Linux Rescue Cheat Sheet

Just some quick hints for future-me when a PC won't boot or a disk won't mount.

Boot any of these Live ISOs with **Ventoy** to start recovery:

ISO	Purpose
SystemRescue	Linux recovery
Hirens BootCD PE	Windows recovery
GParted Live	Partition editing
Rescuezilla	Disk imaging

List disks and partitions

```
lsblk -f                                    # Show block devices with mountpoint
fdisk -l                                    # Show partition layout (MBR/GPT)
blkid                                       # Show UUIDs and filesystem info
parted -l                                   # Show disk info + partition table
lsblk -d -o name,rota                       # Check if disk is SSD (rota = 0)
lsblk -d -o name,serial,model               # Disk model and serial
lsblk -o NAME,FSTYPE,LABEL,UUID,MOUNTPOINT # List labels
```

Label partitions

```
e2label /dev/sdXn mylabel                   # Label ext4
mlabel -i /dev/sdXn ::MYLABEL               # Label FAT32/exFAT
ntfslabel /dev/sdXn MYLABEL                 # Label NTFS
btrfs filesystem label /mnt mylabel         # Label Brtfs (mounted)
btrfs label /dev/sdXn mylabel               # Label Brtfs (not mounted)
```

Mount partitions

```
mount /dev/sdXn /mnt/rescue                 # Mount a partition
mount -o ro /dev/sdXn /mnt/rescue           # Mount read-only
mount UUID=xxxx-xxxx /mnt/rescue            # Mount using UUID
mount -L mylabel /mnt/mylocation            # Mount using label
mount -t auto /dev/sdXn /mnt/rescue         # Let Linux auto-detect FS type
umount /mnt/rescue                          # Unmount
mkdir -p /mnt/rescue/mydisk && mount /dev/sdXn /mnt/rescue/mydisk
```

Check and repair filesystems

```
fsck /dev/sdXn                              # Check and repair EXT/FAT filesyste
fsck.ext4 /dev/sdXn                         # For EXT4 specifically
ntfsfix /dev/sdXn                           # Basic NTFS fix
btrfs check /dev/sdXn                       # Btrfs check
xfs_repair /dev/sdXn                        # XFS check
```

Copy or backup data

```
rsync -a /mnt/rescue/source/ /mnt/rescue/backup/      # Copy with permissions
rsync -aAXv /mnt/rescue/source/ /mnt/rescue/backup/   # Include ACLs, xattrs, s
cp -av /mnt/rescue/source/* /mnt/rescue/backup/       # Alternative
dd if=/dev/sdX of=/mnt/rescue/backup/fulldisk.img bs=4M status=progress
dd if=/dev/sdXn of=/mnt/rescue/backup/part.img bs=1M status=progress
```

Partitioning and disk tools

```
cfdisk /dev/sdX                              # Interactive TUI partitioner
parted /dev/sdX                              # CLI partitioner
wipefs -a /dev/sdX                           # Remove FS signatures
sgdisk --zap-all /dev/sdX                    # GPT-specific zap of partition ta
dd if=/dev/zero of=/dev/sdX bs=1M count=100  # Wipe first part of disk (MBR/GPT
```

Chroot

```
mkdir -p /mnt/rescue                  # Create the target directory to mount th
mount /dev/sdXn /mnt/rescue           # Mount the root partition of the install

mount --bind /dev  /mnt/rescue/dev    # Make device nodes (e.g. disks, USBs) ac
mount --bind /proc /mnt/rescue/proc   # Mount the process info filesystem (for
mount --bind /sys  /mnt/rescue/sys    # Mount system info (hardware, kernel int
mount --bind /run  /mnt/rescue/run    # Required by some modern services (e.g.

chroot /mnt/rescue                    # Switch to the mounted system as if it's

# run the desired commands

# afterwards:
exit
umount /mnt/rescue/dev
umount /mnt/rescue/proc
umount /mnt/rescue/sys
umount /mnt/rescue/run
umount /mnt/rescue
```

Show process file usage

```
lsof /mnt/target                # Show open files under this mount
lsof /path/to/file              # Who is using a specific file?
lsof /dev/sdX                   # Who is using this block device?

fuser -vam /mnt/target          # Verbose process list using this mountpoint

fuser -k /mnt/target            # Kill all processes using this path
kill -9 <PID>                   # Manually kill a specific process
```

```
lsof | grep deleted              # Useful when disk space won't free up
```

