

# **Privacidad, desde adentro**

**Un curso online y gratuito de Futuro randómico**

**Clase 2**

# Qué vamos a ver

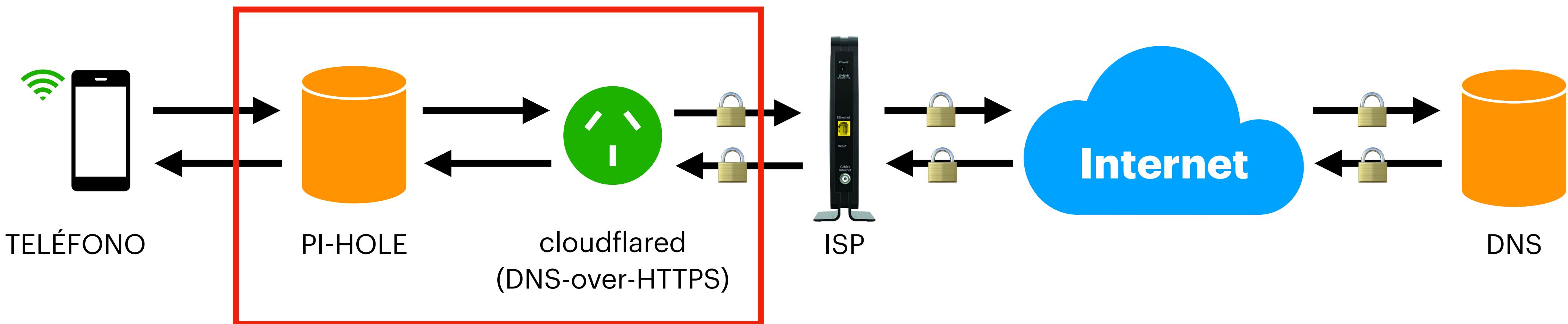
## Clase 2

- Instalación de DietPi
- Instalación de Pi-hole via Docker
- Instalación de cloudflare (DNS-over-HTTPs)
- Setup básico de Pi-hole
  - Blacklists
  - Whitelists
  - Local DNS



# Qué queremos lograr

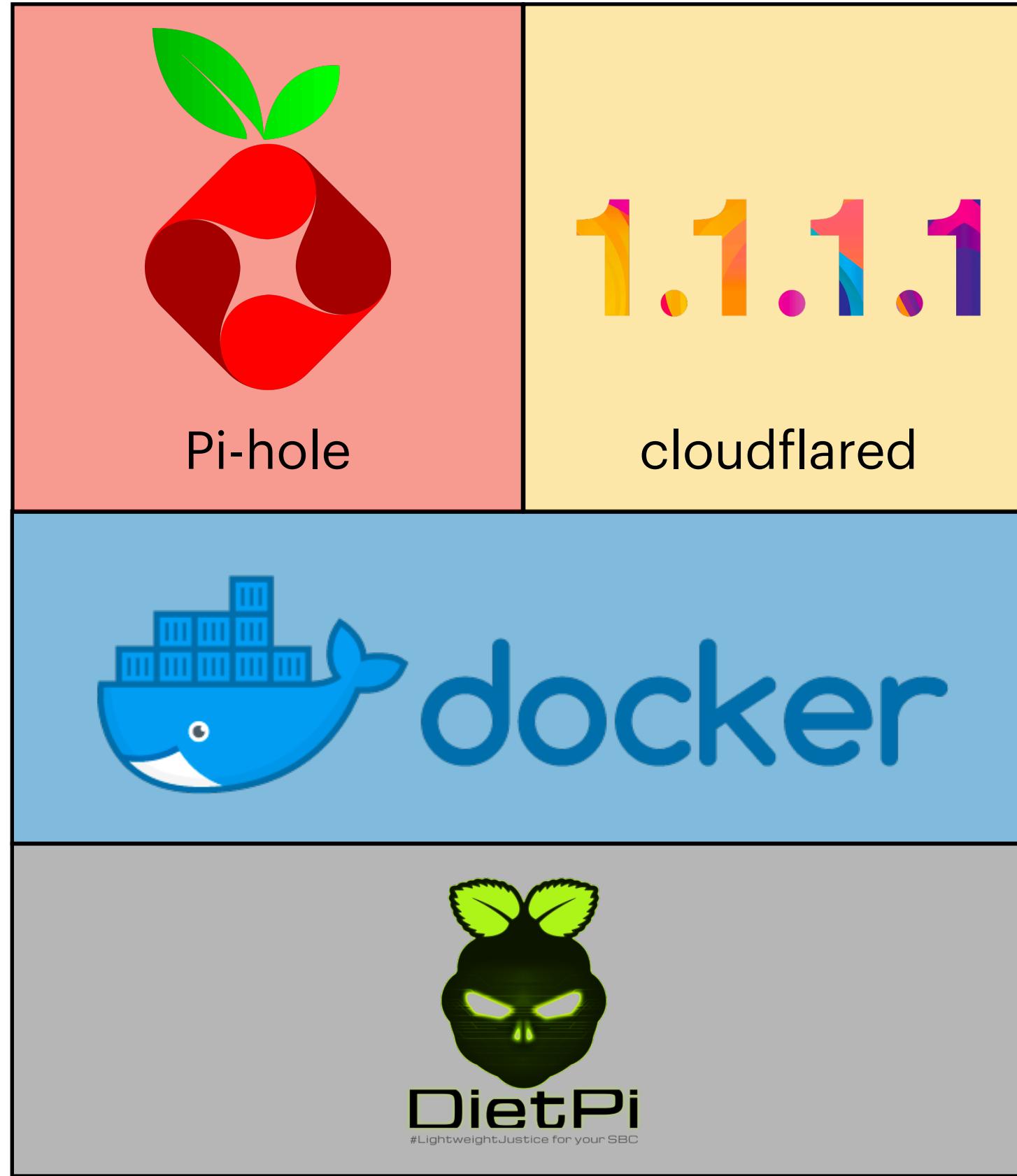
## Pi-hole + cloudflare (en Docker)



