

■ Quick Guide: Cloning Disks on Linux

■■ Safety First

Disk cloning can overwrite data permanently — double-check which disk is source and which is destination before you press Enter.

```
lsblk
sda    931.5G  (main drive)
sdb    465.8G  (new drive)
```

Here, /dev/sda is the source, /dev/sdb is the target.

■ 1. Clone a Disk with dd

```
sudo dd if=/dev/sda of=/dev/sdb bs=64K conv=noerror,sync status=progress
```

Explanation:

- if= → input file (source disk)
- of= → output file (destination disk)
- bs=64K → read/write in 64KB blocks
- conv=noerror,sync → continue on errors
- status=progress → show progress

Wait patiently — cloning can take a while (it copies every byte).

■ 2. Verify the Clone

```
sudo fdisk -l /dev/sdb
```

Compare with /dev/sda — the partition layout should match.

```
sudo blkid
```

■ 3. Fix UUIDs (Optional)

```
sudo tune2fs -U random /dev/sdb1
```

■ 4. Clone Only a Single Partition

```
sudo dd if=/dev/sda1 of=/dev/sdb1 bs=64K conv=noerror,sync status=progress
sudo fsck -f /dev/sdb1
```

■ 5. Alternative Tools

Tool	Command	Description
dd	sudo dd if=/dev/sda of=/dev/sdb ...	Simple, built-in, powerful
ddrescue	sudo ddrescue -f /dev/sda /dev/sdb logfile	Safer if source disk has errors
Clonezilla	Bootable tool	Great for large backups and GUI cloning
partclone	sudo partclone.ext4 -c -s /dev/sda1 -o /dev/sdb1	Faster for specific filesystems

■ 6. Safely Remove the Disk

```
sudo udisksctl power-off -b /dev/sdb
```

■ Summary Table

Task	Command
List disks	lsblk
Clone full disk	sudo dd if=/dev/sda of=/dev/sdb bs=64K conv=noerror,sync status=progress
Clone one partition	sudo dd if=/dev/sda1 of=/dev/sdb1 ...
Verify	sudo fdisk -l /dev/sdb
Change UUID	sudo tune2fs -U random /dev/sdb1
Safe remove	sudo udisksctl power-off -b /dev/sdb