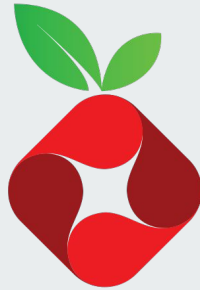


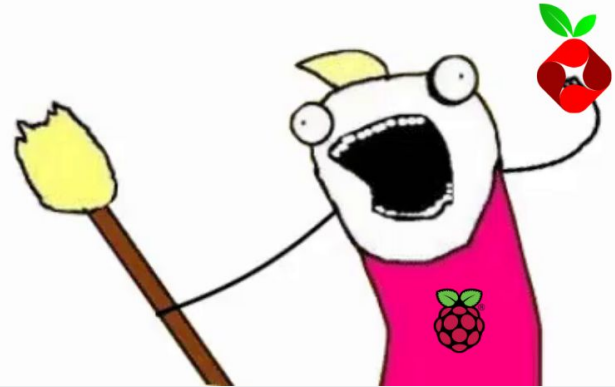


# Pi-Hole

Block All The Things!



## BLOCK ALL THE ADS!



# Whoami:

-IACD student @ EMU

-Audio Visual Technician

-Breaker of things/ DIY project nut

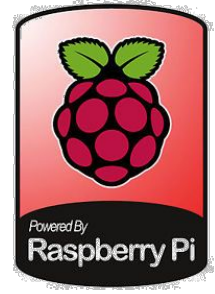
-Cat and Sloth lover

[AnthonyTippy.github.io](https://github.com/AnthonyTippy)

## Anthony Tippy (Tibbz)

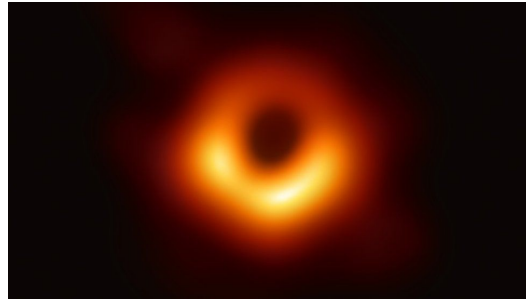


# Pie-Hole? Whole PIE? PIE?!



A Pi-Hole is:

- Raspberry Pi powered
- Network Wide ad blocking tool
- Not actual pie :(



But it is VERY useful

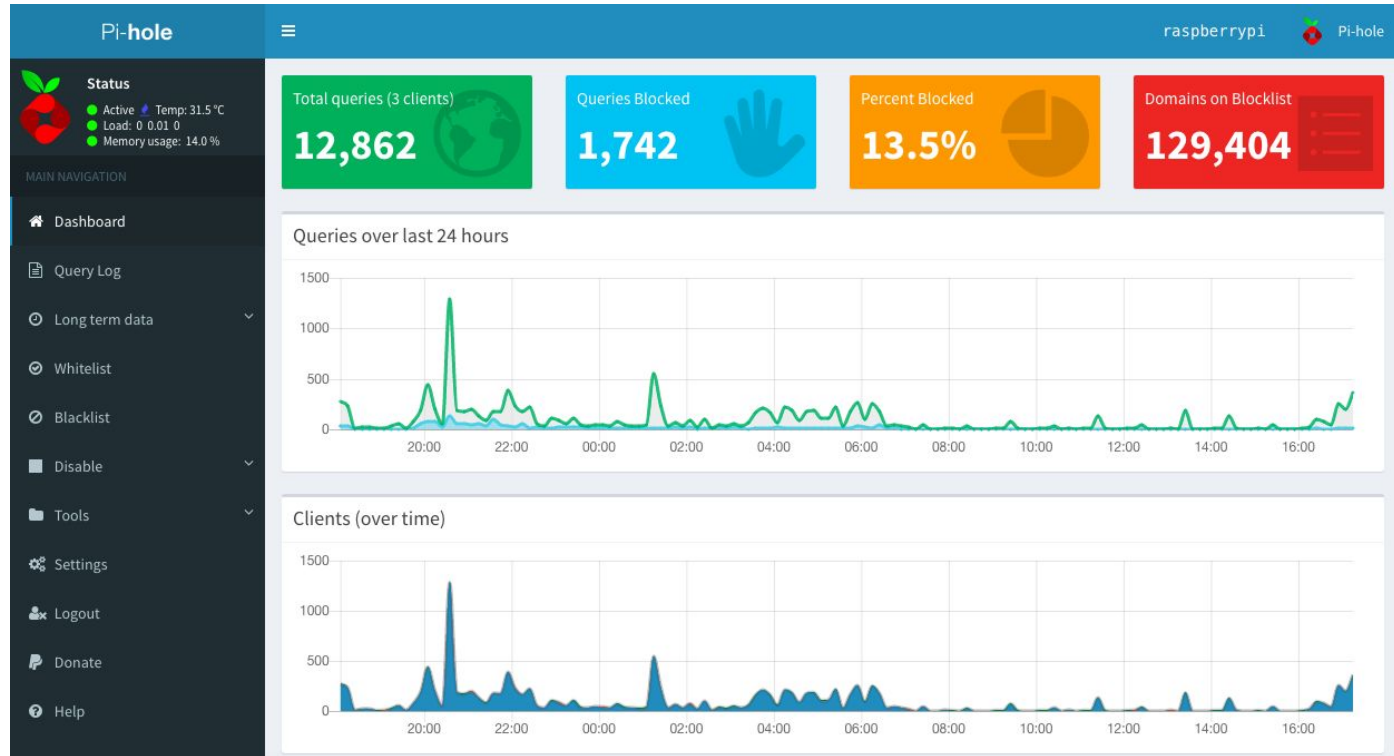


**Pi-hole®**

Network-wide ad blocking via your own Linux hardware

# What can I do?

- Block ads across entire network
- Block unwanted sites
- Protect your network
- increase performance





# Features



## Network-wide protection

Instead of browser plugins or other software on each computer, **install Pi-hole in one place** and your entire network is protected.