# Qué queremos lograr

## Pi-hole + cloudflared (en Docker)

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



<https://1.1.1.1/>

<https://github.com/crazy-max/docker-cloudflared>

<https://docker.com/>

<https://dietpi.com/>

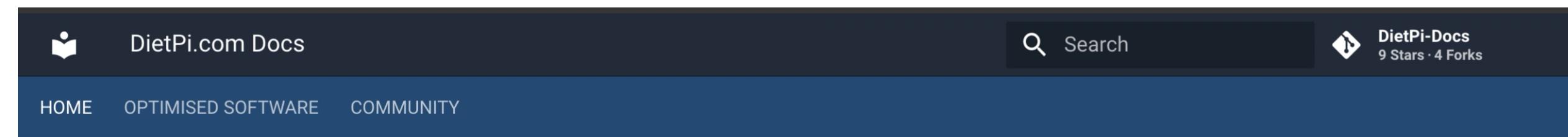
# Instalación

## Que necesitamos

- 1 x Raspberry Pi / Odroid / PC / SBC
- 1 x Micro-SD 4GB+
- 1 x Cable ethernet
- Tiempo:
  - 45 minutos para Diet-Pi
  - 60 minutos para Pi-hole
  - 15 minutos para cloudflared

# Instalación de DietPi

## Paso a paso



How to install DietPi

The installation of DietPi consists of few steps:

- Provide an installation media (e.g. SD card for single board computer or USB stick for PC)
- Get the DietPi image (and put it on the installation media)
- Boot up the DietPi device and go through one time installation steps

Following these steps you will be able to initially setup DietPi and install additional software packages you would like to use, using [dietpi-software](#).

