Phileserve – A simple and minimal ArchlinuxARM based USB NAS distribution

Note: In order to configure Phileserve you will need to connect via SSH.

1. Network configuration

Default network configuration uses dhcp. It's strongly recommended to change to static ip. In order to do this you must edit the following file:

```
nano /etc/netctl/phileserve-network
```

The contents of the file above are:

```
Description='A basic dhcp ethernet connection'
Interface=eth0
Connection=ethernet
IP=dhcp
ExecUpPost='/usr/bin/ntpd -gq || true'

#Description='A basic ethernet connection with static ip'
#Interface=eth0
#Connection=ethernet
#IP=static
#Address=('192.168.1.148/24')
#Gateway='192.168.1.1'
#ExecUpPost='/usr/bin/ntpd -gq || true'
```

Lets assume that the ip of your router is 192.168.1.1 and you want to use 192.168.1.142 for the phileserve machine. The first step is to comment the dhcp section. Now, uncomment the static ip network and change the ips to match your setup:

```
#Description='A basic dhcp ethernet connection'
#Interface=eth0
#Connection=ethernet
#IP=dhcp
#ExecUpPost='/usr/bin/ntpd -gq || true'

Description='A basic ethernet connection with static ip'
Interface=eth0
Connection=ethernet
IP=static
Address=('192.168.1.142/24')
Gateway='192.168.1.1'
ExecUpPost='/usr/bin/ntpd -gq || true'
```

Save with CTRL+X, then press Y and ENTER.

The last step is to reenable phileserve-network:

```
netctl reenable phileserve-network
```

Now reboot with:

```
systemctl reboot
```

2. Samba server

Samba server is enabled by default. In order to change configuration, you must edit smb.conf:

```
nano /etc/samba/smb.conf
```

Save with CTRL+X, then press Y and ENTER.

The last step is to restart smbd and nmbd:

```
systemctl restart smbd nmbd
```

Default **user/password** is **nash/nash**.

3. NFS Server

NFS server is not enabled by default. Before using it you must edit and configure some files:

Give the following command:

```
mount --bind /mnt/usb-disks/   /srv/nfs4/phileserve
```

Edit /etc/fstab and uncommend the following line (remove # from the beginning):

```
#NFS server setting
#/mnt/usb-disks  /srv/nfs4/phileserve  none   bind   0   0
```

so that it is like below:

```
#NFS server setting
/mnt/usb-disks  /srv/nfs4/phileserve  none   bind   0   0
```

Save with CTRL+X, then press Y and ENTER.

Edit exports and change according to your network. For example if your ip is 192.168.1.134:

```
nano /etc/exports
```

and change the content so that it's like the one below:

```
/srv/nfs4/ 192.168.1.0/24(rw,fsid=root,no_subtree_check)
/srv/nfs4/phileserve 192.168.1.0/24(rw,no_subtree_check,nohide) # note the nohide
option which is applied to mounted directories on the file system.
```

Save with CTRL+X, then press Y and ENTER.

Give the following command:

```
exportfs -rav
```

Finally enable and start the appropriate service:

```
systemctl enable rpcbind nfs-server
systemctl start rpcbind nfs-server
```

4. Minidlna Server

Edit the following file:

```
nano /etc/minidlna.conf
```

You will find the following lines:

```
#media_dir=A,/mnt/usb-disks/yourdisk/yourmusicpath
#media_dir=V,/mnt/usb-disks/yourdisk/yourvideopath
#media_dir=P,/mnt/usb-disks/yourdisk/yourimagespath
```

Change and uncomment according to your needs. For example if your disk is labeled "babis" and you want to serve the directory
"Music" inside it, change the lines like below:

```
media_dir=A,/mnt/usb-disks/babis/Music
#media_dir=V,/mnt/usb-disks/yourdisk/yourvideopath
#media_dir=P,/mnt/usb-disks/yourdisk/yourimagespath
```

Do the same for your videos and images if you want. For example if you want to serve Pictures directory from your second disk
labeled "mitsos" the final configuration will be as follows:

```
media_dir=A,/mnt/usb-disks/babis/Music
#media_dir=V,/mnt/usb-disks/yourdisk/yourvideopath
media_dir=P,/mnt/usb-disks/mitsos/Images
```

Save with CTRL+X, then press Y and ENTER.

Enable and start the appropriate service:

```
systemctl enable minidlna
systemctl start minidlna
```

5. Transmission torrent client with web interface

Lets say you want to use your disk labeled "babis" for your torrents. First create a directory in it for your downloads:

```
mkdir /mnt/usb-disks/babis/torrents
```

Then give the following permissions:

```
chown -R transmission:transmission /mnt/usb-disks/babis/torrents
chmod -R 775 /mnt/usb-disks/babis/torrents
```

Now you must edit the transmission configuration file:

```
nano /var/lib/transmission/.config/transmission-daemon/settings.json
```

and change the following line:

```
"download-dir": "/var/lib/transmission/Downloads"
```

to
```
"download-dir": "/mnt/usb-disks/apothiki/torrents"
```

You must also change **"peer port"** option so it's like below:

```
"peer-port": 51413,
```

Port 51413 is just an example for a port to use.

Save with CTRL+X, then press Y and ENTER.

The last step is to enable and start the transmission service:

```
systemctl enable transmission
systemctl start trasnmission
```

Now you can access the web interface from your local network:

http://ipofphileservemachine:9091

6. Spin-down of usb disks with hdparm or hd-idle

You have multiple options here. The first is using **hd-idle**.

Edit the following file:

```
nano /etc/conf.d/hd-idle
```

the line of your interest is:

```
HD_IDLE_OPTS="-i 180 -l /var/log/hd-idle.log"
```

The default idle time is **180** which is **15 minutes**. If you want to understand the exact number to use, here is a very good link with details:

http://www.howtoeverything.net/linux/hardware/list-timeout-values-hdparm-s

After putting the number you desire, it's time to enable and start the hd-idle service:

```
systemctl enable hd-idle
systemctl start hd-idle
```

Save with CTRL+X, then press Y and ENTER.

A second option for configuring the spinning down of your disks is with **hdparm**.

I have included two configurations.

If you have one disk:

```
cp /opt/phileserve/50-hdparm.rules-onedisk /etc/udev/rules.d/50-hdparm.rules
```

now edit the following file:

```
nano /etc/udev/rules.d/50-hdparm.rules
```

and change 180 with the number you desire like you did in previous example.

Save with CTRL+X, then press Y and ENTER.

If you have multiple disks:

```
cp /opt/phileserve/50-hdparm.rules-manydisks /etc/udev/rules.d/50-hdparm.rules
```

now edit the following file:

```
nano /etc/udev/rules.d/50-hdparm.rules
```

and change 180 with the number you desire like you did in previous example.

Save with CTRL+X, then press Y and ENTER.

Now after each boot, the udev rule you created will be taking place, spinning down your disk after the desired time period.