## Block in-app advertisements

Network-level blocking allows you to **block ads in non-traditional places** such as mobile apps and smart TVs, regardless of hardware or OS.



## Improve network performance

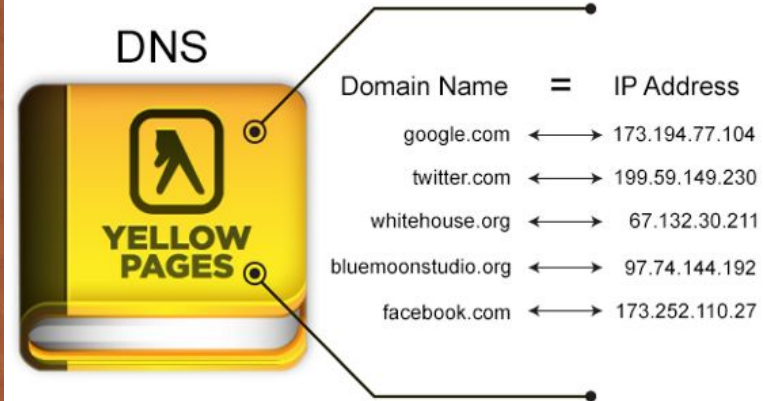
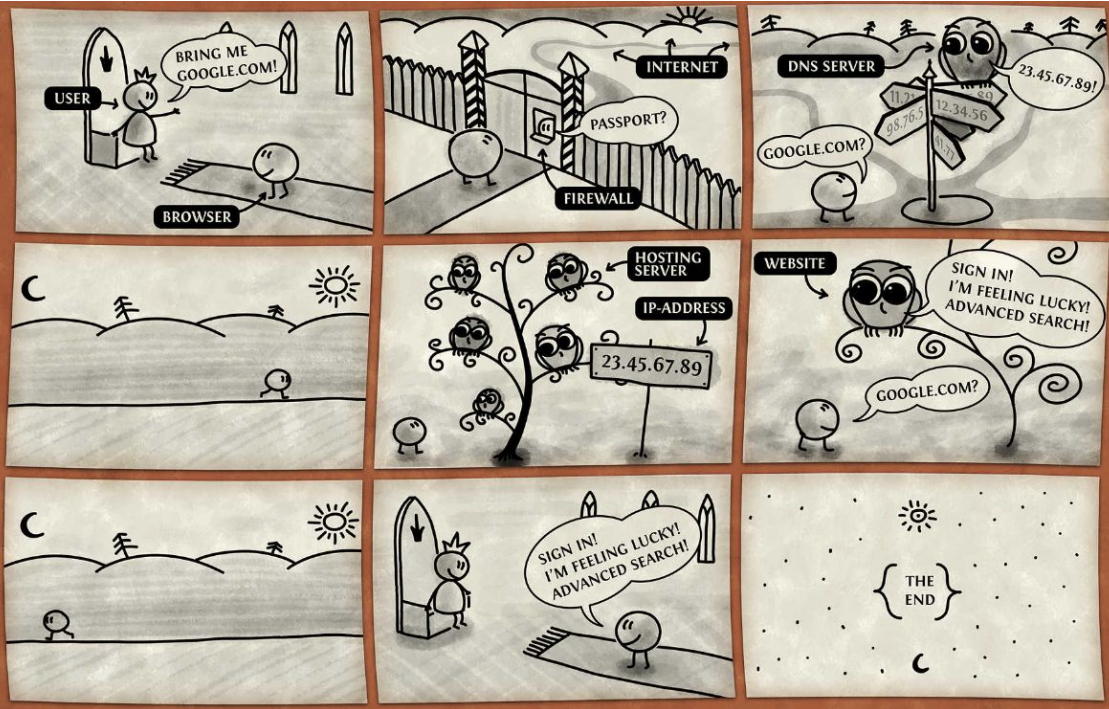
Since **advertisements are blocked before they are downloaded**, network performance is improved and will feel faster.