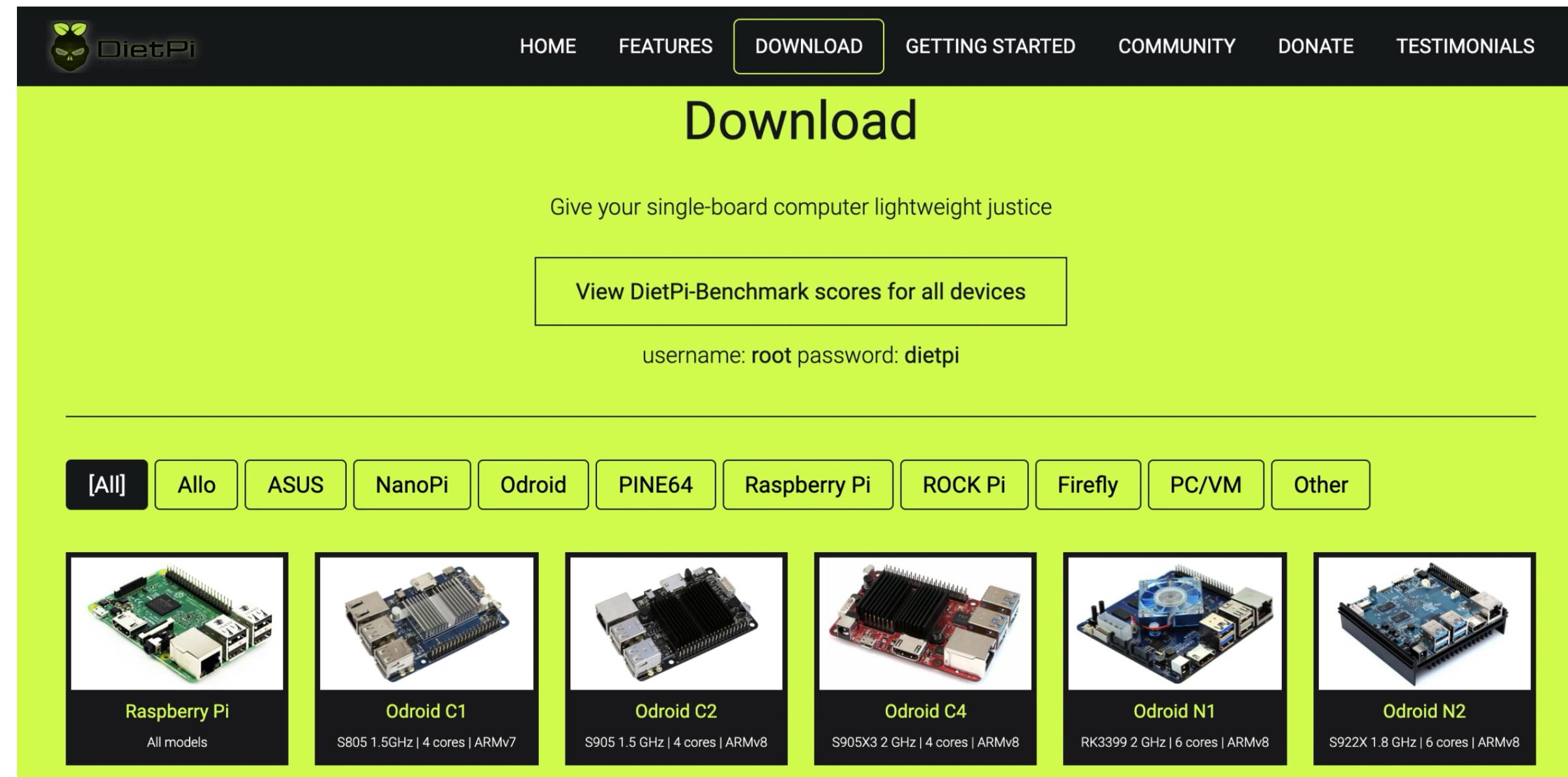
Select the following tabs for the installation description of your target.

[Install on SBC](#)   [Install on native PC \(UEFI\)](#)   [Install in VirtualBox](#)

Podes seguir el paso a paso en [https://dietpi.com/docs/user-guide\\_installation/](https://dietpi.com/docs/user-guide_installation/)

# Instalación de DietPi

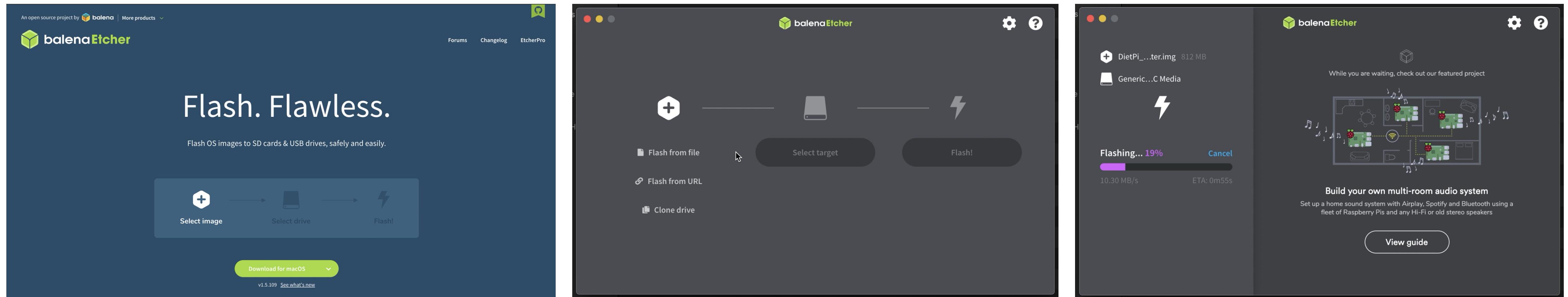
## Paso a paso



- Descargar DietPi para tu dispositivo en <https://dietpi.com>
- Descomprimir la imagen

