Arch Linux Installation and Configuration Guide

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Purpose

I made this guide for myself, so that I have a complete reference for the things I always do during a fresh install and the problems I always run into. The goal here is to create a guide that if followed exactly, creates my personal configuration of arch linux in a short time. If you somehow stumbled upon this abomination and would like to use it, I would recommend otherwise but I cannot force you. In any case, I'm sorry.

1 Installing Arch

This guide is made specifically for my own laptop and for my own setup, it is probably not the best installation method, it is also probably missing some essential stuff. This is the last warning, beware. (Mostly ripped from this guide.)

1.1 Optional: Wipe Previous Partitions

From the live usb, first do:
`fdisk /dev/sda`
Then do:
`d`
And then finally enter the number of the partition to be deleted. Repeat as necessary. And finally, write changes with:
`w`

1.2 Installation

Update repository index;
`pacman -Syyy`

Start the partitioner;
`fdisk /dev/[DRIVE]`

Create EFI partition;
```
g
n
enter
enter
+500M
t
1
```

Create root partition;
```
n
enter
enter
+30G
```

Create home partition;
```
n
enter
enter
enter
```

Finalize;
```
w
```

Format the EFI partition;
```
mkfs.fat -F32 /dev/[PARTITION 1]
```

Format the root partition;
```
mkfs.ext4 /dev/[PARTITION 2]
```

Format the home partition;
```
mkfs.ext4 -F32 /dev/[PARTITION 3]
```

Mount the root partition;
```
mount /dev/[PARTITION 2] /mnt
```

Make a mount point;
```
mkdir /mnt/home
```

Mount the home partition with;
```
mount /dev/[PARTITION 3] /mnt/home
```

Create /etc directory;
```
mkdir /mnt/etc
```

Create /etc/fstab;
```
genfstab -U -p /mnt >> /mnt/etc/fstab
```

Install Arch Linux base packages with;
```
pacstrap -i /mnt base
```

Chroot into the installation;
```
arch-chroot /mnt
```

Install kernel and headers;
```
pacman -S linux linux-headers
```

Install these packages;
```
pacman -S nano base-devel networkmanager wpa_supplicant wireless_tools
netctl
```

Enable networkmanager;
```
systemctl enable NetworkManager
```

Create the initial ramdisk for the kernel;
```
mkinitcpio -p linux
```

Prepare locale.gen;
```
nano /etc/locale.gen
```

Generate locale;
```
locale-gen
```

Set root password;
```
passwd
```

Create user;
```
useradd -m -g users -G wheel [USERNAME]
```

Set password for the user;
```
passwd [USERNAME]
```

Install sudo if it isn't installed;
```
pacman -S sudo
```

Edit visudo to allow user to sudo;
```
EDITOR=nano visudo
```

Install packages for GRUB;
```
pacman -S grub efibootmgr dosfstools os-prober mtools
```

Create directory for EFI boot;
```
mkdir -p /boot/EFI
```

Mount the EFI partition:
```
mount /dev/[PARTITION 1] /boot/EFI
```

Install GRUB;
```
grub-install --target=x86_64-efi --bootloader-id=grub_uefi --recheck
```

Copy the locale file to locale dir;
```
cp /usr/share/locale/en\@quot/LC_MESSAGES/grub.mo /boot/grub/locale/en.mo
```

Generate GRUB config;
```
grub-mkconfig -o /boot/grub/grub.cfg
```

Install CPU Microde files;
```
pacman -S intel-ucode
```

Install Intel 3D support;
```
pacman -S mesa
```

Reboot.

2 Packages and Configuration

After the Arch installation is complete, it is time to install certain packages and configure them.

2.1 Part One - The Essentials

The packages in this part are the packages that I recommend everyone to install. (AUR packages will have a * next to their names);

1. git
2. auracle-git *
3. pacaur *
4. xorg-server xorg-xinit xorg-xclock xterm xorg-apps xorg-twm
5. alsa-utils pulseaudio pulseaudio-alsa
6. compton lightdm lightdm-gtk-greeter lightdm-gtk-greeter-settings
7. i3-gaps i3blocks i3status
8. dmenu

Enable lightdm.service

2.2 Part Two - The Additionals and The Dotfiles

The packages in this part are for functions that most people would want on their PCs, the ones listed here are the ones that my dotfiles are tailored around but otherwise it comes down to personal preference.(AUR packages will have a * next to their names);

1. noto-fonts noto-fonts-extra noto-fonts-cjk noto-fonts-emoji bdf-unifont
2. rxvt-unicode
3. dunst
4. feh
5. firefox
6. cmus playerctl
7. cava *
8. ranger
9. neofetch

After installing these packages, firstly do;
`sudo chown -R [username]:[usergroup] /home/[username]`
Afterwards, clone the dotfiles from the their GitHub page. and copy them to your home directory.

2.3 Part Three - Other Packages To Install

These packages are not necessary for the system or my configuration, but I like to have them in any case. (AUR packages will have a * next to their names);

1. telegram-desktop
2. mupdf

After you've finished installing all the packages you want, clean orphan packages with;
`sudo pacman -Rnsc $(pacman -Qtdq)`
and finally reboot to see if everything is working correctly.

3 Troubleshooting

In this section there will be the solutions to the problems I have encountered and further configurations I like to make on the apps & programs installed.

3.1 tty Has The Wrong Keyboard Layout

For tty, permanently set the keyboard layout by editing;
`etc/vconsole.conf`
and adding
`KEYMAP=trq`

3.2 WiFi Card Is Recognised But It Doesn't Work

Firstly make sure the WiFi card is recognised and get the model of the card with
`lspci`
Then navigate to this link and download the necessary firmware (in this case it's Dual Band Wireless-AC 3168). Extract the contents of the file and navigate inside the extracted directory, then do;
`sudo cp iwlwifi-3168-22.ucode /usr/lib/firmware/`

3.3 cava - Invisible Bars

Firstly, check if the fonts specified in subsection **2.2** are installed correctly. If they are, check if the system locale is set to `en_US.UTF-8`. Finally, to the file;
`/etc/environment`
Add the lines;

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