

1. UEFI & Keyboard & Locale

```
ls /sys/firmware/efi/efivars «=> if any error change to MBR+BIOS Legacy  
efibootmgr «=> should list "Linux Boot Manager"
```

```
loadkeys br-abnt2
```

```
nano /etc/locale.gen «=> unmark LANG=pt_BR.UTF-8  
locale-gen  
nano /etc/locale.conf «=> set LANG=pt_BR.UTF-8
```

2. Network & Connectivity

```
ip link  
iwctl  
device list  
station wlan0 scan  
station wlan0 get-networks  
station wlan0 connect  
exit  
ping archlinux.org
```

```
timedatectl
```

```
ls /usr/share/kbd/consolefonts/ | grep ter-128b  
if yes: setfont ter-128b  
if not: pacman -Sy terminus-font  
if ok: setfont ter-128b «=> for best readability
```

3. Partitioning & Formatting

```
parted /dev/nvme0n1 mklabel gpt  
parted /dev/nvme0n1 mkpart ESP fat32 1MiB 1025MiB  
parted /dev/nvme0n1 set 1 esp on  
parted /dev/nvme0n1 mkpart primary linux-swap 1025MiB 9217MiB  
parted /dev/nvme0n1 mkpart primary btrfs 9217MiB 100%
```

```
mkfs.fat -F32 /dev/nvme0n1p1  
mkswap /dev/nvme0n1p2  
swapon /dev/nvme0n1p2  
mkfs.btrfs -L ROOT /dev/nvme0n1p3
```

4. Mounting btrfs Subvolumes

```
mount /dev/nvme0n1p3 /mnt  
btrfs subvolume create /mnt/@  
btrfs subvolume create /mnt/@home  
btrfs subvolume create /mnt/@log
```

```
btrfs subvolume create /mnt/@cache
btrfs subvolume create /mnt/@snapshots
umount /mnt

mount -o subvol=@ /dev/nvme0n1p3 /mnt
mkdir -p /mnt/{home,var/log,var/cache,var/snapshots}
mount -o subvol=@home /dev/nvme0n1p3 /mnt/home
mount -o subvol=@log /dev/nvme0n1p3 /mnt/var/log
mount -o subvol=@cache /dev/nvme0n1p3 /mnt/var/cache
mount -o subvol=@snapshots /dev/nvme0n1p3 /mnt/var/snapshots
mkdir -p /mnt/boot
mount /dev/nvme0n1p1 /mnt/boot
```

5. Base System Installation

```
reflector --latest 20 --sort rate --save /etc/pacman.d/mirrorlist

pacstrap -K /mnt base linux-zen linux-firmware intel-ucode vulkan-intel
vulkan-mesa-device-select vulkan-tools apparmor btrfs-progs dhcpcd hwdetect
iproute2 iwd mkinitcpio mkinitcpio-busybox mkinitcpio-systemd-tool
mkinitcpio-utils net-tools netctl networkmanager sudo systemd systemd-
resolvconf util-linux wpa_supplicant «» packs focused in the Intel chipset

genfstab -U /mnt > /mnt/etc/fstab «» disk partition mount table
```

6. Chroot Configuration

```
arch-chroot /mnt «» entering to chroot environment

ln -sf /usr/share/zoneinfo/America/Araguaina /etc/localtime
hwclock --systohc
nano /etc/locale.gen «» check if LANG=pt_BR.UTF-8 is selected
locale-gen
nano /etc/locale.conf «» set LANG=pt_BR.UTF-8
nano /etc/vconsole.conf «» set KEYMAP=br-abnt2
nano /etc/hostname «» set book (choice a name as prefer)

passwd «» setting “root” admin password
useradd -m -g users -G wheel -s /bin/bash archer (choice a name as prefer)
passwd archer «» setting “archer” sudo password
EDITOR=nano visudo
%wheel ALL=(ALL:ALL) ALL «» uncomment for enabling sudo for “archer” user
```

7. Bootloader (systemd-boot)

```
bootctl install

blkid /dev/nvme0n1p3 «» catch the UUID in PARTUUID field

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

```
title Arch Linux Zen
linux /vmlinuz-linux-zen
initrd /intel-ucode.img
initrd /initramfs-linux-zen.img
options root=PARTUUID=<UUID catched> rw
rootflags=subvol=@,compress=zstd,ssd,discard=async,space_cache=v2 apparmor=1
security=apparmor quiet loglevel=3
```

```
nano /boot/loader/entries/arch-fallback.conf
```

```
title Arch Linux Fallback
linux /vmlinuz-linux-zen
initrd /intel-ucode.img
initrd /initramfs-linux-zen-fallback.img
options root=PARTUUID=<UUID catched> rw
rootflags=subvol=@,compress=zstd,ssd,discard=async,space_cache=v2 apparmor=1
security=apparmor quiet loglevel=3
```

```
nano /boot/loader/loader.conf
```

```
default arch.conf
timeout 2
console-mode max
editor no
```

```
ls /sys/firmware/efi/efivars «=> check if UEFI remain active
efibootmgr «=> should list "Linux Boot Manager"
```

```
systemctl enable NetworkManager.service «=> enable network access options
```

