

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 <--> Time Zone Setting
```

```
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 for Intel Chipset

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

pacstrap -K /mnt base linux-firmware linux-zen linux-zen-headers dkms dracut
intel-ucode vulkan-intel vulkan-mesa-device-select vulkan-tools apparmor
btrfs-progs efibootmgr iwd nano networkmanager sudo

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 enabled
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 (choose a preferred name)

passwd <--> setting "root" admin password
useradd -m -g users -G wheel -s /bin/bash archer (choose a preferred name)
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

dracut --force

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

on the next page ...
```

9. Installing GNOME and Essential Packages

```
pacman -S adwaita-icon-theme contrast decibels eog evolution extension-
manager eyedropper file-roller firefox firefox-i18n-pt-br foliate fragments
gdm gedit gedit-plugins gimp gimp-help-pt_br gnome gnome-backgrounds gnome-
bluetooth gnome-browser-connector gnome-calendar gnome-characters gnome-
clocks gnome-color-manager gnome-control-center gnome-disk-utility gnome-
firmware gnome-info-collect gnome-keyring gnome-logs gnome-music gnome-
online-accounts gnome-power-manager 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-terminal gnome-
text-editor gnome-themes-extra gnome-tweaks gnome-usage gnome-user-docs
gnome-weather gparted grilo-plugins gthumb gvfs gvfs-afc gvfs-dnssd gvfs-goa
gvfs-gphoto2 gvfs-ftp 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 yelp yelp-tools
yelp-xsl zed
```

```
pacman -S alsaview aspell aspell-en aspell-pt at-spi2-core avahi bashtop
bat bind-tools bluez bluez-utils bpytop btop btrfs-progs 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 hwinfo
imagemagick inxi iproute2 less libssh libssh2 libvncserver libvoikko
libwireplumber localsearch lsd lssof man-db man-pages mesa-utils meson micro
mission-center nano ninja nmap nss-mdns ntfs-3g nuspell p7zip pacman-contrib
parted pipewire pipewire-pulse powertop pwgen qt5-wayland qt6-wayland
reflector 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 cronie.service
systemctl enable cups.service
systemctl enable cups-browsed.service
systemctl enable firewalld.service
systemctl enable tlp.service
```

reboot

Login: user <--> if fail → make login by CLI

CLI command: sudo systemctl start gdm.service

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11. Configurations and Optimizations

1. configure in gnome-control-center
2. configure in gnome-shell-extensions
3. configure in gnome-tweaker
4. configure fstab: sudo nano /etc/fstab
5. configure timeshift
6. configure zram-generator
7. configure zsh: chsh -s /bin/zsh \$USER
8. install fonts :

```
sudo pacman -S gnu-free-fonts ttf-anonymous-pro ttf-atkinson-hyperlegible  
ttf-bitstream-vera ttf-caladea ttf-carlito ttf-cascadia-code ttf-crimson-pro  
ttf-crimson-pro-variable ttf-croscore ttf-dejavu ttf-doulos-sil ttf-droid  
ttf-eurof ttf-fantasque-sans-mono ttf-fira-code ttf-fira-mono ttf-fira-sans  
ttf-hack ttf-ibm-plex ttf-inconsolata ttf-input ttf-jetbrains-mono ttf-  
junicode ttf-junicode-variable ttf-khmer ttf-lato ttf-liberation ttf-  
libertinus ttf-linux-libertine ttf-linux-libertine-g ttf-material-icons ttf-  
material-symbols-variable ttf-meslo-nerd ttf-mona-sans ttf-monospace-frozen  
ttf-monospace-variable ttf-monofur ttf-monoid ttf-montserrat ttf-nunito ttf-  
opensans ttf-overpass ttf-roboto ttf-roboto-mono
```

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