How to root and free Mobile phone BQ AQUARIS E5 4G 16GB
Bought at PcComponentes : http://www.pccomponentes.com/977056.html[1]

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Unlock bootloader from GNU/Linux Debian Ubuntu

Adapted from:
https://usuariodebian.blogspot.com.es/2017/02/desbloquear-bootloader-e-instalar.html[2]

Keys steps in Spanish:

1.1.1. Install adb and fastboot in the PC

Install adb and fastboot in the PC with a Debian based GNULinux distribution such as Ubuntu 14.04 LTS or 16.04 LTS.

Run in a terminal

```
sudo apt-get install android-tools-adb
sudo apt-get install android-tools-fastboot
```

1.1.2. Depuración USB, Desbloqueo OEM y modo instalador

Si tienes una versión de Android operativa en el móvil:

Habilitamos la Depuración USB, el Desbloqueo de OEM y el modo Solo Cargar también llamado modo instalador, esto se realiza en el movil.
El proceso es el siguiente:

- Pulsamos en Ajustes > Información del telefono > Numero de compilación (aquí pulsamos 7 veces), volvemos para atrás y ahora pulsamos en Opciones de desarrollo > y habilitamos Desbloqueo de OEM y Depuración USB
- Ahora conectamos el telefono al pc, y en la barra de notificaciones bajamos y pulsamos en Conectado como dispositivo multimedia > y en Conexion USB a ordenador desmarcamos las tres opciones, con lo cual se pondrá en estado de: Conectado como instalador

NOTA MUY IMPORTANTE: Normalmente al conectar el teléfono al pc nos pedirá que aceptemos la huella digital. Estemos pendiente del teléfono para
cuando nos lo pida, pulsar en Aceptar y que el proceso pueda seguir adelante.

1.1.3. Conectar Teléfono al PC

Conectamos el teléfono al pc con Debian GNU/Linux, con el adb y el fastboot previamente instalado.

NOTA IMPORTANTE: se realiza todo el proceso como usuario normal, no es necesario ser administrador (root)

1.1.4. Reiniciar Móvil en Bootloader (fastboot mode)

Once the phone is powered off, you can press simultaneously "volume -" and "power" buttons to boot the phone in "fastboot" mode.

1.1.5. Comprobar conexión fastboot

Una vez con el teléfono en modo bootloader vamos a usar el siguiente comando para ver que tenemos conexión directa con el movil:
fastboot devices

```
xavi@coprinus:~$ fastboot devices
no permissions  fastboot
xavi@coprinus:~$ sudo fastboot devices
1234567890ABCDEF        fastboot
```

```
xavi@coprinus:~$
```

Now you can choose to install the Team Win Recovery Project (TWRP) in the phone, OR to unlock the boot loader and wipe the phone in the same go.

1.1.5.1. Install Team Win Recovery Project (TWRP) in the phone

```
xavi@coprinus:~/Progs_x_Instal_lar/Android/TWRP_Recovery$ sudo fastboot devices
RB054575        fastboot
xavi@coprinus:~/Progs_x_Instal_lar/Android/TWRP_Recovery$ sudo fastboot flash
recovery twrp.img
target reported max download size of 268435456 bytes
sending 'recovery' (12414 KB)...
OKAY [  0.392s]
writing 'recovery'...
OKAY [  1.194s]
finished. total time: 1.586s
xavi@coprinus:~/Progs_x_Instal_lar/Android/TWRP_Recovery$
```

Now keep in mind that in order to keep this recovery in place, you need to reboot the phone with a fastboot command AND press the key combo in the phone to ensure that recovery mode is chosen (using the custom twrp.img we just added), and not overwritten by the default recovery img that comes with standard ROM.

> *Note many devices will replace your custom recovery automatically during first boot. To prevent this, use Google to find the proper key combo to enter recovery. After typing fastboot reboot, hold the key combo and boot to TWRP. Once TWRP is booted, TWRP will patch the stock ROM to prevent the stock ROM from replacing TWRP. If you don't follow this step, you will have to repeat the install.*

1.1.5.2. Unlock and wipe phone with fastboot

Ahora vamos usar el siguiente comando para desbloquear el teléfono:
fastboot oem unlock-go

```
xavi@coprinus:~$ sudo  fastboot oem unlock-go
...
OKAY [  0.013s]
```

```
finished. total time: 0.013s
xavi@coprinus:~$
```

cuando pulsamos intro el télefono se desbloquea y empieza a borrar toda la información que contiene el móvil, para dejarlo tal como venia de fabrica. El proceso acaba una el teléfono dice que introduzcas la tarjeta sim, o si la tienes introducida, te pide que pongas la contraseña de la tarjeta sim.