## Monitor statistics

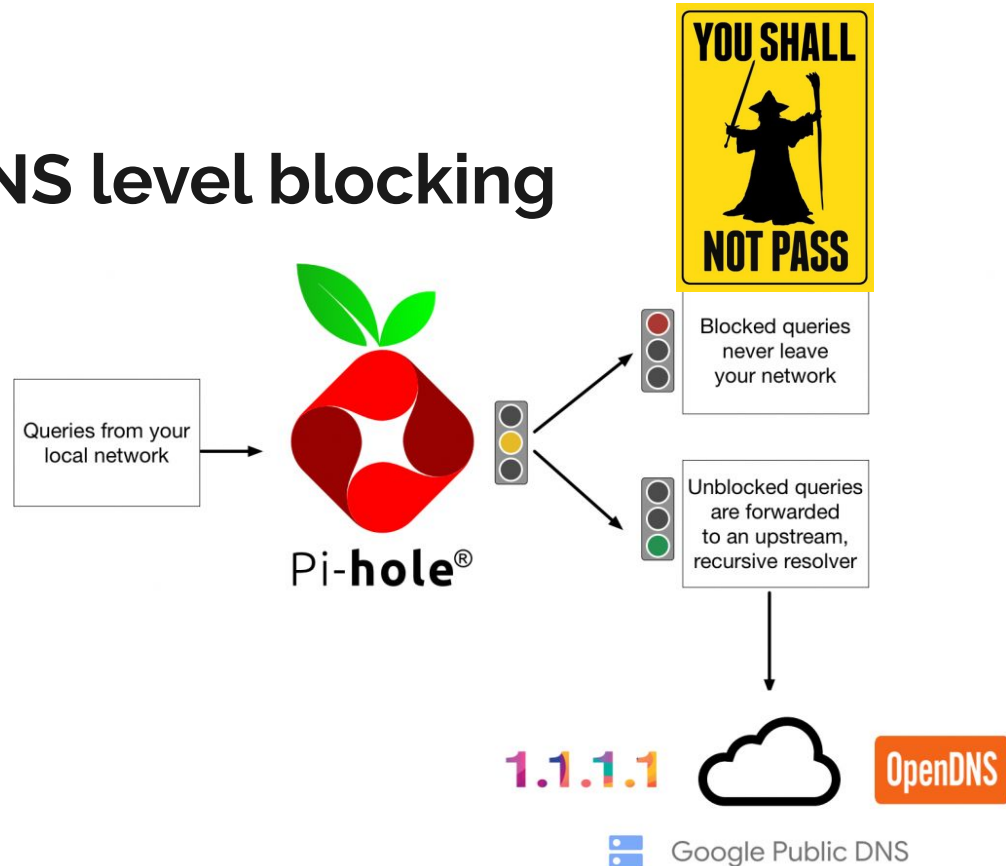
Our Web interface offers control of your Pi-hole and a central place to view statistics. We also include an API for extending these stats.

# What is DNS?



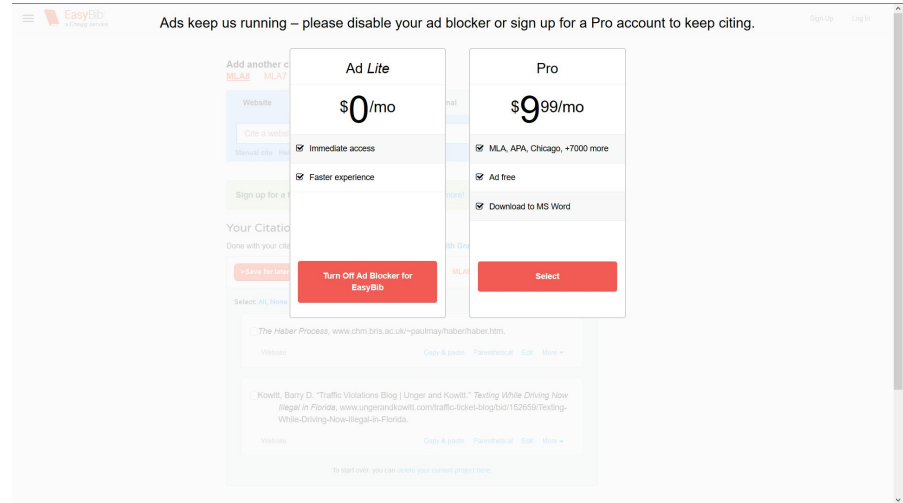
# How does it work? DNS level blocking

- Pi-hole acts as your router's DNS server
- Advertisements do not get a chance to load



# Caveats and Downfalls

1. Certain sites deploy anti-ad-blocking software
2. Pi-Hole can step on other ports in your network services
3. Does not block ads that aren't served via DNS (Youtube, HULU...etc)
4. Any AD link you may click on will not load....since it's an ad...
5. Possible increased latency (online games)





# Parts

- Raspberry Pi 3b+ CanaKit (\$54.99)
- SanDisk Ultra 32GB microSDHC UHS-I card (\$7.23)
- RJ45 Cat-6 Ethernet Patch Internet Cable - 10 Feet (\$6.29)

**Total: \$68.51** or (Rpi Zero W \$34.22)



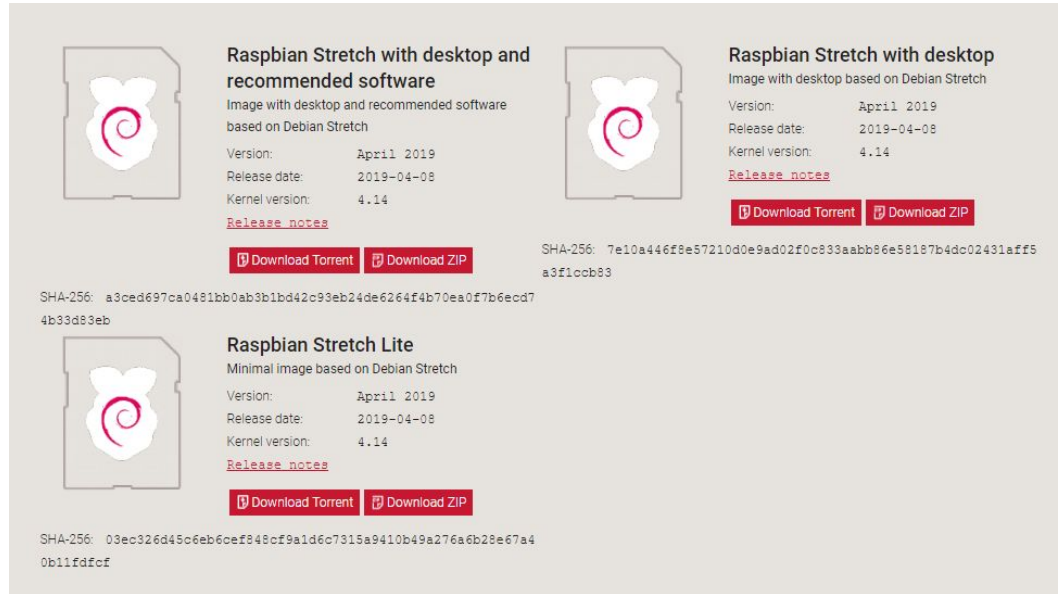
# DEMO TIME!

