

GNU/Linux Administration - Feature #827

Automount and Sync a USB Drive on Arch Linux

07/16/2016 12:21 AM - Daniel Curtis

Status:	Closed	Start date:	07/15/2016
Priority:	Normal	Due date:	
Assignee:	Daniel Curtis	% Done:	100%
Category:	Shell Scripts	Estimated time:	0.50 hour
Target version:	Arch Linux	Spent time:	1.00 hour

Description

Once in a while I will need to do a two-way synchronization of the contents of an owncloud sync folder to a specific USB drive, and having this task done automatically by systemd.

NOTE: The USB drive used in this guide is FAT32. If using NTFS, you must install the ntfs-3g-fuse package from the AUR.

- Make sure rsync is installed:

```
sudo pacman -S rsync
```

Device Identification

- Get the list of drives:

```
sudo fdisk -l
```

- Start by getting the device label:

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

- Create a label for the USB drive:

```
sudo dosfslabel /dev/disk/by-uuid/ACE7-1996 "SYNCSHARE"
```

- Make a temporary mount directory:

```
sudo mkdir /media/SYNCSHARE
```

- Edit the fstab file:

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

- Add an fstab entry for the SYNCSHARE device:

Sync Script

- Create a simple two-way rsync script:

```
sudo nano /usr/local/bin/syncshare.sh
```

- And add the following

```
#!/bin/sh
# Script to do a two-way sync with a USB drive

if [ $(mount | grep -c /media/SYNCSHARE) != 1 ]
then
    /sbin/mount /dev/disk/by-uuid/ACE7-1996 || exit 1
    echo "/media/SYNCSHARE is now mounted"

    rsync -rtuv --modify-window=1 --size-only --exclude ".csync*" --exclude ".owncloud*" /me
dia/SYNCSHARE/owncloudshare/ /home/bob/owncloudshare/
    rsync -rtuv --modify-window=1 --size-only --exclude ".csync*" --exclude ".owncloud*" --d
elete /home/bob/owncloudshare/ /media/SYNCSHARE/owncloudshare/

    sync

    sudo -u bob DISPLAY=:0 DBUS_SESSION_BUS_ADDRESS=unix:path=/run/user/1000/bus notify-send
"SYNCSHARE Finished Synchronizing!"

    sleep 5

    umount /media/SYNCSHARE
else
    rsync -rtuv --modify-window=1 --size-only --exclude ".csync*" --exclude ".owncloud*" /me
dia/SYNCSHARE/owncloudshare/ /home/bob/owncloudshare/
    rsync -rtuv --modify-window=1 --size-only --exclude ".csync*" --exclude ".owncloud*" --d
elete-delay /home/bob/owncloudshare/ /media/SYNCSHARE/owncloudshare/

    sync

    sudo -u bob DISPLAY=:0 DBUS_SESSION_BUS_ADDRESS=unix:path=/run/user/1000/bus notify-send
"SYNCSHARE Finished Synchronizing!"

    sleep 5

    umount /media/SYNCSHARE
fi
```

NOTE: Adding the -n flag to the rsync commands will help when testing whether or not the script will run correctly.
NOTE: Make sure to change the username and uid number to the correct values for the notify-send commands.
NOTE: FAT filesystems require the --modify-window=1 --size-only flags in order to synchronize correctly.

- Then make it executable:

```
sudo chmod +x /usr/local/bin/syncshare.sh
```

Systemd Service

- Create a systemd unit file:

```
sudo nano /etc/systemd/system/syncshare.service
```

- And add the following:

```
[Unit]
Description=SyncShare trigger
Requires=dev-disk-by\x2dlabel-SYNCSHARE.device
After=dev-disk-by\x2dlabel-SYNCSHARE.device

[Service]
ExecStart=/usr/local/bin/syncshare.sh

[Install]
WantedBy=dev-disk-by\x2dlabel-SYNCSHARE.device
```

- And reload the systemd daemon:

```
sudo systemctl daemon-reload
```

- Enable the syncshare service:

```
sudo systemctl enable syncshare
```

Udev Rule

- List the attached USB devices and get the vendor and product IDs:

```
lsusb
```

- *Example output:*

```
Bus 003 Device 004: ID 0781:3528 SanDisk Corp. Cruzer
```

NOTE: The above example uses **0781** Vendor ID and **3528** Product ID.

- Add a udev rule to start the syncshare systemd service on device hotplug:

```
sudo nano /etc/udev/rules.d/99-local.rules
```

- And add the following:

```
SUBSYSTEMS=="usb", ATTRS{idVendor}=="0781", ATTRS{idProduct}=="3528", ACTION=="add", TAGS+=
"systemd", ENV{SYSTEMD_WANTS}=="syncshare.service"
```

- Restart udev:

```
sudo systemctl restart systemd-udev
```

Resources

- <http://serverfault.com/questions/766506/automount-usb-drives-with-systemd>
- <https://bbs.archlinux.org/viewtopic.php?id=207050>
- <https://bbs.archlinux.org/viewtopic.php?id=192461>
- https://wiki.archlinux.org/index.php/Persistent_block_device_naming#by-label
- <https://askubuntu.com/questions/25071/how-to-run-a-script-when-a-specific-flash-drive-is-mounted/190366>
- <http://jasonwryan.com/blog/2014/01/20/udev/>
- https://wiki.archlinux.org/index.php/NTFS-3G#Manual_mounting

History

#1 - 10/27/2016 08:28 PM - Daniel Curtis

- Description updated

- % Done changed from 0 to 50

- Status changed from New to In Progress

#2 - 10/27/2016 10:13 PM - Daniel Curtis

- Status changed from In Progress to Resolved

- % Done changed from 50 to 100

- Description updated

#3 - 10/27/2016 10:16 PM - Daniel Curtis

- Description updated

#4 - 12/26/2016 04:56 PM - Daniel Curtis

- Description updated

#5 - 06/04/2017 08:50 PM - Daniel Curtis

- Status changed from Resolved to Closed