# Instalación de DietPi

## Paso a paso

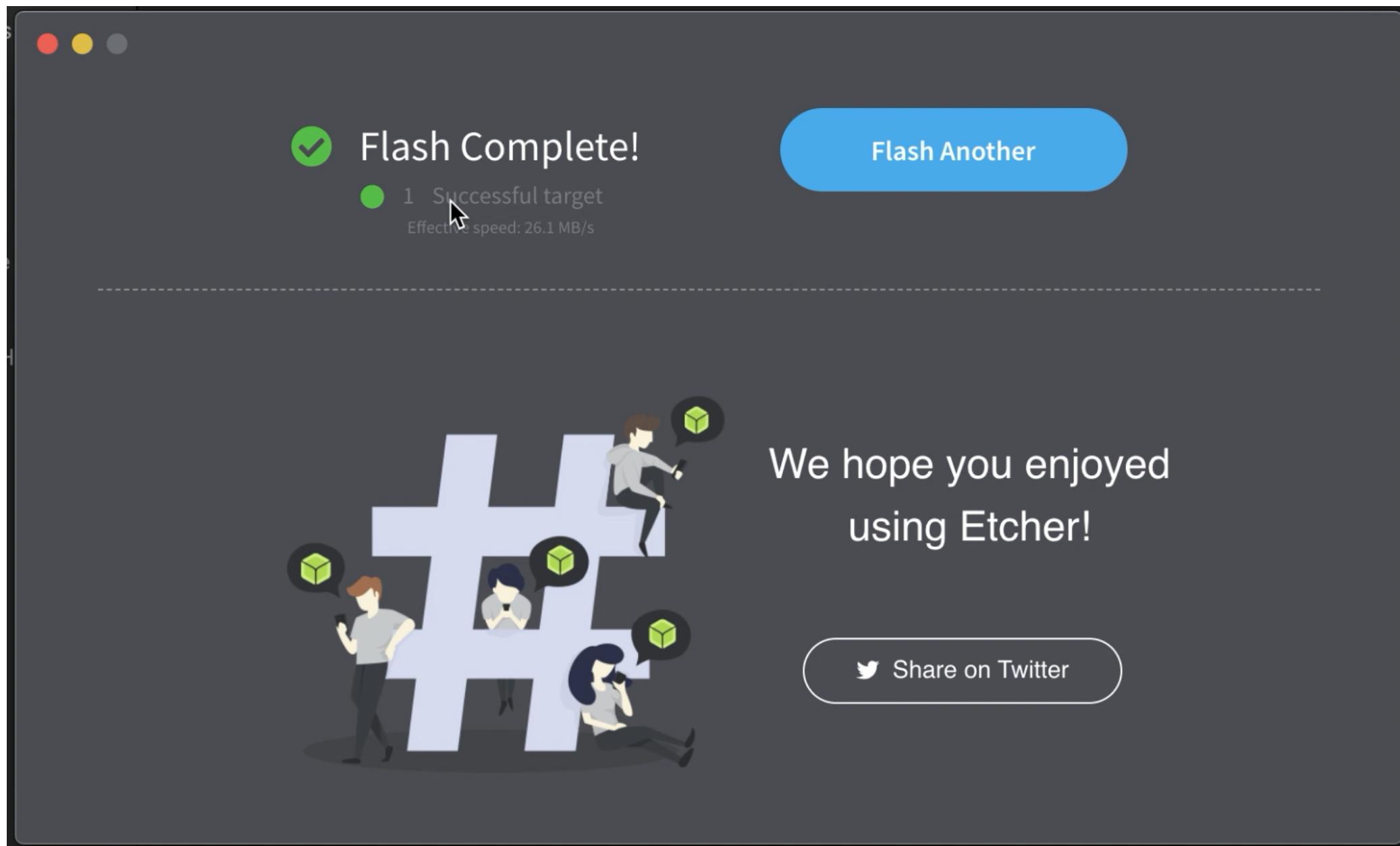


- Descargar Balena Etcher desde <https://www.balena.io/etcher/>
- Insertar el SD Card
- Grabar la imagen de DietPi hacia la SD Card