---



# How to install?

1. Download OS from  
<https://www.raspberrypi.org/downloads/raspbian/>
2. Install raspbian stretch (or stretch lite)
  - Pi Hole is supported on all rpi models
2. Burn IMG to micro SD card with Balena (Etcher) or similar software



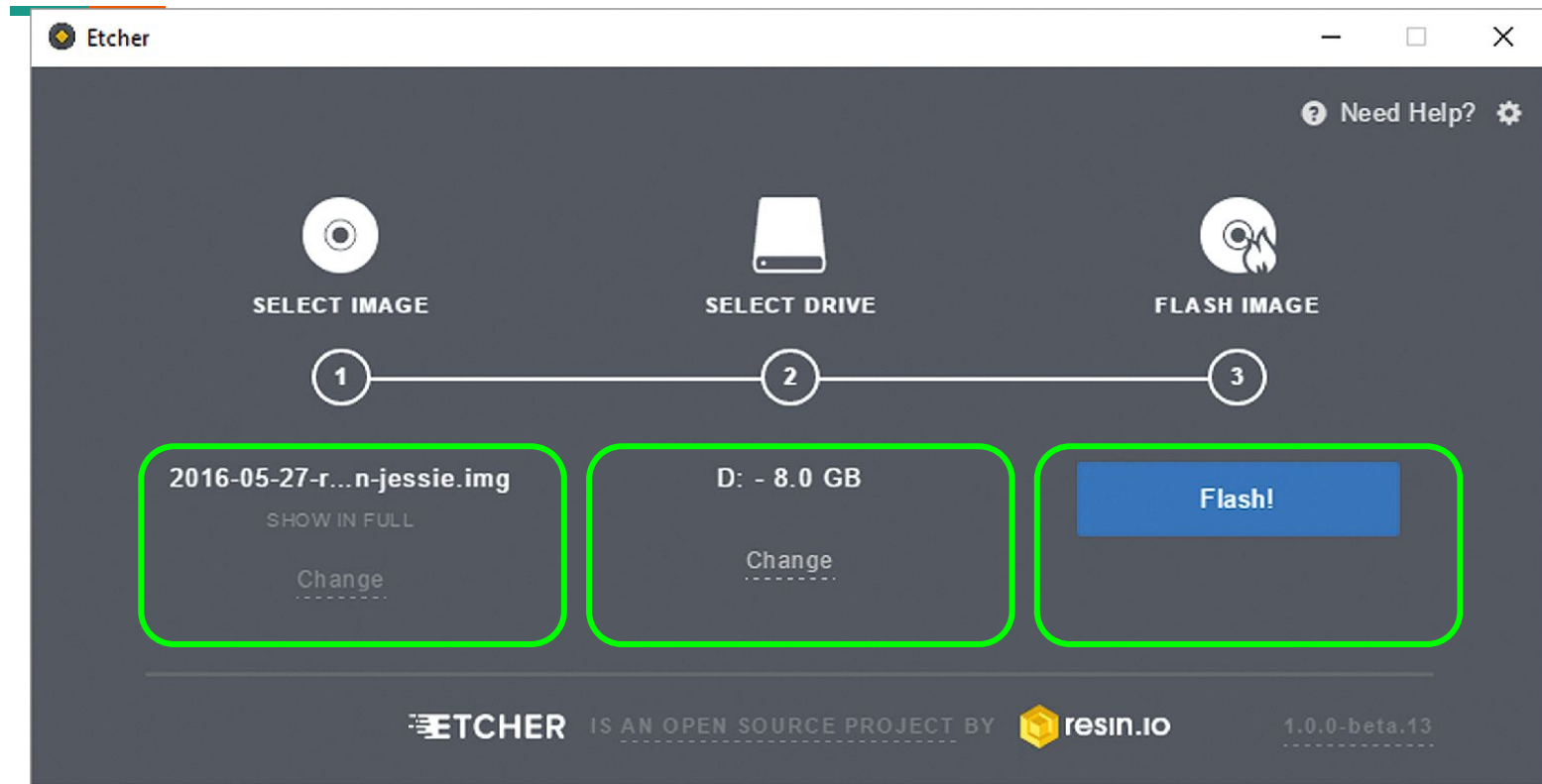
The screenshot displays the Raspbian download page with three main sections, each featuring a Raspberry Pi logo icon and a list of download links.

