

Blockchain

- Explanation of blockchain → <https://medium.com/better-programming/a-technical-introduction-to-blockchain-22ab05308151>

Monetize Your Business With Your Users' CPU Power → <https://coin-hive.com/>

Beaker is a peer-to-peer browser with tools to create and host websites. Don't just browse the Web, build it. → <https://beakerbrowser.com/>

Blockchain based social media → <http://www.maxkeiser.com/2017/06/steem-a-blockchain-based-social-media-rewards-platform/>
<https://steemit.com/>

Breath (BRH) uses human respiration to mine crypto-currencies. → <http://respiration.ltd/>

Lightning Network

- Lightning is a layer-2 payment network built on top of layer-1, Bitcoin. This layer-2 network consists of nodes running the Lightning Network protocol, with bidirectional payment channels open between them. These payment channels allow for many fast payments to be made between nodes without the slower on-chain, layer-1 transactions. There is no need to wait for layer-1 block confirmations when making Lightning payments in established channels. Channels are opened and closed with an on-chain transaction while any number of Lightning payments can be made so long as the channels remain open and funded.
- Montaje de nodo de esta red → <https://www.econoalchemist.com/post/build-a-self-custodial-lightning-node-with-raspibltz#viewer-er5g1>
- ¿Cómo verificar la firma GPG de la imagen descarga? → <https://www.gnupg.org/gph/en/manual/x135.html> <https://armantheparman.com/gpg/>

```
Download Raspberry Pi Foundation Public Keys from
https://www.raspberrypi.org/raspberrypi_downloads.gpg.key
$ gpg --import raspberrypi_downloads.gpg.key
> gpg: key 8738CD6B956F460C: 1 firma no comprobada por falta de una clave
> gpg: clave 8738CD6B956F460C: clave pública "Raspberry Pi Downloads Signing
Key" importada
> gpg: Cantidad total procesada: 1
> gpg:             importadas: 1
> gpg: no se encuentran claves absolutamente fiables

$ gpg --verify 2021-05-07-raspios-buster-arm64.zip.sig 2021-05-07-raspios-
buster-arm64.zip
> gpg: Firmado el vie 28 may 2021 09:00:36 -05
> gpg:             usando RSA clave
54C3DD610D9D1B4AF82A37758738CD6B956F460C
> gpg: Firma correcta de "Raspberry Pi Downloads Signing Key" [desconocido]
> gpg: ATENCIÓN: ¡Esta clave no está certificada por una firma de confianza!
```

```
> gpg: No hay indicios de que la firma pertenezca al propietario.  
> Huellas dactilares de la clave primaria: 54C3 DD61 0D9D 1B4A F82A 3775  
8738 CD6B 956F 460C
```

