

Linux

Troubleshooting

How to deal with specific problems I encountered in Linux.

- [How to fix Read-Only EXT4 drive](#)

How to fix Read-Only EXT4 drive

An external ext4 drive mounts as read-only in Linux usually because the kernel detected file system corruption or an improper unmount and switched it to read-only mode to prevent data loss. It can also be caused by hardware failure or root-only root directory permissions. [\[1\]](#), [\[2\]](#), [\[3\]](#), [\[4\]](#)

How to Fix and Troubleshoot

1. Identify the Drive Partition

Find your external drive's device name (e.g., `/dev/sdb1` or `/dev/sdc1`):

Run: `lsblk` or `df -h`

2. Unmount and Repair the File System

You must unmount the drive before running a file system check (`fck`):

Unmount the drive: `sudo umount /dev/sdX1` (replace `sdX1` with your actual partition)

Repair errors: `sudo e2fsck -f /dev/sdX1`

Follow any prompts to fix or clear blocks. [\[1\]](#), [\[2\]](#), [\[3\]](#), [\[4\]](#)

3. Remount as Read-Write

Once the repair finishes cleanly, mount it back normally: [\[1\]](#)

Mount command: `sudo mount -o remount, rw /dev/sdX1` or unplug and plug it back in. [\[1\]](#), [\[2\]](#)

4. Fix Ownership Issues (If Not Corrupted)

If `fck` finds no errors but you still cannot write, the root folder of the drive likely belongs to the `root` user: [\[1\]](#)

Mount the drive manually to a folder or navigate to its mount point.

Change ownership to your current user: `sudo chown -R $USER:$USER /path/to/mount/point`