# Instalación de DietPi

## Paso a paso



- Esperar el mensaje de éxito!
- Retirar la SD Card
- Insertarla en la Raspberry Pi, y enchufar el power y el Ethernet



# Instalación de DietPi

## Paso a paso

```
DietPi-Login | File viewer | DietPi-Update

-----
DietPi - GPLv2 License:
-----
- Use arrow keys to scroll
- Press 'TAB' then 'ENTER' to continue

This program is free software: you can redistribute it and/or modify it under the terms of the GNU General Public
License as published by the Free Software Foundation, either version 2 of the License, or any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied
warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more
details.

You should have received a copy of the GNU General Public License along with this program. If not, please see

<0k>
```

```
DietPi-Update
-----
Phase: Checking for update pre-requirements
[ OK ] DietPi-Update | DietPi-Userdata validation: /mnt/dietpi_userdata
[ OK ] DietPi-Update | Free space check: path=/ | available=28883 MiB | required=100 MiB
[ SUB1 ] DietPi-Services > stop
[ INFO ] DietPi-Services | skip : cron (due to mask)

DietPi-Update
-----
Phase: Applying pre-patches
[ OK ] DietPi-Update | Downloading pre-patch file
[ OK ] DietPi-Update | Applying execute permission
[ INFO ] Pre-patch 22 | Switch to our new Meveric's Odroid repo mirror on https://dietpi.com/meveric/
[ OK ] DietPi-Update | Successfully applied pre-patches

DietPi-Update
-----
Phase: Upgrading APT packages
[ INFO ] DietPi-Update | APT update, please wait...
Get:1 https://deb.debian.org/debian buster InRelease [121 kB]
Get:2 https://deb.debian.org/debian buster-updates InRelease [51.9 kB]
Get:3 https://deb.debian.org/debian-security buster/updates InRelease [65.4 kB]
Get:4 https://deb.debian.org/debian buster-backports InRelease [46.7 kB]
Get:5 https://deb.debian.org/debian buster/non-free armhf Packages [62.0 kB]
Get:6 https://deb.debian.org/debian buster/main armhf Packages [7698 kB]
Get:7 https://deb.debian.org/debian buster/contrib armhf Packages [40.4 kB]
Get:8 https://deb.debian.org/debian buster-updates/non-free armhf Packages [604 B]
Get:9 https://deb.debian.org/debian buster-updates/main armhf Packages [7844 B]
Get:10 https://deb.debian.org/debian-security buster/updates/main armhf Packages [243 kB]
Get:11 https://deb.debian.org/debian buster-backports/contrib armhf Packages [7116 B]
Get:12 https://deb.debian.org/debian buster-backports/non-free armhf Packages [9888 B]
Get:13 https://deb.debian.org/debian buster-backports/main armhf Packages [361 kB]
Get:14 https://dietpi.com/meveric all InRelease [19.4 kB]
Get:15 https://dietpi.com/meveric buster InRelease [4125 B]
```

- Hacer login utilizando Monitor/Teclado o Putty / SSH a la IP de su Raspberry Pi (root/dietpi)
- Seguir los pasos de puesta en marcha, y esperen a que haga los updates 😴
- Fin !

