

arch linux installation guide

PART ONE: BASIC INSTALLATION

1. Download archlinux iso from archlinux.org
2. Verify signature

On any linux system

```
gpg --keyserver-options auto-key-retrieve --verify archlinux-version-x86_64.iso.sig
```

or on an already installed os, arch you can type

```
pacman-key -v archlinux-version-x86_64.iso.sig
```

3. Burn the downloaded iso into a optical disc or use a USB stick, for the usb stick(in my case), this can be done with **ventoy** or through the **dd** command.

With **dd** do

```
dd if=/path/to/the/iso of=/path/to/the/devices
```

with **ventoy** do

```
ventoy ...
```

After doing this, connect your usb stick in to an appropriate port of your pc, boot it(note that the boot order can be changed through the **BIOS**) Entering the boot mode of you pc can usually be triggered either through one of the `f{1..11}` keys.

4. Set the keyboard layout

For of keyboard layouts can be found here

```
ls /usr/share/kbd/keymaps/**/*.map.gz
```

so to modify keyboard layout, do

```
loadkeys layout_name
```

where `layout_name` is the name which correspond to the file in `/usr/share/kbd/keymaps/**/*.map.gz` with its extension omitted

5. Verify the boot mode

try this

```
ls /sys/firmware/efi/efivars
```

Now get this: if the command list the content of **efivars** directory with no errors, then the system is booted in *EFI* mode but if the directory doesn't exist, then the system is instead boot in BIOS mode.

6. Connecting to the internet

use

`ip link`

to list the possible network interface, either use an ethernet cable(plug it in),
`iwctl`(for wifi), `mmcli`(for mobile broadband modem) to connect to the internet

configure `dhcp`(`systemd-networkd`), `dns`(`system-resolved`).

verify connection via

`ping archlinux.org`

7. Update system clock through

`timedatectl set-ntp true`

8. Partition your disk via `fdisk` utility

(skip this if already did on another OS)

After partitioning, mount your choosen partition with

`mount /dev/sdX /mnt`

9. Create a swap patition with the following commands

`mkswap /dev/sdY`

`swapon /dev/sdY`

10. Install essential packages via `pacstrap` script

`pacstrap /mnt base linux linux-firmware`

PART TWO: SYSTEM CONFIGURATION

11. Generate `fstab`

use `-U`(recommended) or `-L` flag to identify the partition either by it UUID or LABEL respectively

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

12. Chroot into your system

`arch-chroot /mnt`

13. Timezone

Set up your timezone

`ln -sf /usr/share/zoneinfo/YourRegion/YourCity /etc/localtime`

Run `hwclock` to generate `/etc/adjtime`

`hwclock --systohc`

14. Localization

Edit `/etc/locale.gen` and uncomment `en_US.UTF-8` UTF-8 and other needed locales. Generate the locales by running:

```
locale-gen
```

Create the `locale.conf(5)` file, and set the `LANG` variable accordingly:

```
in /etc/locale.conf
```

```
LANG=en_US.UTF-8
```

If you set the keyboard layout, make the changes persistent in `vconsole.conf(5)`

```
in /etc/vconsole.conf put
```

```
KEYMAP=de-latin1
```

15. Network configuration

Create the `hostname` file:

```
in /etc/hostname put
```

```
myhostname
```

Add matching entries to `hosts(5)`:

```
in /etc/hosts
```

```
127.0.0.1    localhost
::1         localhost
127.0.1.1    myhostname.localdomain myhostname
```

If the system has a permanent IP address, it should be used instead of `127.0.1.1`.

Complete the network configuration for the newly installed environment, that may include installing suitable network management software.

16. Initramfs

Creating a new `initramfs` is usually not required, because `mkinitcpio` was run on installation of the kernel package with `pacstrap`.

For LVM, system encryption or RAID, modify `mkinitcpio.conf(5)` and recreate the `initramfs` image:

```
mkinitcpio -P
```

17. Root password

```
passwd
```