Me apreció un menú de texto en colores y con botones que me permitió seleccionar de no particionar de forma diferente la memoria interna del teléfono (para poder instalar updates oficiales de BQ en vez de custom roms de TRWP), y elegir luego un "Restablecimineto de Fábrica completo", aunque en teoria sin borrar datos de archivos multimedia de la memoria interna ni nada de la targeta SD. Luego apreté en el botó de Reiniciar sistema, y reinició el BQ de forma habitual.

1.2. Update firmware to latest one provided by BQ

Get your latest firmware zip file from (adapt to your phone model):
https://www.bq.com/es/support/aquaris-e5-4g/support-sheet[3]

You need to download two files:

- BQ Firmware Flash Tool
  and
- Firmware (in my case, Firmware 4.8.2 - Android Marshmallow 6.0.1)

The **BQ Firmware Flash Tool** includes executable files for Ubuntu and for Windows (in both cases for 32bit and 64 bit versions), as well as the program manual in pdf in Spanish, English and other languages. The windows version didn't work for me (the program GUI didn't open for me in Windows 7 home, while the Ubuntu 64 bit version installed and run smoothly in my Lubuntu LXLE 16.04 GNU/Linux).

Then you need to reboot your BQ phone in fastboot mode (shutdown, and start with Volume - and power press at the same time), and plug in your usb connection from your PC. Opening the `bqflashtool` in a terminal program does the rest (it will request your password to scalate sudo permissions).

See the manual of this program:
BQ Firmware Flash Tool 3.0 User Guide

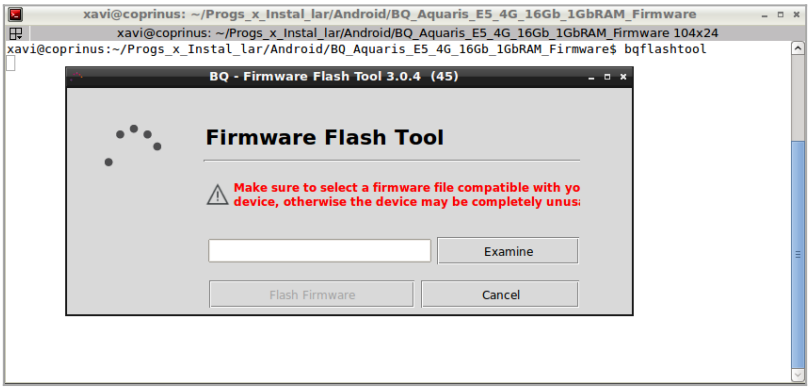
You can also see the following local screenshots:

Click to expand

Once the device is detected, you can choose to install the firmware tool while the program downloads the firmware zip file from the internet, or you can select **Flash Other Firmware** in order to seelct some firmware zip file that you previously downloaded from elsewhere:

Click to expand

And this is the option we choose in this example, so that we can browse our computer to find the firmware zip file:

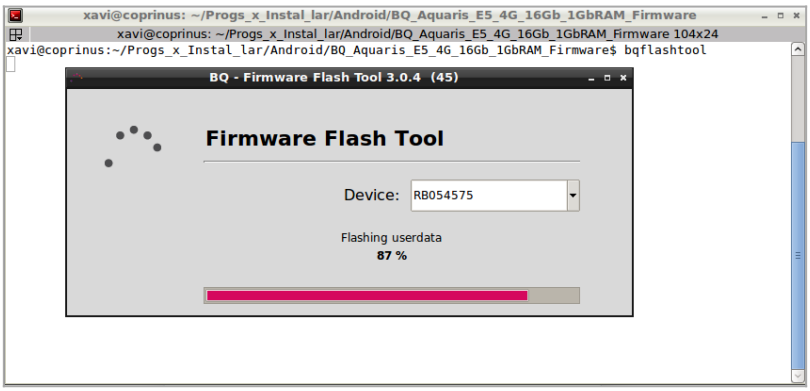


Click to expand

Once the firmware zip file is chosen (in our case, downloaded from here), the flashing process proceeds:

Click to expand

It will take a while, and a progress bar will let you know how the process develops:



Click to expand

Once finished, you will see a message saying so:

Click to expand

The smartphone automatically reboots, you can unplug it from the computer, and it will take a long while (5-10' in my case) in the first boot with this new firmware (coming with Android OS 6.0.1). Once done, you will be able to select language, and setup your first steps of the configuration for your phone.