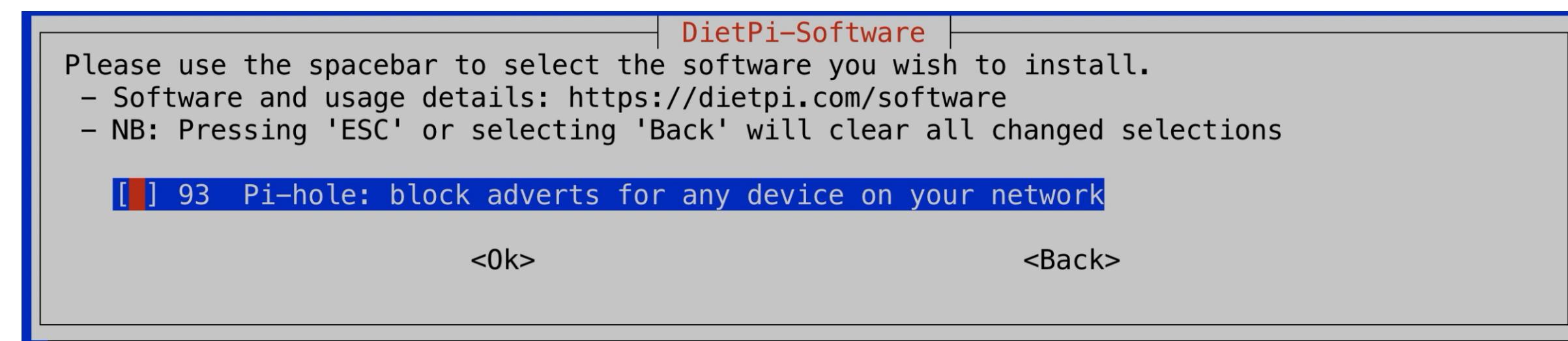


# Instalación de Pi-Hole

## Alternativas

### Usando Diet-Pi

- Pros:
  - Instalación simple desde dietpi-software
- Cons:
  - Es necesario usar DietPi
  - Setup “sucio” junto a otros softwares instalados

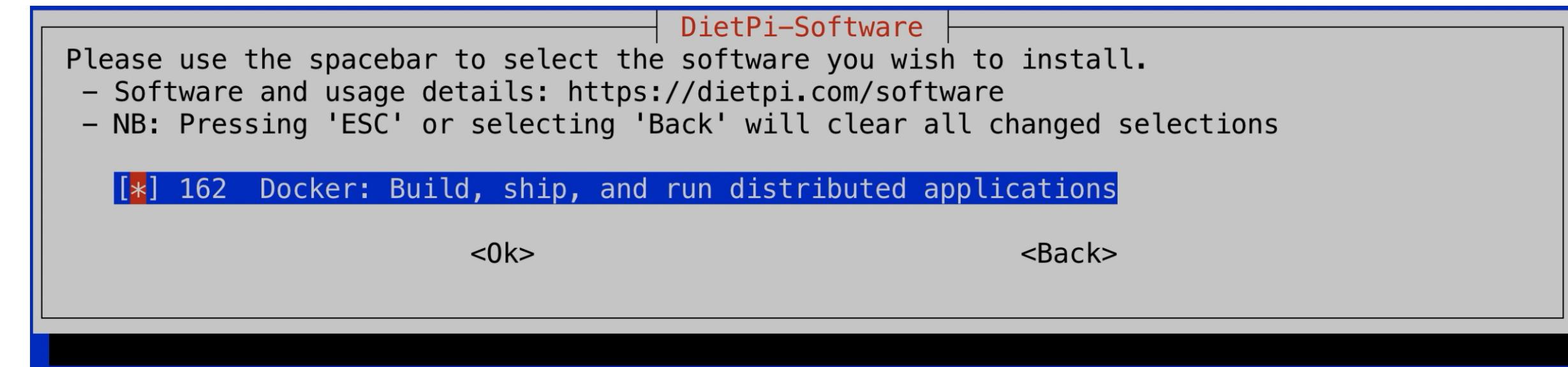


# Instalación de Pi-Hole

## Alternativas

### Usando Docker

- Pros:
  - Instalación en cualquier OS
  - Funcionamiento aislado
- Cons:
  - Es necesario instalar y poder correr Docker
  - Instalación ~~mas compleja por CLI~~ simplificada por @futurorandomico!



