□□ Mounting an External USB Hard Drive on Debian

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□□ Overview

This guide outlines how to properly identify, mount, and persistently configure an external USB hard drive on a Debian-based system. It is particularly useful for setups involving backup containers like `urbackup` or media/file storage solutions.

□□ Step 1: Identify the USB Drive

```
lsblk
```

Look for a device (e.g., `/dev/sdb1`) with the expected size and no mount point.

```
sudo blkid /dev/sdb1
```

This confirms the filesystem type and gets the UUID (used for persistent mounting).

□□ Step 2: Install Required NTFS Support

If the drive is formatted as NTFS (common for Windows drives), install the NTFS driver:

```
sudo apt update
sudo apt install ntfs-3g
```

Note: Do not install `fuse` on Debian 12 (Bookworm); it conflicts with `fuse3`.

□□ Step 3: Create a Mount Point

```
sudo mkdir -p /mnt/usbbackup
```

□□ Step 4: Configure /etc/fstab

Edit the fstab file to auto-mount the drive at boot:

```
sudo nano /etc/fstab
```

Add this line (replace UUID with yours from `blkid`):

```
UUID=5E74F4D874F4B43D  /mnt/usbbackup  ntfs-3g
defaults,noatime,nofail,uid=1001,gid=1001,umask=0022,allow_other  0  2
```

Option	Description
`ntfs-3g`	NTFS filesystem driver with write support
`noatime`	Improves performance by disabling access-time updates
`nofail`	Allows boot to continue if the drive is missing
`uid/gid`	Sets ownership for consistent Docker access
`umask=0022`	Applies `rwxr-xr-x` permissions

`allow_other`	Permits non-root users to access the mount

□□ Step 5: Mount and Verify

```
sudo systemctl daemon-reexec
sudo mount -a
```

Check if it mounted successfully:

```
df -h | grep usbbackup
```

Confirm correct permissions:

```
ls -ld /mnt/usbbackup
```

□ Example Output

```
/dev/sdb1 on /mnt/usbbackup type fuseblk (rw,nosuid,nodev,noatime,allow_other,blksize=4096)
```

□□ Troubleshooting

- **Wrong filesystem type?**
  Make sure you used `ntfs-3g` and not `ext4` in your fstab line.
- **"Bad superblock" or mount error?**
  Use `dmesg | tail -30` to check for detailed kernel messages.
- **Permissions issue in Docker?**
  Ensure the Docker container's UID/GID matches the mount options.

□□ Related

- To mount an `ext4` drive, change `ntfs-3g` to `ext4` and remove `uid/gid/umask` options.

- To temporarily mount a USB without fstab:

```
sudo mount -t ntfs-3g /dev/sdb1 /mnt/usbbackup
```

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