- Raspbian Stretch with desktop and recommended software**  
Image with desktop and recommended software based on Debian Stretch  
Version: April 2019  
Release date: 2019-04-08  
Kernel version: 4.14  
[Release notes](#)  
[Download Torrent](#) [Download ZIP](#)
- Raspbian Stretch with desktop**  
Image with desktop based on Debian Stretch  
Version: April 2019  
Release date: 2019-04-08  
Kernel version: 4.14  
[Release notes](#)  
[Download Torrent](#) [Download ZIP](#)
- Raspbian Stretch Lite**  
Minimal image based on Debian Stretch  
Version: April 2019  
Release date: 2019-04-08  
Kernel version: 4.14  
[Release notes](#)  
[Download Torrent](#) [Download ZIP](#)

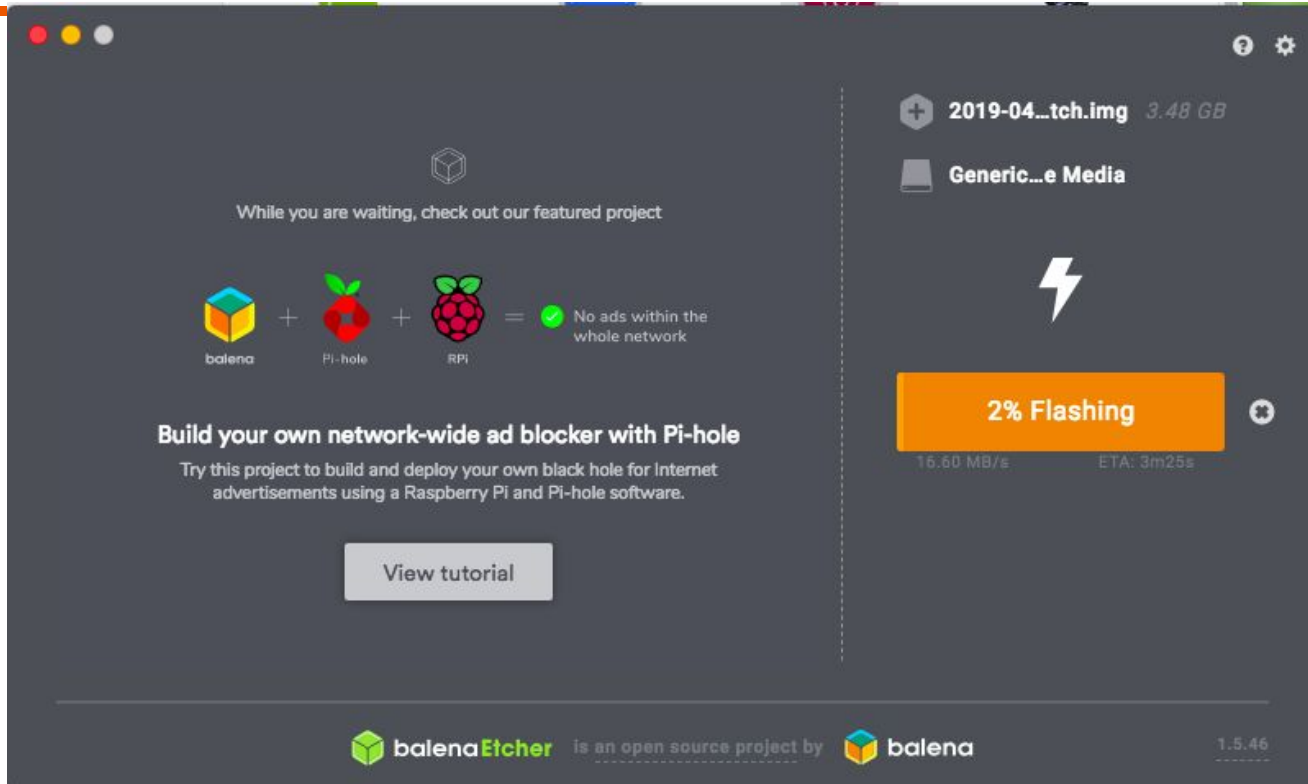
SHA-256 hashes are provided for each image:

- Top-left image: `a3ced697ca0481bb0ab3b1bd42c93eb24de6264f4b70ea0f7b6ecd74b33d83eb`
- Top-right image: `7e10a446f8e57210d0e9ad02f0c833aabb86e58187b4dc02431aff5a3f1ccb83`
- Bottom image: `03ec326d45c6eb6cef848cf9a1d6c7315a9410b49a276a6b28e67a40b11fdcf`

# Burn IMG to SD Card



# Burn IMG to SD Card



The screenshot shows the Balena Etcher application window. On the left, there's a featured project section for "Build your own network-wide ad blocker with Pi-hole". It includes icons for Balena, Pi-hole, and Raspberry Pi, followed by a plus sign, an equals sign, and a green checkmark with the text "No ads within the whole network". Below this is a "View tutorial" button. On the right, the main flashing area shows a selected image file "2019-04...tch.img" (3.48 GB) and a target "Generic...e Media". A large white lightning bolt icon is in the center. Below it, an orange progress bar indicates "2% Flashing". At the bottom of the progress bar, it shows "16.60 MB/s" and "ETA: 3m25s". The bottom of the window features the Balena Etcher logo, the text "is an open source project by", the Balena logo, and the version number "1.5.46".

While you are waiting, check out our featured project

**Build your own network-wide ad blocker with Pi-hole**

Try this project to build and deploy your own black hole for Internet advertisements using a Raspberry Pi and Pi-hole software.