- Build the SD card image → <https://github.com/rootzoll/raspibltz/tree/v1.7.0#build-the-sd-card-image>
- Falla la sección **PREPARING BITCOIN** del build script, la versión actual es 0.21.1, parece que fue un problema temporal con el servidor donde estaba alojada la clave pública.

```
echo "*** PREPARING BITCOIN ***"  
  
# set version (change if update is available)  
# https://bitcoincore.org/en/download/  
bitcoinVersion="0.21.0"  
  
# needed to check code signing  
laanwjPGP="B1E85486DE18A882D4C2684598C8819E36C2E964"  
  
# prepare directories  
sudo rm -rf /home/admin/download  
sudo -u admin mkdir /home/admin/download  
cd /home/admin/download  
  
# download, check and import signer key  
sudo -u admin wget https://bitcoin.org/laanwj-releases.asc  
if [ ! -f "/laanwj-releases.asc" ]  
then  
  echo "!!! FAIL !!! Download laanwj-releases.asc not success."  
  exit 1  
fi  
gpg --import --import-options show-only ./laanwj-releases.asc  
fingerprint=$(gpg ./laanwj-releases.asc 2>/dev/null | grep "${laanwjPGP}" -c)  
if [ $(fingerprint) -lt 1 ]; then  
  echo ""  
  echo "!!! BUILD WARNING --> Bitcoin PGP author not as expected"  
  echo "Should contain laanwjPGP: $laanwjPGP"  
  echo "PRESS ENTER to TAKE THE RISK if you think all is OK"  
  read key  
fi  
gpg --import ./laanwj-releases.asc  
[ ]  
  
Retrying.  
  
--2021-07-16 11:38:15-- (try:10) https://bitcoin.org/laanwj-releases.asc  
Connecting to bitcoin.org (bitcoin.org)|138.68.248.245|:443... failed: Connection timed out.  
Retrying.  
  
*** PREPARING BITCOIN ***  
--2021-07-17 04:02:18-- https://bitcoin.org/laanwj-releases.asc  
Resolving bitcoin.org (bitcoin.org)... 138.68.248.245  
Connecting to bitcoin.org (bitcoin.org)|138.68.248.245|:443... connected.  
HTTP request sent, awaiting response... 200 OK  
Length: 32242 (31K) [application/octet-stream]  
Saving to: 'laanwj-releases.asc'  
  
laanwj-releases.asc 100%[=====] 31.49K --.-KB/s in 0.084s  
  
2021-07-17 04:02:19 (0.04 MB/s) - 'laanwj-releases.asc' saved [32242/32242]  
  
gpg: keybox '/home/pi/.gnupg/pubring.kbx' created  
gpg: key 98C8819E36C2E964: 51 signatures not checked due to missing keys  
pub rsa4096 2015-06-24 [SC] [expires: 2022-02-10]  
B1E85486DE18A882D4C2684598C8819E36C2E964  
uid Wladimir J. van der Laan (Bitcoin Core binary release  
signing key) <laanwj@gmail.com>  
  
gpg: key 98C8819E36C2E964: 51 signatures not checked due to missing keys  
gpg: /home/pi/.gnupg/trustdb.gpg: trustdb created  
gpg: key 98C8819E36C2E964: public key "Wladimir J. van der Laan (Bitcoin Core  
binary release signing key) <laanwj@gmail.com>" imported  
gpg: Total number processed: 1  
gpg: imported: 1  
gpg: no ultimately trusted keys found  
--2021-07-17 04:02:19-- https://bitcoin.org/bin/bitcoin-core-0.21.1/SHA256SUMS  
S.asc  
Resolving bitcoin.org (bitcoin.org)... 138.68.248.245  
Connecting to bitcoin.org (bitcoin.org)|138.68.248.245|:443... connected.  
HTTP request sent, awaiting response... 200 OK  
Length: 1778 (1.7K) [application/octet-stream]  
Saving to: 'SHA256SUMS.asc'  
  
SHA256SUMS.asc 100%[=====] 1.74K --.-KB/s in 0s  
  
2021-07-17 04:02:20 (20.7 MB/s) - 'SHA256SUMS.asc' saved [1778/1778]  
  
goodSignature(1)  
correctKey(1)  
  
*****  
OK --> BITCOIN MANIFEST IS CORRECT  
*****
```

Install on amd64 hardware

<https://github.com/rootzoll/raspi blitz/blob/v1.9/ci/README.md#flashing>

```
$ unzip raspi blitz-amd64-image-2023-02-05-872707.zip
```

```
$ gzip -dkv raspi blitz-amd64-debian-lean.qcow2.gz
```

Attach OS_DISK via a sata to usb adapter, identify partitions and LVM volumes

```
$ lsblk -f
```

Flash qemu image directly to the disk

```
$ sudo qemu-img dd if=./raspi blitz-amd64-debian-lean.qcow2 of=/dev/sdb bs=4M
```

Once finished, resize the root partition of the final OS to the free space. First create a new partition with remaining space of the disk with parted

Add this new partition to LVM

```
$ sudo pvcreate /dev/sdb3
```

Check how is called the Logical Volume Group

```
$ sudo vgdisplay
```

Extend the volume group adding the new volume

```
$ sudo vgextend raspi blitz-amd64-debian-lean-vg /dev/sdb3
```

Resize the root logical volume to the remaining free space

```
$ sudo lvextend -r -l +100%FREE /dev/mapper/raspi blitz-amd64-debian-lean-vg-root
```

Connect the OS_DISK to the amd64 computer and power on connected to ethernet. Via ssh connect to the computer

```
$ ssh admin@LOCALNETWORK_IP
```

```
password: raspi blitz
```

Setup the node via raspi blitz menus

As in <https://wiki.debian.org/iwlwifi> add the component non-free after deb <http://deb.debian.org/debian> bullseye main in /etc/apt/sources.list

install the wifi driver for the mentioned cards:

