Arch Linux
Installation Guide

Written by Volunteers

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Important Notes :

This installation guide is *specialized* for computers with *BIOS* firmware.

This guide is based on the *ArchWiki installation guide*.

After reading this guide you should consider reading this one :

"Things to do After Installing Arch"

1. Download the iso image
2. Verify *signature*
3. Prepare an *installation medium*
4. Connect to the internet
5. Partition the disks
6. Format the partitions
7. Mount the file systems
8. Install essential packages
9. Fstab
10. Chroot
11. Localization
12. Network configuration
13. Root password
14. Boot loader
15. Reboot
16. Set time zone
17. Select the mirror
18. Install *Desktop Environment*
19. Post-installation

1 Download the iso image

You can *download* Arch Linux from its official website.

2 Verify signature

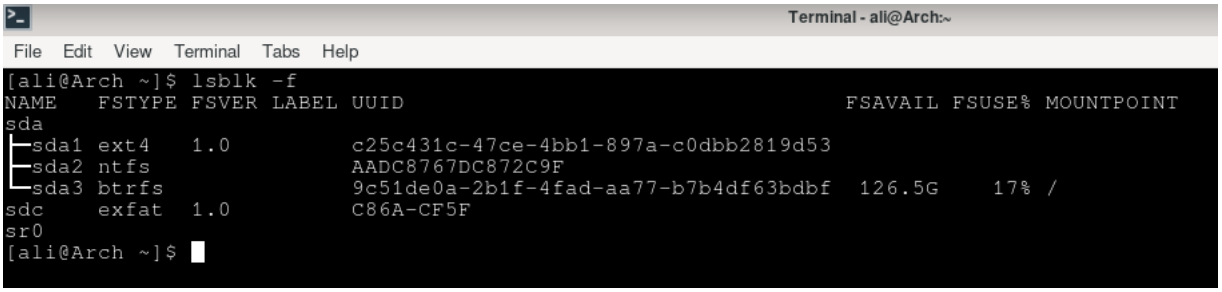
Install GnuPG on your Linux distribution and *verify* the iso *signature*.

3 prepare an installation medium

First of all plug in your usb flash drive to your device usb port.

$ lsblk -f

With this command you can find your usb flash drive name.



Now you can make a *bootable* usb flash drive with *"dd"* utility.

dd bs=4M status=progress if=arch.iso of=/dev/sdc oflag=sync

1. Enter the iso image path instead of *"arch.iso"*
2. Enter your usb flash drive name instead of *"/dev/sdc"*

4 Connect to the internet

I recommend you to use Ethernet instead of Wifi.

5 Partition the disks

I want to make a *swap file* instead of *swap partition*. So i make one partiton.

Enter this command :

```
# cfdisk /dev/sda
```

1. Make one partition and select *"Linux (83)"* as its type
2. Set the *"bootable flag"* for this partition
3. Write partition table to disk and select *"Quit"*

6 Format the partitions

I prefer the Btrfs format :

```
# mkfs.btrfs /dev/sda1
```

7 Mount the file system

Mount your [root] partition to "/mnt" :

```
# mount /dev/sda1 /mnt
```

8 Install essential packages :

Use pacstrap to install essential packages.

```
# pacstrap /mnt base linux linux-firmware man-db man-pages vim
```

9 Fstab

Generate an *fstab* file with *"gen-fstab"* command :

```
# genfstab -U /mnt >> /mnt/etc/fstab
```

10 Chroot

Change root into the new system :

```
# arch-chroot /mnt
```

11 Localization

For this part folow this instruction :

vim /etc/locale.gen
Uncomment the *"en_US.UTF-8 UTF-8"*
Uncomment other *locales* , if needed
locale-gen
vim /etc/locale.conf
Add "LANG=en_US.UTF-8" and save changes

12 Network configuration

Folow this instruction :

1. # vim /etc/hostname
2. *Enter* your *"hostname"* and save the changes
3. Add matching entries to *"/etc/hosts"* :

127.0.0.1	localhost
::1	localhost
127.0.1.1	myhostname.localdomain myhostname

4. Replace *"myhostname"* with your hostname
5. Replace *"localdomain"* with your localdomain
6. Install and start network manager :

pacman -S networkmanager
systemctl enable NetworkManager

7. Now you can use *"nmcli"* & *"nmtui"* utilities to connect to the internet

13 Root password

Set the root password with this command :

passwd

Now enter the *"New password"*. And *again* !

14 Boot loader

Choose and install a Linux-capable *boot loader* and install microcode.

1. # pacman -S grub (boot loader)
2. Install microcode :

```
# pacman -S intel-ucode (for intel processors)
# pacman -S amd-ucode (for amd processors)
```

3. Install *"os-prober"* & *"ntfs-3g"* :

```
# pacman -S os-prober ntfs-3g
# grub-install --target=i386-pc /dev/sda
# grub-mkconfig -o /boot/grub/grub.cfg
```

15 Reboot

Exit the chroot environment by typing *"exit"* or pressing *"Ctrl+d"*.