[View tutorial](#)

**2019-04...tch.img** 3.48 GB

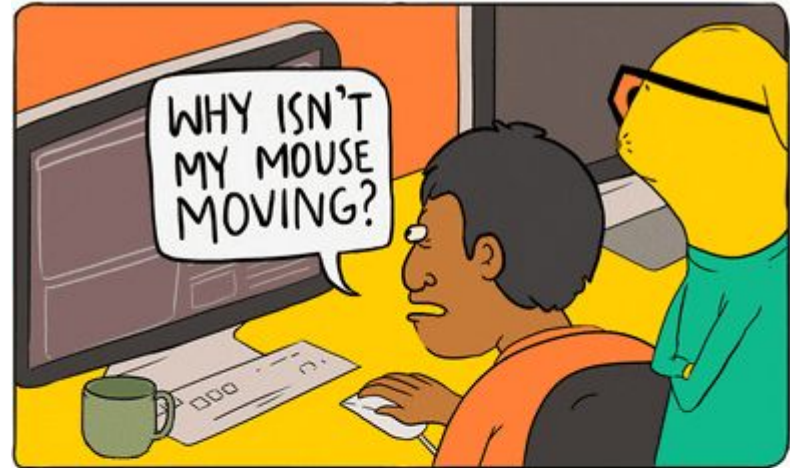
**Generic...e Media**

**2% Flashing**

16.60 MB/s ETA: 3m25s

balenaEtcher is an open source project by balena 1.5.46

# Plug Everything Into Your Pi





```
[ ok ] Cleaning up temporary files....  
[....] Configuring network interfaces...eth0: link up  
done.  
[ ok ] Cleaning up temporary files....  
[ ok ] Setting up ALSA...done (none loaded).  
[info] Setting console screen modes.  
[info] Skipping font and keymap setup (handled by console-setup).  
[ ok ] Setting up console font and keymap...done.  
[ ok ] Setting kernel variables ...done.  
INIT: Entering runlevel: 2  
[info] Using makefile-style concurrent boot in runlevel 2.  
[ ok ] Network Interface Plugging Daemon...skip eth0...done.  
[ ok ] Starting enhanced syslogd: rsyslogd.  
[ ok ] Starting periodic command scheduler: cron.  
[ ok ] Starting system message bus: dbus.  
Starting dphys-swapfile swapfile setup ...  
want /var/swap=100MByte, checking existing: keeping it  
done.  
[ ok ] Starting NTP server: ntpd.  
[ ok ] Starting OpenBSD Secure Shell server: sshd.  
My IP address is 10.0.2.15  
  
Debian GNU/Linux wheezy/sid raspberrypi tty1  
  
raspberrypi login: piu
```



Welcome to Raspberry Pi



Welcome to the Raspberry Pi Desktop!

Before you start using it, there are a few things to set up.

Press 'Next' to get started.

Cancel

Next

# Change your password

## 1. Default Credentials

Username: pi

Password: raspberry

## 2. Change your password

*Sudo raspi-config*

*Change User /Password*





# Pi-Hole One-Line Install Command

3. `"curl -sSL https://install.pi-hole.net | bash"`
4. Follow Prompts

[illegible]

# Router Configuration

- Go to DNS Settings
- Set Pi-Hole IP address as your new dedicated DNS
- Per Device / Network wide

**Network Address Server Settings (DHCP)**

DHCP Type	DHCP Server ▼			
DHCP Server	<input checked="" type="radio"/> Enable <input type="radio"/> Disable			
Start IP Address	192.168.1. 100			
Maximum DHCP Users	50			
Client Lease Time	1440 min			
Static DNS 1	192	168	1	250
Static DNS 2	0	0	0	0
Static DNS 3	0	0	0	0
WINS	0	0	0	0
Use DNSMasq for DHCP	<input checked="" type="checkbox"/>			
Use DNSMasq for DNS	<input checked="" type="checkbox"/>			
DHCP-Authoritative	<input type="checkbox"/>			
Forced DNS Redirection	<input type="checkbox"/>			

# Add Custom Blocklists

<https://github.com/StevenBlack/hosts>

- Block gambling sites, adult content, malware, adware...etc



## List of all hosts file variants

The **Non GitHub mirror** is the link to use for some hosts file managers like **Hostsman** for **Windows** that don't work with Github download links.

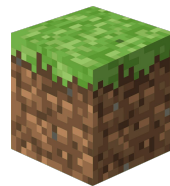
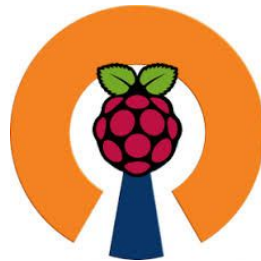
Host file recipe	Readme	Raw hosts	Unique domains	Non Github mirror
Unified hosts = (adware + malware)	<a href="#">Readme</a>	<a href="#">link</a>	39,373	<a href="#">link</a>
Unified hosts + fakenews	<a href="#">Readme</a>	<a href="#">link</a>	40,042	<a href="#">link</a>
Unified hosts + gambling	<a href="#">Readme</a>	<a href="#">link</a>	41,641	<a href="#">link</a>
Unified hosts + porn	<a href="#">Readme</a>	<a href="#">link</a>	52,925	<a href="#">link</a>
Unified hosts + social	<a href="#">Readme</a>	<a href="#">link</a>	41,660	<a href="#">link</a>
Unified hosts + fakenews + gambling	<a href="#">Readme</a>	<a href="#">link</a>	42,310	<a href="#">link</a>
Unified hosts + fakenews + porn	<a href="#">Readme</a>	<a href="#">link</a>	53,594	<a href="#">link</a>
Unified hosts + fakenews + social	<a href="#">Readme</a>	<a href="#">link</a>	42,329	<a href="#">link</a>
Unified hosts + gambling + porn	<a href="#">Readme</a>	<a href="#">link</a>	55,193	<a href="#">link</a>
Unified hosts + gambling + social	<a href="#">Readme</a>	<a href="#">link</a>	43,928	<a href="#">link</a>
Unified hosts + porn + social	<a href="#">Readme</a>	<a href="#">link</a>	55,211	<a href="#">link</a>
Unified hosts + fakenews + gambling + porn	<a href="#">Readme</a>	<a href="#">link</a>	55,862	<a href="#">link</a>
Unified hosts + fakenews + gambling + social	<a href="#">Readme</a>	<a href="#">link</a>	44,597	<a href="#">link</a>
Unified hosts + fakenews + porn + social	<a href="#">Readme</a>	<a href="#">link</a>	55,880	<a href="#">link</a>
Unified hosts + gambling + porn + social	<a href="#">Readme</a>	<a href="#">link</a>	57,479	<a href="#">link</a>
Unified hosts + fakenews + gambling + porn + social	<a href="#">Readme</a>	<a href="#">link</a>	58,148	<a href="#">link</a>