1.3. Install Team Win Recovery Project (TWRP)

in any Android device

See:
http://www.addictivetips.com/android/what-is-twrp-how-to-install-use-it-on-android-devices-guide/[4]

See also:
https://twrp.me/devices/bqaquarise54g.html[5]

1.4. Install a Custom ROM

Choose Custom ROM for your phone. In my case, one from here:
`Temas en el Foro : ROMs y desarrollo bq Aquaris E5 4G`
http://www.htcmania.com/forumdisplay.php?f=1829[6]

1.4.1. LineageOS 14.1 + Gapps 14.1.x

See detailed instructions here
https://lineageosroms.com/vegetalte/[7]

LineageOS 14.1:
http://dlr.ovh:8080/vegetalte/lineage-14.1-20190213-nightly-vegetalte-signed.zip[8]

Gapps 7.1 arm nano:
https://lineageosroms.com/gapps/[9]

1.4.2. LineageOS 7.1.1 + Gapps 7.1.x

LineageOS with Root access, through TWRP recovery app.
See:
`7.1.1OFICIALWEEKLY LineageOS 14.1 Aquaris E5 4G/E5S`
http://www.htcmania.com/showthread.php?t=1281411[10]

Donwload links:

- ROM: https://download.lineageos.org/vegetalte[11]
- Gapps: http://opengapps.org/[12]

Wiki: https://wiki.lineageos.org/[13]

Basic instructions:
Download the files, place in the internal memory of the phone (through a pc and connecting the phone through mtp protocol to allow transfering files to the internal memory also), boot phone in recovery mode (provided that you had TWRP installed already in your phone), and flash the 2 zip files (lineage and gapps).

1.5. Root device

Best approach, if you know how to do it, is to install a custom ROM rooted already, after you install TWRP in your phone (root not required) through the fastboot mode approach, and with some debian gnu/linux tools such as adb and fastboot.

Otherwise, if you have a default official ROM/firmware in your phone, and you couldn't find instructions on how to root your specific phone, you can try using "-+KingRoot+-" app. Simple.

See also, if y ou want to learn more:

- http://www.mibqyyo.com/comunidad/discussion/40165/se-puede-ser-root-en-el-bq-e5-4g-/p1
- http://www.htcmania.com/forumdisplay.php?f=1649[14]
- http://www.mibqyyo.com/comunidad/discussion/40986/oficial-twrp-2-8-6-1-y-root-25042015/p1
- http://www.forocentral.com/forum/comunidad/tecnologia/celulares/775-minitoolkit-root-recovery-bq-aquaris-e5-4g[15]
- http://www.androidpit.es/root-bq-aquaris-e5[16]

1.6. Free Device

It came free'd already, from PcComponentes. Easy ;-)

1.7. Enable USB debugging

This is needed to be able to connect tot he phone as USB disk/s, for instance, for custom SD card backups with external software such as Backintime, etc.

You can do so at the developer menu.

If you don't have that menu option available, you can enable it by means of going at the settings, information of the phone, and press 7 times the compilation number.

Then you can come back to the settigns and enter the developer options, and you can enable there USB Debugging / Depuración USB.

1.8. How to Backup system apps and other info

With TWRP once installed in your system. See above some instructions that worked for me.
Or google for more ways to install TWRP in android-based phones.

1.9. Techincal Specifications

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[1] http://www.pccomponentes.com/977056.html

[2] https://usuariodebian.blogspot.com.es/2017/02/desbloquear-bootloader-e-instalar.html

[3] https://www.bq.com/es/support/aquaris-e5-4g/support-sheet

[4] http://www.addictivetips.com/android/what-is-twrp-how-to-install-use-it-on-android-devices-guide/

[5] https://twrp.me/devices/bqaquarise54g.html

[6] http://www.htcmania.com/forumdisplay.php?f=1829

[7] https://lineageosroms.com/vegetalte/

[8] http://dlr.ovh:8080/vegetalte/lineage-14.1-20190213-nightly-vegetalte-signed.zip

[9] https://lineageosroms.com/gapps/

[10] http://www.htcmania.com/showthread.php?t=1281411

[11] https://download.lineageos.org/vegetalte

[12] http://opengapps.org/

[13] https://wiki.lineageos.org/

[14] http://www.htcmania.com/forumdisplay.php?f=1649

[15] http://www.forocentral.com/forum/comunidad/tecnologia/celulares/775-minitoolkit-root-recovery-bq-aquaris-e5-4g

[16] http://www.androidpit.es/root-bq-aquaris-e5

[17] http://www.pccomponentes.com/977056.html