Finally, restart the machine by typing *"reboot"*.

16 Set time zone

Follow this instruction :

1. # timedatectl set-ntp true

```
# ln -sf /usr/share/zoneinfo/Region/City /etc/localtime
```

2. Replace *"/Region/City"* with your region and city. this one is for Iran

```
# ln -sf /usr/share/zoneinfo/Asia/Tehran /etc/localtime
```

3. # hwclock --systohc

17 Select the mirror

You can find the fastest mirror by this command :

```
# pacman -S reflector
# reflector --country Germany --age 12 --protocol https --sort rate --save /etc/pacman.d/mirrorlist
# pacman -Syy
```

You can replace *"Germany"* with other countries.

18 Install *Desktop Environment*

I show you how to install *xfce4* with *lightdm* :

1. Install graphics card driver :

```
# pacman -S xf86-video-amdgpu xf86-video-ati
```

2. For other graphics cards search *"xf86-video"* and find the driver name

```
# pacman -Ss xf86-video
# pacman -S xf86-video-nouveau (for Nvidia graphic cards)
```

3. Install lightdm & xfce4

```
# pacman -S xorg-server
# pacman -S lightdm lightdm-gtk-greeter lightdm-gtk-greeter-settings
# systemctl enable lightdm
# pacman -S xfce4
# reboot
```

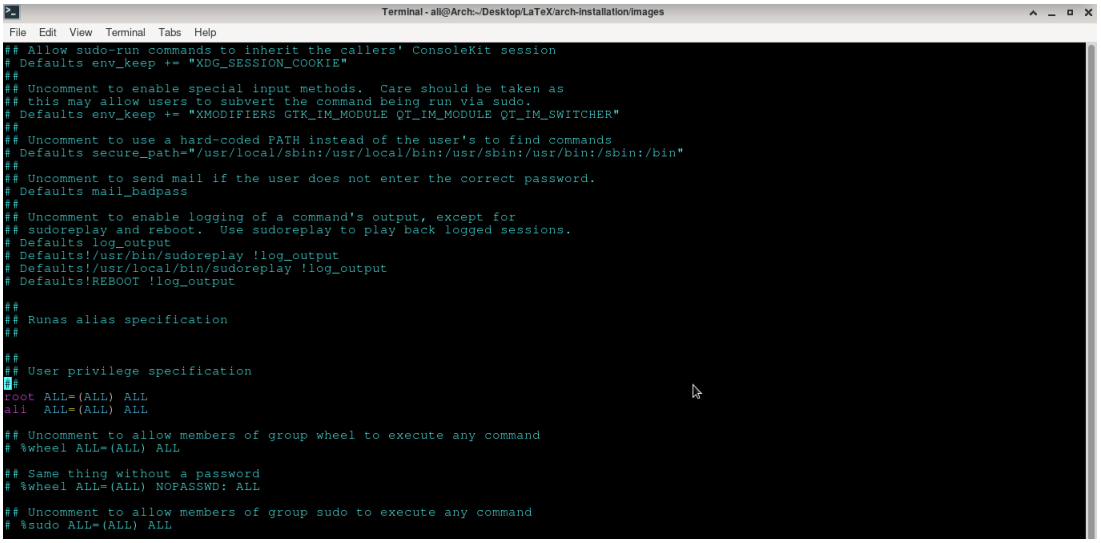
19 Post-installation

For this part you can read my another guide about Arch Linux :

"Things to do After Installing Arch"

1. Login as *root* and create a user and add it to the *"wheel"* group :

pacman -S sudo
useradd -mG wheel [user name]
vim /etc/sudoers
Edit the sudoers file like this :



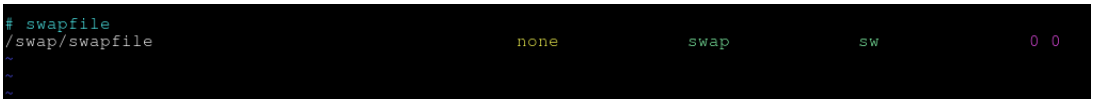
replace *"ali"* with your *"user name"*

2. Now you can use *"sudo"* for your commands

3. you can make swapfile (4G) by this instruction :

mkdir /swap
chattr +C /swap (for Btrfs)
cd /swap
dd if=/dev/zero of=/swap/swapfile bs=1024 count=4M
chmod 600 /swap/swapfile
mkswap /swap/swapfile
swapon /swap/swapfile

4. you can set any size for swapfile (size = bs×count)
5. edit fstab file :

vim /etc/fstab
Add these lines to the fstab file :

Save changes !
reboot

Arch Wiki provides a *general recommendations* for this purpose.

END !