```
mkinitcpio -P
```

```
exit «=> exiting from chroot environment
```

```
umount -R /mnt
swapoff -a
```

```
shutdown
```

```
remove the USB drive before "initiate"
```

8. Post-Installation Network Configuration

Login: **root**

```
systemctl start NetworkManager.service
```

```
nmcli general status
nmcli device status
nmcli device wifi list
nmcli device wifi connect "wifi name" password "wifi password"
```

```
e.g.: nmcli device wifi connect "my-network" password "1234567890"
```

```
pacman -Sy terminus-font  
setfont ter-128b
```

9. Installing GNOME and Essential Packages

```
[ 96 GUI Package ] pacman -S adwaita-icon-theme contrast decibels eog  
eyedropper file-roller firefox firefox-i18n-pt-br foliate fragments gdm gedit  
gedit-plugins gimp gimp-help-pt_br gnome gnome-applets gnome-backgrounds  
gnome-bluetooth gnome-browser-connector gnome-calendar gnome-characters  
gnome-clocks gnome-color-manager gnome-commander gnome-control-center gnome-  
disk-utility gnome-firmware gnome-info-collect gnome-keyring gnome-logs  
gnome-menus gnome-music gnome-nettool gnome-online-accounts gnome-packagekit  
gnome-power-manager gnome-remote-desktop gnome-screenshot gnome-session  
gnome-settings-daemon gnome-shell gnome-shell-extension-appindicator gnome-  
shell-extension-arc-menu gnome-shell-extension-caffeine gnome-shell-  
extension-dash-to-panel gnome-shell-extension-weather-oclock gnome-shell-  
extensions gnome-system-monitor gnome-terminal gnome-text-editor gnome-  
themes-extra gnome-tweaks gnome-usage gnome-user-docs gnome-user-share gnome-  
weather gparted grilo-plugins gthumb gvfs gvfs-afc gvfs-dnssd gvfs-goa gvfs-  
gphoto2 gvfs-mtp gvfs-nfs gvfs-smb gvfs-wsdd letterpress loupe morphosis mpv  
mutter nautilus network-manager-applet orca papers pavucontrol qalculate-gtk  
rygel seahorse shotwell showtime simple-scan snapshot system-config-printer  
timeshift xdg-desktop-portal-gnome xdg-user-dirs-gtk xkeyboard-config xorg-  
server yelp yelp-tools yelp-xsl zed
```

```
[ 89 CLI Package ] pacman -S alsa-utils aspell aspell-en aspell-pt at-spi2-  
core avahi bat bind-tools bluez bluez-utils colord cronie cups cups-browsed  
cups-filters cups-pdf curl ethtool fail2ban fd ffmpeg firewalld foomatic-db  
foomatic-db-engine foomatic-db-ppds fwupd fzf git glances grc gst-plugins-  
base gst-plugins-base-libs gutenprint hspell htop hunspell imagemagick inxi  
less libinput libssh libssh2 libvncserver libvoikko libwireplumber  
localsearch lsd lsopf man-db man-pages mesa-utils meson micro ninja nmap nss-  
mdns nuspell p7zip parted pipewire pipewire-pulse powertop pwgen qt5-wayland  
qt6-wayland ripgrep smartmontools speedtest-cli tecla tinysparql tlp tree  
unzip upower v4l-utils v4l2loopback-utils wget wireless_tools wireplumber yt-  
dlp zip zram-generator zsh zsh-autocomplete zsh-autosuggestions zsh-  
completions zsh-history-substring-search zsh-lovers zsh-syntax-highlighting
```

```
systemctl enable gdm.service  
systemctl status gdm.service  
systemctl enable apparmor.service  
systemctl enable avahi-daemon.service  
systemctl enable bluetooth.service  
systemctl enable cups.service  
systemctl enable cups-browsed.service  
systemctl enable firewalld.service  
systemctl enable timeshift.timer  
systemctl enable tlp.service
```

reboot

Login: **user** «=> if fail → make login by CLI

CLI command: sudo systemctl start gdm.service

11. Services and Optimizations

sudo nano /etc/mkinitcpio.conf

HOOKS=(base udev autodetect microcode modconf kms keyboard keymap consolefont block filesystems fsck) «=> fields that must be verified

1. make setup in gnome-control-center
2. make setup in gnome-shell-extensions
3. make setup in gnome-tweaker
4. configure fstab: sudo nano /etc/fstab
5. configure timeshift
6. configure zram-generator
7. zsh «=> chsh -s /bin/zsh archer
8. install fonts :

```
sudo pacman -S gnu-free-fonts ttf-atkinson-hyperlegible ttf-bitstream-vera  
ttf-caladea ttf-carlito ttf-cascadia-code ttf-croscore ttf-dejavu ttf-droid  
ttf-fira-code ttf-fira-mono ttf-fira-sans ttf-firacode-nerd ttf-hack ttf-ibm-  
plex ttf-inconsolata ttf-input ttf-jetbrains-mono ttf-junicode ttf-junicode-  
variable ttf-liberation ttf-libertinus ttf-linux-libertine ttf-linux-  
libertine-g ttf-meslo-nerd ttf-mona-sans ttf-monospace-frozen ttf-monospace-  
variable ttf-opensans ttf-roboto ttf-roboto-mono
```

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