Recover GRUB (Linux boot issues)

```
# See Chroot commands above
grub-install /dev/sdX
update-grub
```

Reset Linux password

```
# See Chroot commands above
passwd
```

Network diagnostics

```
ip a                          # Show interfaces and IPs
ip r                          # Show routing table (default gateway?)
ip link                       # Show interfaces (UP/DOWN, MAC addr, etc.)
ip -s link                    # Interface stats (packets, errors, dropped)

ss -tulpen                    # Show listening ports (TCP/UDP + processes)
netstat -rn                   # Alternative routing table (ifconfig-style)
hostname -I                   # Show assigned IP(s)

ping 1.1.1.1                  # Test internet by IP
ping google.com               # Test DNS + internet
resolvectl status             # Show DNS setup (on systemd-based systems)
dig google.com                # DNS lookup (needs `bind-utils` or `dnsutils`)
nslookup google.com           # DNS test (older tool)

nmcli device wifi list        # List WiFi networks
nmcli radio wifi              # Is WiFi enabled?
nmcli d wifi rescan           # Force WiFi scan
iw dev                        # Show wireless interfaces
iw dev wlan0 link             # Show current connection (SSID, signal)
iwlist wlan0 scan             # Full WiFi scan (older tool)

curl -I https://example.com # Test HTTP reachability
wget https://example.com    # Test download / connectivity
traceroute google.com         # Route tracing (install if needed)
mtr google.com                # Real-time traceroute (advanced)

arp -a                        # Show local ARP cache (devices on LAN)
nmap -sn 192.168.1.0/24     # Ping scan local network (needs `nmap`)
```

Common rescue tools (e.g. with SystemRescue)

Tool	Purpose
testdisk	Recover lost partitions
photorec	Recover deleted files
gparted	GUI partition editor
disks	GNOME Disks tool
smartctl	Disk SMART diagnostics
hdparm	Disk benchmark
lshw	Hardware information
ncdu	Disk usage analysis
htop	Process monitor (TUI)
mc	Midnight Commander file manager
filezilla	Graphical SFTP/FTP client
pcmanfm	Lightweight file manager
thunar	XFCE file manager
xfce4-terminal	GUI terminal emulator
firefox	Browser (upload logs or search)
baobab	GNOME Disk Usage Analyzer (GUI)
bleachbit	Cleanup utility (GUI)

NTFS/Windows recovery

```
lsblk -f                                          # Identify NTFS volumes
ntfs-3g /dev/sdXn /mnt/rescue                     # Mount with ntfs-3g
ntfs-3g -o ro /dev/sdXn /mnt/rescue               # Mount read-only
ntfsfix /dev/sdXn                                 # Basic NTFS repair
rsync -a /mnt/rescue/ntfs /mnt/rescue/backup      # Copy files
chntpw -i /mnt/rescue/Windows/System32/config/SAM  # Reset local Windows passwo
```

Mount BitLocker (with recovery key)

```
dislocker -V /dev/sdXn -u -- /mnt/rescue/bitlocker
mount -o loop /mnt/rescue/bitlocker/dislocker-file /mnt/rescue/recovered
```

Start GUI (if available)

```
startx
systemctl isolate graphical.target
```

Log inspection & troubleshooting

```
dmesg | tail -20        # Kernel logs
journalctl -xb          # Boot logs
```

Hardware identification

```
lspci                   # PCI devices (GPU/NIC/etc.)
lsusb                   # USB devices
```

```
inxi -Fxz              # Detailed hardware info
dmidecode -t memory    # RAM info
```

USB detection

```
dmesg | grep -i usb
ls /dev/disk/by-label/
```

Emergency CLI Tricks

```
mount -o remount,rw /                                  # Remount root as writable
cat /proc/mdstat                                       # Check RAID array status
cryptsetup luksOpen /dev/sdXn myvault                  # Unlock LUKS encrypted vo
mount /dev/mapper/myvault /mnt/rescue/secret           # Mount unlocked encrypted
rsync -av --exclude="*.iso" /mnt/rescue /mnt/rescue2 # Backup excluding ISOs
lsof | grep /mnt/rescue                                # See processes using /mnt
kill -9 PID                                            # Kill a stuck process
strace -p PID                                          # Trace what a process is
```

Install missing tools (on-the-fly)

Debian/Ubuntu-based Live system:

```
apt update
apt install testdisk photorec smartmontools htop mc inxi
```

Arch-based (e.g. SystemRescue):

```
pacman -Sy
pacman -S testdisk gparted smartmontools htop mc inxi
```