# Instalación de Pi-Hole en Docker

## Paso a paso

```
1 #!/bin/bash
2
3 # https://github.com/pi-hole/docker-pi-hole/blob/master/README.md
4
5 PIHOLE_BASE="${PIHOLE_BASE:-$(pwd)}"
6 [[ -d "$PIHOLE_BASE" ]] || mkdir -p "$PIHOLE_BASE" || { echo "Couldn't create storage directory: $PIHOLE_BASE"; exit 1; }
7
8 # Note: ServerIP should be replaced with your external ip.
9 docker run -d \
10   --name pihole \
11   -p 53:53/tcp -p 53:53/udp \
12   -p 80:80 \
13   -p 443:443 \
14   -e TZ="America/Chicago" \
15   -v "${PIHOLE_BASE}:/etc/pihole/:/etc/pihole/" \
16   -v "${PIHOLE_BASE}:/etc-dnsmasq.d:/etc/dnsmasq.d/" \
17   --dns=127.0.0.1 --dns=1.1.1.1 \
18   --restart=unless-stopped \
19   --hostname pi.hole \
20   -e VIRTUAL_HOST="pi.hole" \
21   -e PROXY_LOCATION="pi.hole" \
22   -e ServerIP="127.0.0.1" \
23   pihole/pihole:latest
24
25 printf 'Starting up pihole container '
26 for i in $(seq 1 20); do
27   if [ "$(docker inspect -f '{{.State.Health.Status}}' pihole)" == "healthy" ] ; then
28     printf ' OK'
29     echo -e "\n$(docker logs pihole 2> /dev/null | grep 'password:')" for your pi-hole: https://$IP/admin/
30     exit 0
31   else
32     sleep 3
33     printf '.'
34   fi
35
36   if [ $i -eq 20 ] ; then
37     echo -e "\nTimed out waiting for Pi-hole start, consult check your container logs for more info (\`docker logs pihole\`)"
38     exit 1
39   fi
40 done;
```

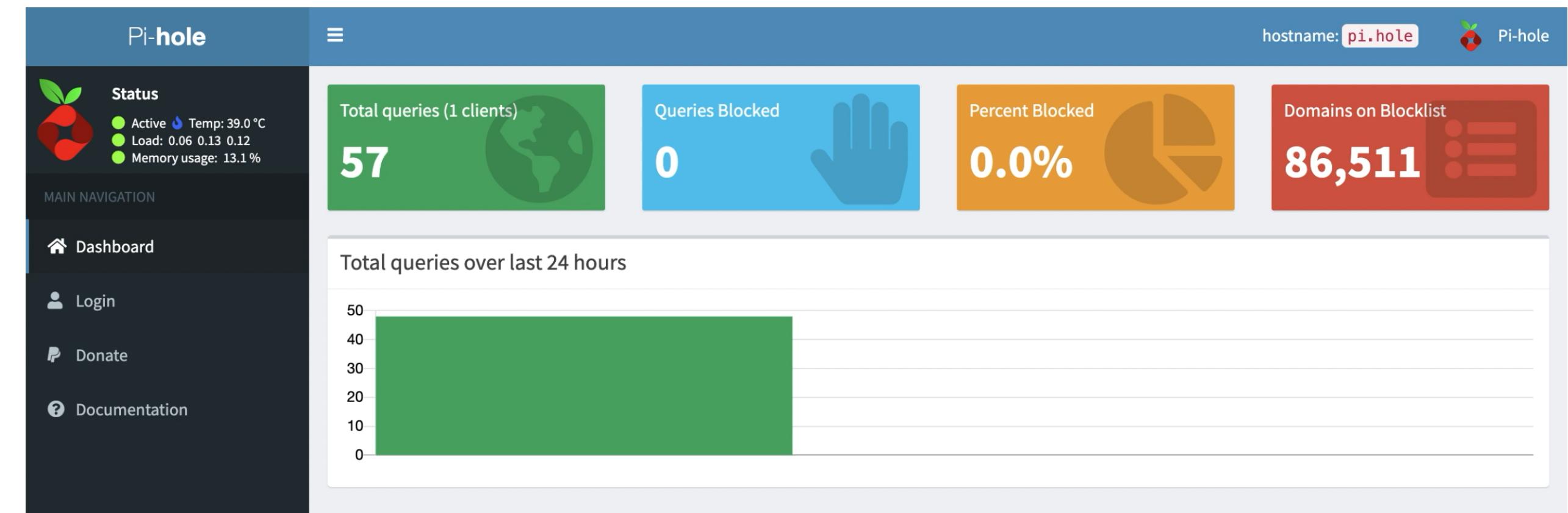
- Bajarse los archivos .sh desde el repositorio (carpeta Clase 2)
- Correr el comando docker.net.sh
- Correr el comando docker.pihole.sh