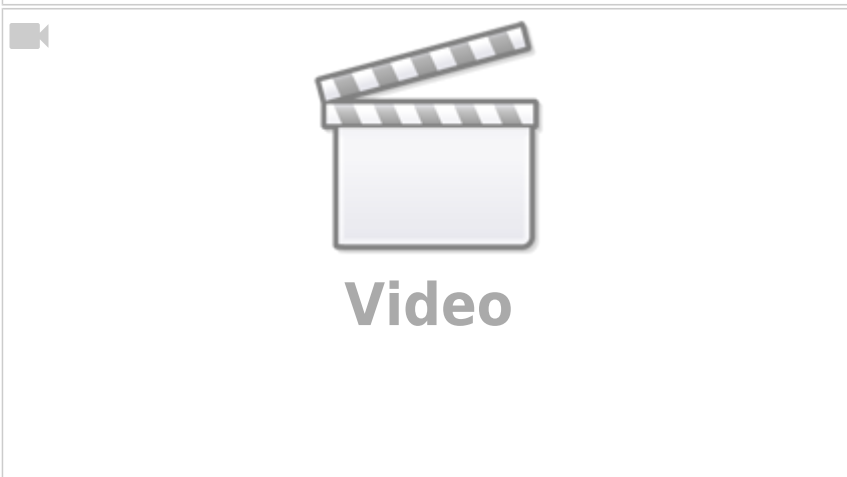
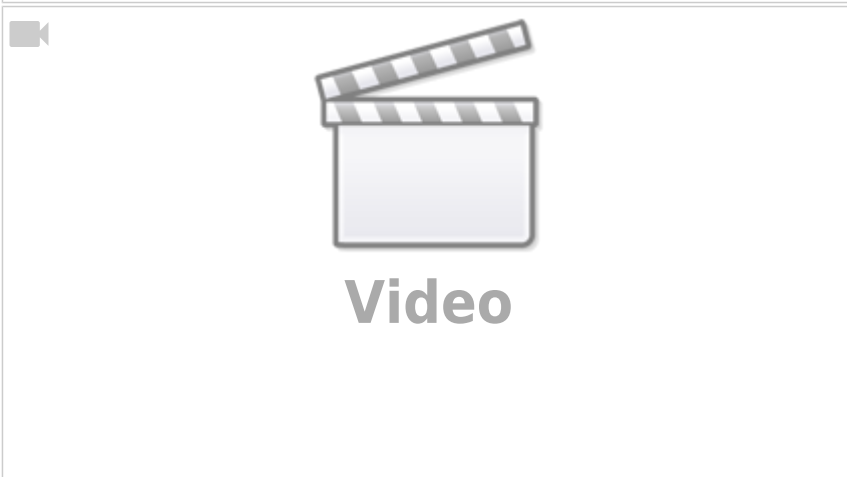
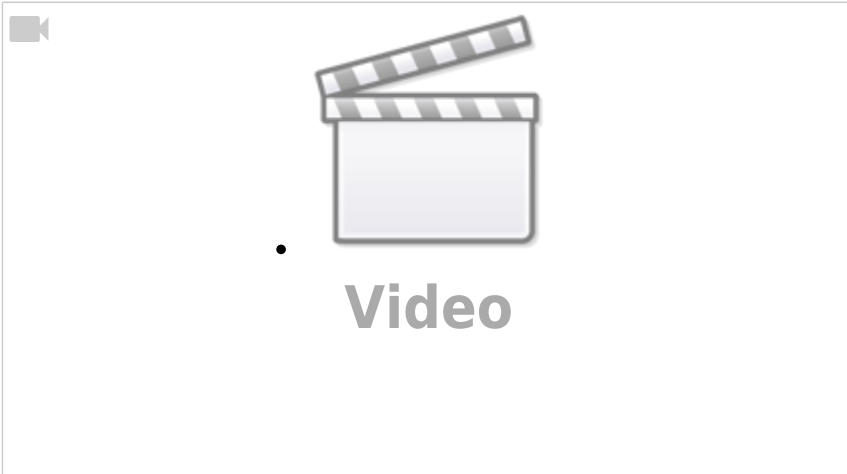
```
$ sudo apt update && sudo apt install firmware-iwlwifi
```

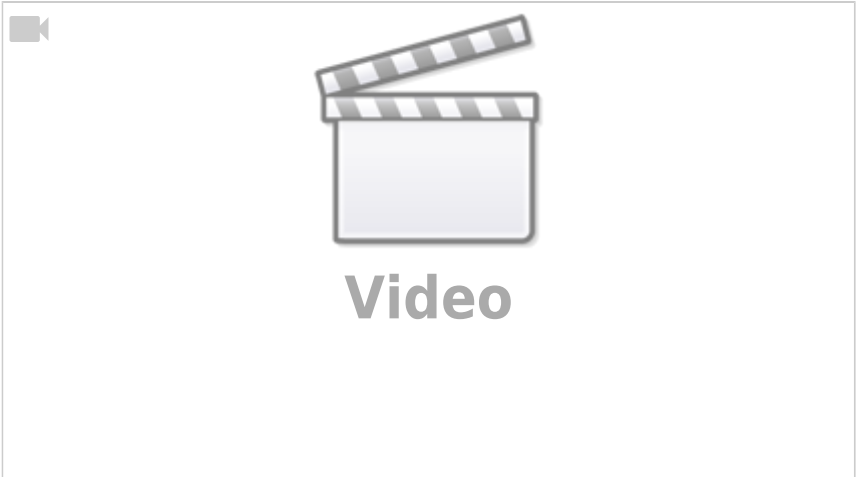
Setup wifi connection

\$ sudo nmtui

References

- <https://medium.com/@lukedashjr/how-to-securely-install-bitcoin-9bfeca7d3b2a>





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Last update: **2023/03/20 03:14**