**Expectation:** These unified hosts files should serve all devices, regardless of OS.

# Integrate ALL THE THINGS!

Compatible with:

- PiVPN (Raspberry Pi based VPN)
- Plex Media Server (to access all your media over your network)
- Samba File Server (to back up and store files)
- And many many more!



# IfConfig



```
tecmint@tecmint ~ $ ifconfig
eth0      Link encap:Ethernet  HWaddr 28:d2:44:eb:bd:98
          inet addr:192.168.0.104 Bcast:192.168.0.255 Mask:255.255.255.0
          inet6 addr: fe80::2ad2:44ff:feeb:bd98/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:342087 errors:0 dropped:0 overruns:0 frame:0
          TX packets:233764 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:406375041 (406.3 MB)  TX bytes:25096967 (25.0 MB)

lo        Link encap:Local Loopback
          inet addr:127.0.0.1 Mask:255.0.0.0
          inet6 addr: ::1/128 Scope:Host
          UP LOOPBACK RUNNING  MTU:65536  Metric:1
          RX packets:5146 errors:0 dropped:0 overruns:0 frame:0
          TX packets:5146 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:0
          RX bytes:469809 (469.8 KB)  TX bytes:469809 (469.8 KB)

wlan0     Link encap:Ethernet  HWaddr 38:b1:db:7c:78:c7
          UP BROADCAST MULTICAST  MTU:1500  Metric:1
          RX packets:0 errors:0 dropped:0 overruns:0 frame:0
          TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:0 (0.0 B)  TX bytes:0 (0.0 B)

tecmint@tecmint ~ $
```



## Status

● Active 🌡 Temp: 41.3 °C  
● Load: 0 0 0  
● Memory usage: 8.9 %

## MAIN NAVIGATION

[Dashboard](#)[Query Log](#)[Long term data](#)[Whitelist](#)[Blacklist](#)[Disable](#)[Tools](#)[Network](#)[Settings](#)[Logout](#)[Donate](#)[Help](#)

Total queries (38 clients)

9,253



Queries Blocked

1,161



Percent Blocked

12.5%

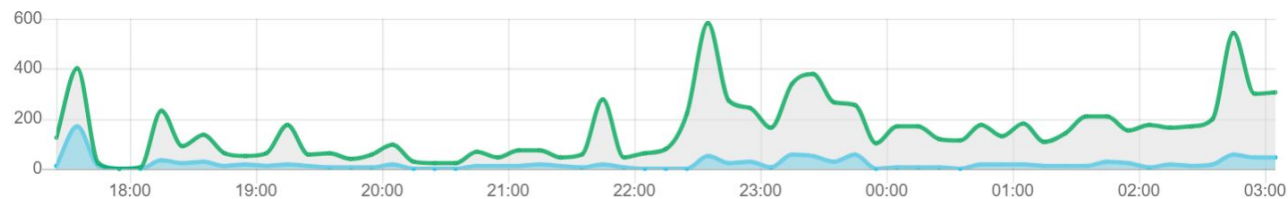


Domains on Blocklist

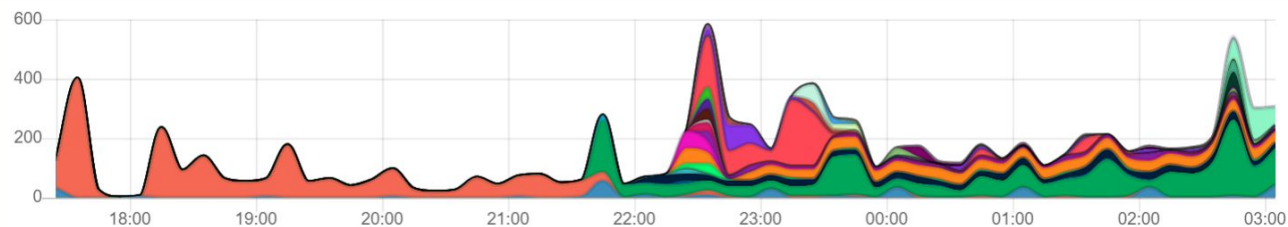
113,443



## Queries over last 24 hours



## Clients (over time)



## Query Types



## Queries answered by



## Top Domains

Domain	Hits	Frequency
cortney.net	97,604	<div><div></div></div>
francesca.org	95,935	<div><div></div></div>
cristopher.org	90,342	<div><div></div></div>
colby.com	86,836	<div><div></div></div>
frank.net	86,039	<div><div></div></div>
nicola.org	68,743	<div><div></div></div>
carroll.biz	61,206	<div><div></div></div>
amir.info	14,888	<div><div></div></div>
kaelyn.org	9,030	<div><div></div></div>
leonor.biz	1,895	<div><div></div></div>

