

Pi-hole on Synology

Pi-hole is an ad-blocking DNS server for internal networks. It is available on <http://www.pi-hole.net>. There is no Synology package available at this time, so it needs to be installed via Debian chroot environment. This guide is adapted from <https://discourse.pi-hole.net/t/how-do-i-install-pi-hole-on-a-synology-nas/>

Debian chroot

Add the Synocommunity package source via DSM and install Debian chroot:

```
Add source: Package Center > Settings > Package Sources > add:  
http://packages.synocommunity.com/  
In Package Center > Community > Install Debian Chroot
```

Open a terminal/use putty, ssh to your NAS On the command line, make sure you are root.

```
sudo su -
```

Login with your admin password.

```
/var/packages/debian-chroot/scripts/start-stop-status start  
/var/packages/debian-chroot/scripts/start-stop-status chroot
```

You may receive a locale error, can be ignored - the prompt should have changed. Now you are on the chroot prompt, which enables you to install many packages that are available for Debian.

After installing chroot and entering it, run ps aux and if you see the following processes...

```
root 30894 0.0 0.2 3040 560 ? S 08:25 0:00 /bin/sh /var/packages/debian-  
chroot/scripts/postinst  
root 30896 0.0 0.2 1552 620 ? S 08:25 0:00 /bin/sh  
/debootstrap/debootstrap --second-stage
```

You should probably wait until they're complete to ensure your new chroot environment is consistent. This might take about 5-10 minutes.

Enter one by one:

```
apt-get update  
apt-get upgrade  
apt-get install locales  
sed -i 's/^# *\ (en_US.UTF-8)\ /\1/' /etc/locale.gen && locale-gen
```

This may take a while (5-10 minutes depending on CPU speed)

```
dpkg-reconfigure tzdata
```

```
apt-get install curl

mount /proc
cat /proc/mounts > /etc/mtab
```

This is to fix a filesystem issue.

Install Pi-hole

```
apt-get install lighttpd dnsmasq
```

Port 80 is already in use, so modify lighttpd config:

```
curl -L https://install.pi-hole.net | bash
```

Just follow the steps...

change admin password if desired:

```
pihole -a -p
```

```
vi /etc/lighttpd/lighttpd.conf
```

modify server.port = xxxx to a suitable port (higher than 1023)

```
crontab /etc/cron.d/pihole
crontab -l
```

Verify that you see several entries for pihole.

```
service cron restart
service lighttpd restart
service dnsmasq restart
```

This will restart the webserver, dnsmasq and cron with the new config. Now you should be able to access it with your browser on <http://ip:port/admin/>

If you see the admin page of Pi-hole you can modify your devices: change the DNS IP address to the NAS IP.

<http://192.168.1.6:2080/>

Autostart after reboot

As nothing in chroot is started automatically we need to make a startup script that survives a reboot:

exit (from chroot - should still be root)

Create an RC script (this file assumes that you use /volume1):

```
vi /usr/local/etc/rc.d/S99pihole.sh
```

```
#!/bin/sh

. /etc.defaults/rc.subr

case $1 in
    start)
        /var/packages/debian-chroot/scripts/start-stop-status start
        chroot /volume1/@appstore/debian-chroot/var/chroottarget
    service cron start
        chroot /volume1/@appstore/debian-chroot/var/chroottarget
    service dnsmasq start
        chroot /volume1/@appstore/debian-chroot/var/chroottarget
    service lighttpd start
        chroot /volume1/@appstore/debian-chroot/var/chroottarget
    service pihole-FTL start
        ;;
    stop)
        chroot /volume1/@appstore/debian-chroot/var/chroottarget
    service cron stop
        chroot /volume1/@appstore/debian-chroot/var/chroottarget
    service dnsmasq stop
        chroot /volume1/@appstore/debian-chroot/var/chroottarget
    service lighttpd stop
        chroot /volume1/@appstore/debian-chroot/var/chroottarget
    service pihole-FTL stop
        /var/packages/debian-chroot/scripts/start-stop-status stop
        ;;
    restart)
        $0 stop
        sleep 1
        $0 start
        ;;
    *)
        echo "Usage: $0 start|stop|restart"
        ;;
esac
```

```
chmod +x /usr/local/etc/rc.d/S99pihole.sh
```

Test the script:

```
/usr/local/etc/rc.d/S99pihole.sh restart
```

If succesful, pi-hole and all the services should automatically start after a reboot.

To get into chroot from your dsm you can use `/var/packages/debian-chroot/scripts/start-stop-status chroot` or to enable ssh in chroot, follow this blog post:

<https://markpith.wordpress.com/2015/10/26/debian-chroot-on-synology-nas/>

If you are using dhcp in your network, configure your router to use the DNS on your NAS.

Update Pi-hole

from chroot:

```
#Log into Chroot
sudo /var/packages/debian-chroot/scripts/start-stop-status chroot

pihole -up

#change the webserver port again:
vi /etc/lighttpd/lighttpd.conf - change the port
sed -i 's/server.port\(.*\)= 80/server.port\1= 2080/g'
/etc/lighttpd/lighttpd.conf

service lighttpd restart
service pihole-FTL restart
service dnsmasq restart

#leave chroot
exit

#update might require:
From /etc/.pihole do a git pull
```

to reconfigure pihole's main details, use:

```
pihole -r
service pihole-FTL restart
```

From:
<http://wuff.dyndns.org/> - **Wulf's Various Things**

Permanent link:
http://wuff.dyndns.org/doku.php?id=synology:pihole_synology&rev=1552506986

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