant, then check the content of the created file.

genfstab -U /mnt >> /mnt/etc/fstab
cat /mnt/etc/fstab

11. Chroot

>_ Change into chroot environment, which is basically you already logged in to the system you are going to create. Everything you do or install here is going to be in your final installation.

arch-chroot /mnt

12. Edit pacman Config

■ Uncomment [multilib] repo and line below.

/etc/pacman.conf

In vim you can search with /, then go to beginning of line 0 and clear one character x. Then go one line down j and do the same.



```
/[multi
0x
j0x
```

Under Misc Options set or uncomment following options.



Color CheckSpace ILoveCandy

13. Update and Install packages

>_

```
pacman -Syu
pacman -S vim git sudo dialog wpa_supplicant iw wget efibootmgr intel-ucode
```

14. Set Timezone and hardware clock

>_

```
ln -sf /usr/share/zoneinfo/Europe/Zurich /etc/localtime
hwclock --systohc --utc
```

15. Set Locale Settings

Uncomment additional needed localalizations, en_US should already be uncommented.

/etc/locale.gen

Search for de_CH delete # and save file in vim.



```
/de_CH
0
x
ZZ
```

>_ Activate locales.

locale-gen

B Set main language of system to de_CH and set some system wide settings.

/etc/locale.conf

LANG=de_CH.UTF-8 LC_PAPER=a4

🖹 Set input language for virtual console (before X is started).

/etc/vconsole.conf

KEYMAP=de_CH-latin1

16. Set Hostname

ightharpoonup Give your computer a cool name.

/etc/hostname

17. Set Root password

>_ Set new password when promted, then enter it again.

passwd

18. Create a new User

>_

```
useradd -mg users -G wheel,optical,lock,uucp <NEW_USER>
passwd <NEW_USER>
```

18.1. Let the User do sudo

>_ Open file and uncomment line %wheel ALL=(ALL) ALL.

```
visudo
```

19. Create mkinitramfs

>_ Run mkinitcpio to generate 🐧 Linux image.

```
mkinitcpio -p linux
```

20. Install Bootloader

20.1. Systemd-Boot (pka GummiBoot) [recommended]

Arch Wiki > Check if EFI is mounted and install *systemd-boot*.

```
efivar -l
bootctl --path=/boot install
```

Create a file for each image (Linux system) you want to be able to start.

```
/boot/loader/entries/arch.conf
```

This file should contain following lines, while the **PARTUUID** should be adapted to your hardware.



l -l /dev/disk/by-partuuid | grep sda1 | cut -d' ' -f9

20.1.1. Update systemd-boot after every release

>_

bootctl --path=/boot update



Alternatively you can install a package from AUR which adds a Pacman hook, that updates systemd-boot automatically.

packer systemd-boot-pacman-hook

20.2. Grub [only recommended for non UEFI systems]

>_ Install Grub.

sudo pacman -S grub

>_ Select harddisk to install grub to. **No** seperate partition needed!

grub-install --target=i386-pc /dev/sda

21. Finish and clean-up

>_

exit umount -a reboot