# Instalación de Pi-Hole en Docker

## Paso a paso

```
iTerm2 Shell Edit View Session Scripts Profiles Toolbelt Window Help
sarena@odroidestudio:~/docker/pihole$ ./docker_run.sh
WARNING: Localhost DNS setting (--dns=127.0.0.1) may fail in containers.
Unable to find image 'pihole/pihole:latest' locally
latest: Pulling from pihole/pihole
18cdcc9f05f6: Extracting [=====] 19.73MB/45.7MB
06cfce5c2444: Download complete
1dbe0224d1a2: Verifying Checksum
9a8974677c9a: Downloading [=====] 79.3MB/112.3MB
28d8add61186: Download complete
e3caaeb56b66: Download complete
5427ce2a9be7: Download complete
dd9602b9c6d4: Download complete
```



- Esperar unos minutos a que Docker descargue todo lo necesario
- Entrar a <http://ip-raspberrypi:8080/admin> para ver tu Pi-hole funcionando!

# Instalación de cloudflared en Docker

## Paso a paso

```
Clase 2 > docker.cloudflared.sh
1 sudo docker run -d \
2   --restart always \
3   --name cloudflared \
4   -p 5053:5053/udp \
5   -p 49312:49312 \
6   --network=pihole --ip=172.20.0.3 \
7   -e TZ="America/Argentina/Buenos_Aires" \
8   crazymax/cloudflared:latest
```

The screenshot shows the Pi-hole admin interface with the 'DNS' tab selected. On the left, there's a sidebar with navigation links like Dashboard, Query Log, Long-term data, Whitelist, Blacklist, Local DNS Records, Group Management, Disable, Tools, Settings, Logout, and Documentation. The main content area has two tabs: 'Upstream DNS Servers' (selected) and 'Interface listening behavior'. Under 'Upstream DNS Servers', there's a table with columns for IPv4, IPv6, and Name. The table lists several DNS providers: Google (ECS), OpenDNS (ECS), Level3, Comodo, DNS.WATCH, Quad9 (filtered, DNSSEC), Quad9 (unfiltered, no DNSSEC), Quad9 (filtered + ECS), and Cloudflare. Under 'Interface listening behavior', there are three radio button options: 'Listen on all interfaces' (unchecked), 'Listen only on interface eth0' (checked), and 'Listen on all interfaces, permit all origins' (unchecked). A note at the bottom explains ECS (Extended Client Subnet).

- Esperar unos minutos a que Docker descargue todo lo necesario
- Entrar a <http://ip-raspberrypi:8080/admin/settings.php?tab=dns> para configurar tu nuevo Upstream DNS



# Setup de Pi-Hole

## Configuración básica

- Whitelist
- Blacklist
- Adlists
  - The blocklist project
  - Social networks
- Local DNS

# Próximos pasos

- Testing!!! desde una sola pc / mobile por unos días
- Configurar más blocklists
- Agregar whitelisting según sea necesario
- Ya dije TESTING??!!!
- Pueden bajarse Pi-Hole Remote para iPhone para ver stats y deshabilitar

```
➜ ~ nslookup
> server
Default server: 10.0.0.10
Address: 10.0.0.10#53
> yahoo.com
Server:          10.0.0.10
Address:         10.0.0.10#53

Non-authoritative answer:
Name:    yahoo.com
Address: 98.137.11.163
Name:    yahoo.com
Address: 74.6.143.25
```

# ¿Preguntas?

# Una cosa más...

\*one more thing...

# Paso a paso #1

## Instalación de DietPi



<https://www.youtube.com/watch?v=pFg73CjyNfk>

# Paso a paso #2

## Instalación de Pi-Hole en Docker



<https://www.youtube.com/watch?v=futIdbNameWWys>

# Paso a paso #3

## Instalación de cloudflared en Docker



<https://www.youtube.com/watch?v=4OsD73OUaH0>

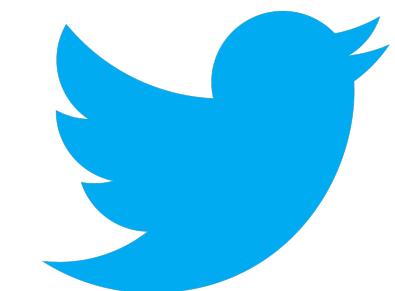


[github.com/futurorandomico/privacidad-desde-adentro](https://github.com/futurorandomico/privacidad-desde-adentro)



Privacidad, desde adentro (playlist)

Futuro randómico (canal)



@futurorandomico

@esturniolo

# Gracias

Ayudanos a difundirlo 

Suscríbete al canal 

Dejanos un like 

Hacénos preguntas!