## Top Blocked Domains

Domain	Hits	Frequency
lowell.com	49,598	<div><div></div></div>
stacy.name	47,350	<div><div></div></div>
vallie.net	45,113	<div><div></div></div>
kaylie.com	44,904	<div><div></div></div>
kathryn.net	40,625	<div><div></div></div>
dusty.com	18,914	<div><div></div></div>
eliza.com	18,838	<div><div></div></div>
zelda.info	11,517	<div><div></div></div>
bernie.biz	8,030	<div><div></div></div>
javier.com	3,348	<div><div></div></div>

## Top Clients

Client	Requests	Frequency
110.219.89.128	45,272	<div><div></div></div>
163.120.73.7	45,241	<div><div></div></div>
85.91.137.68	40,307	<div><div></div></div>
121.101.132.71	34,062	<div><div></div></div>
68.129.149.31	28,030	<div><div></div></div>
249.166.235.23	19,143	<div><div></div></div>
56.203.59.235	12,822	<div><div></div></div>
6.174.88.80	7,726	<div><div></div></div>
171.165.37.15	7,303	<div><div></div></div>
201.154.28.43	7,212	<div><div></div></div>



Previous		Page	2	of 250	20 rows	Next	
Time	Type	Domain		Client	Status	Action	
00-40...	IPv4	madaline.net		audrey.local	Blocked	Whitelist	
00-40...	IPv6	zachariah.info		ed21:4d2e:0a53:7638:70e9:92	Allowed (forward...	Blacklist	
00-40...	IPv4	rubie.org		3.190.201.166	Blocked (wildcard)	Whitelist	
00-40...	IPv6	damaris.biz		americo.local	Blocked (blacklist)	Whitelist	
00-40...	IPv6	mack.info		9904:6aff:ab90:ce29:46d2:3d	Blocked (blacklist)	Whitelist	
00-40...	IPv6	lilliana.org		ff17:249e:6022:9f96:e1a6:862	Blocked (wildcard)	Whitelist	
00-40...	IPv6	skylia.info		1213:b8c1:6691:2c31:a908:82c	Blocked (blacklist)	Whitelist	
00-40...	IPv6	willia.name		f3c9:31cf:7c69:e204:51fb:e716	Allowed (forward...	Blacklist	
00-40...	IPv4	kenya.org		marjolaine.local	Allowed (cached)	Blacklist	










## Status

- Active
- Load: 0.02 0.02 0.05
- Memory usage: 7.2 %

## MAIN NAVIGATION

 Dashboard Query Log Long term data Whitelist Blacklist Disable Tools Settings Logout Donate Help

# Blacklist

Add (exact)

Add (wildcard)

Add (regex)



## Exact blocking

amoeba.web.roku.com



assets.sr.roku.com



austin.logs.roku.com



cloudservices.roku.com



cooper.logs.roku.com



giga.logs.roku.com



griffin.logs.roku.com



liberty.logs.roku.com



littlefield.logs.roku.com



p.ads.roku.com



paolo.logs.roku.com



prod.mobile.roku.com



# Before Pi-Hole

OSXDaily

amazon Headphones Under \$100 > Learn more



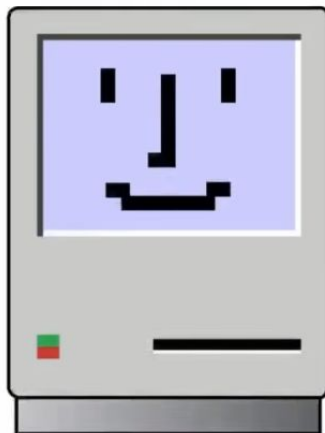
Home Mac OS iPhone iPad Tips & Tricks News iOS Troubleshooting

Google Custom Se

## Get Retro with a Classic Mac Finder Clone for Modern MacOS

Jul 8, 2018 - 1 Comment

Twitter Facebook Google+



Do you miss the [retro old days](#) of an ultra-simple Finder experience on the Macintosh? You know, way back in System 6 and System 7, when there was no visual complexity to the user interface of Finder, no myriad of features, it was just a simple file system browser.

Yearn no more, because you can get that super simple Classic Macintosh Finder experience right now on MacOS and Mac OS X! Well, sort of anyway.

[Read more »](#)

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Follow the 3 steps for quick install & scan



[Click Download Now](#)



Start the fast scan



Get a clean Mac



Download Now

MacKeeper™

KASPERSKY

Protect your computer  
and personal data from  
digital threats.

Up to  
30%  
OFF



# After Pi-Hole

OSXDaily

Home Ma

Get R  
Clone

Jul 8, 2018 - L



Do you miss t  
You know, wa  
user interface of Finder, no myriad of features, it was just a simple file system browser.

Yearn no more, because you can get that super simple Classic Macintosh Finder  
experience right now on MacOS and Mac OS XI Well, sort of anyway

# FIN



Pi-Hole - <https://pi-hole.net/>

Video Tutorial - [https://www.youtube.com/watch?v=\\_rZhCLh3WYU](https://www.youtube.com/watch?v=_rZhCLh3WYU)

Block Hulu - [https://www.reddit.com/r/pihole/comments/9esp0y/hulu\\_yes\\_another\\_one/](https://www.reddit.com/r/pihole/comments/9esp0y/hulu_yes_another_one/)

