lsblk Block device inspection

CONCEPTS

lsblk, findmnt and blkid only read. The tools that change disks (wipefs without -n, mkfs, fdisk) are separate: check the device name first.

Disk sda, nvme0n1
↓ partition table
Partition sda1, nvme0n1p1
↓ mkfs
Filesystem UUID, LABEL
↓ mount
Mount point /, /mnt/data

Kernel names like sda change between boots. Refer to disks by UUID, LABEL or /dev/disk/by-* in fstab and scripts.

lsblk reads sysfs and udev, so it works without root. blkid without root shows only what its cache already knows; use sudo for a fresh probe.

LIST DEVICES

lsblk
Tree of block devices

lsblk -f
Filesystem type, label, UUID, usage

lsblk -a
Include empty and hidden devices

lsblk -d
Disks only, no partitions

lsblk -l
Flat list instead of tree

lsblk -p
Print full /dev/... paths

lsblk *<disk>*
Show only this disk and its children

lsblk -s *<part>*
Show parents instead of children

lsblk -e7
Hide loop devices (major 7)

CHOOSE COLUMNS

lsblk -o NAME,SIZE,TYPE,MOUNTPOINTS
Pick output columns

CHOOSE COLUMNS (cont.)

lsblk -o +UUID,LABEL
Add columns to the default set

lsblk -H
List available columns

lsblk -x SIZE
Sort by a column

lsblk -b
Sizes in bytes

lsblk -n
No header line

lsblk -o NAME,SERIAL,MODEL,TRAN
Identify a physical disk

OUTPUT FOR SCRIPTS

lsblk -J
JSON output

lsblk -P
KEY="value" pairs, one line per device

lsblk -r
Raw output, no tree characters

lsblk -dno NAME,SIZE
Bare disk list, no header

lsblk -Q 'TYPE=="part"'
Filter rows by expression

BLKID

sudo blkid
UUID, LABEL and TYPE of every device

sudo blkid *<dev>*
Probe one device

sudo blkid -s UUID -o value *<dev>*
Print just the UUID

sudo blkid -o export *<dev>*
KEY=value lines, sourceable

blkid -U *<uuid>*
Device name for a UUID

blkid -L *<label>*
Device name for a label

sudo blkid -t TYPE=ext4
Find devices by token

FINDMNT

findmnt
Mounted filesystems as a tree

FINDMNT (cont.)

findmnt *<path>*
Mount that serves this mount point or device

findmnt -T *<path>*
Mount that contains this path

findmnt -no SOURCE *<path>*
Just the device behind a path

findmnt -S UUID=*<uuid>*
Find a mount by device tag

findmnt -t ext4,xfs
Limit to filesystem types

findmnt --real
Hide pseudo filesystems (proc, sysfs)

findmnt -o TARGET,SOURCE,FSTYPE,OPTIONS
Choose columns

findmnt -D
Output like df

findmnt -s
Read /etc/fstab instead of live mounts

findmnt --verify
Check fstab for mistakes

STABLE NAMES

ls -l /dev/disk/by-uuid
Filesystem UUID to device

ls -l /dev/disk/by-label
Filesystem label to device

ls -l /dev/disk/by-id
Model and serial based names

readlink -f /dev/disk/by-uuid/*<uuid>*
Resolve a link to sdX

WIPE, RESCAN, UDEV

sudo wipefs *<dev>*
List signatures, erase nothing

sudo wipefs -n -a *<dev>*
Dry run of a full wipe

sudo partprobe *<disk>*
Make the kernel re-read the table

udevadm info *<dev>*
Show udev data and symlinks

wipefs -a destroys the signatures that tools use to recognise the disk. Always run it with -n first and read the list.