Mount an external hard disk drive (HDD) on a Raspberry Pi running Raspbian

You can access the data on your HDD by mounting the HDD on a Raspberry Pi running the Raspbian operating system. If you have an exFAT partition on your HDD, you must install the exFAT driver.

Installing the exFAT driver

Use the Aptitude Package Manager to install the exFAT driver. Run:

```
sudo apt-get install exfat-fuse
```

Mounting a HDD

1. Plug-in the external HDD to a USB port on the Raspberry Pi.
2. List the disk partitions on the device. Run:
   `sudo blkid`
3. Note the location of the disk partition. For example, /dev/sda1.
4. Create a target folder to be the mount point of the HDD. Run:
   `sudo mkdir /mnt/PIHDD`
5. Mount the HDD from the location of the partition to the mount point. Run:
   `sudo mount /dev/sda1 /mnt/PIHDD`
6. Verify that the HDD is mounted successfully by listing the content. Run:
   `ls /mnt/PIHDD`

Setting up automatic mounting

You can modify the fstab file to define the location where the HDD will be automatically mounted when the Raspberry Pi starts up. In the fstab file, the disk partition is identified by the universally unique identifier (UUID).

1. Get the UUID of the disk partition. Run:
   `sudo blkid`
2. Find the disk partition from the list and note the UUID. For example, 5C24-1453.
3. Edit the fstab file using a command line editor such as nano. Run:
   `sudo nano /etc/fstab`
4. Add the following line in the fstab file.
   `UID=5C24-1453 /mnt/PIHDD exfat defaults,auto,umask=000,users,rw 0 0`

For more information on the Linux commands, refer to the specific manual pages using the `man` command. For example, `man fstab`.

Unmounting a HDD

Before you unmount your HDD, ensure that there are no programs accessing the HDD.

1. Run the following command to get the list of programs using the mount point:
   `lsof /mnt/PIHDD`
2. End all programs using the mount point. Run:
   `sudo kill 13827`
   where, 13827 is the PID.
   Note: Ensure that you save your changes before running the `kill` command.
3. Unmount the HDD. Run:
   `sudo umount /mnt/PIHDD`
4. Unplug the HDD and delete the mount point folder. Run:
   `sudo rmdir /mnt/PIHDD`