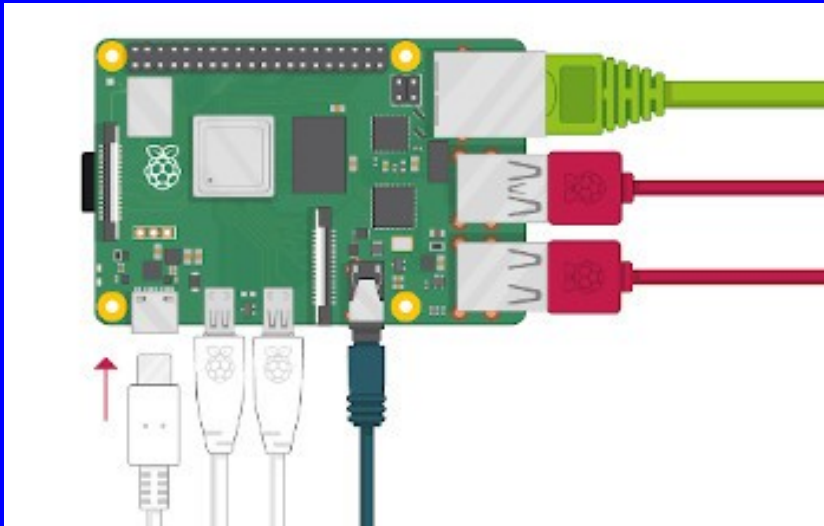


Internet de las Cosas

Raspberry Pi 4 Instalación (2021)



Rogelio Ferreira Escutia

Profesor / Investigador
Tecnológico Nacional de México
Campus Morelia

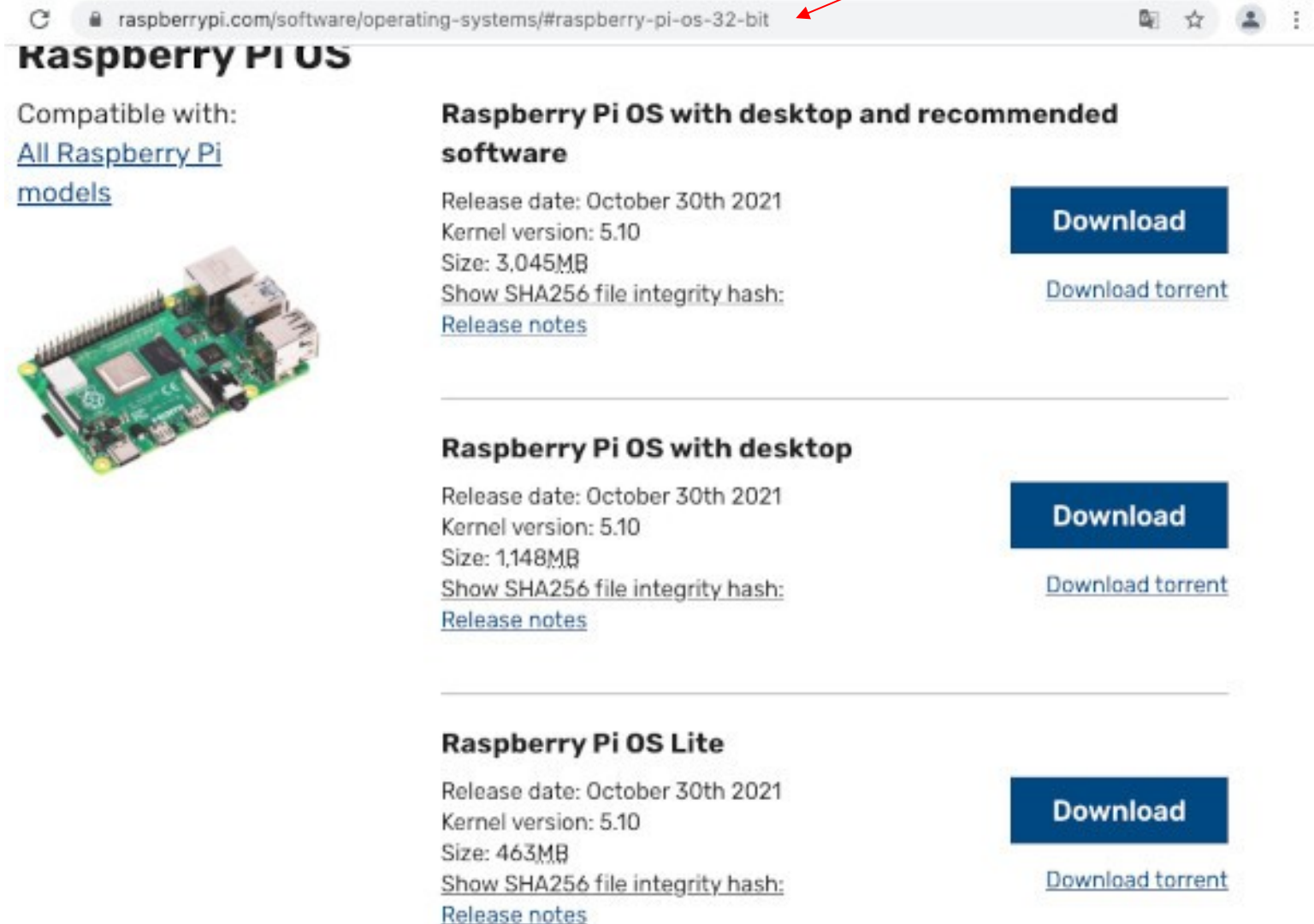


Instalación

(descarga del software)

Raspberry Pi OS


- Descargar el Raspberry Pi OS:



raspberrypi.com/software/operating-systems/#raspberry-pi-os-32-bit

Raspberry Pi OS

Compatible with:
[All Raspberry Pi models](#)



Raspberry Pi OS with desktop and recommended software

Release date: October 30th 2021
Kernel version: 5.10
Size: 3,045MB
[Show SHA256 file integrity hash:](#)
[Release notes](#)

Download
[Download torrent](#)

Raspberry Pi OS with desktop

Release date: October 30th 2021
Kernel version: 5.10
Size: 1,148MB
[Show SHA256 file integrity hash:](#)
[Release notes](#)

Download
[Download torrent](#)

Raspberry Pi OS Lite

Release date: October 30th 2021
Kernel version: 5.10
Size: 463MB
[Show SHA256 file integrity hash:](#)
[Release notes](#)

Download
[Download torrent](#)



Raspberry Pi

- **Versión a descargar (archivo ZIP):**

Raspberry Pi OS with desktop and recommended software

Release date: October 30th 2021

Kernel version: 5.10

Size: 3,045MB

Show SHA256 file integrity hash:

[Release notes](#)

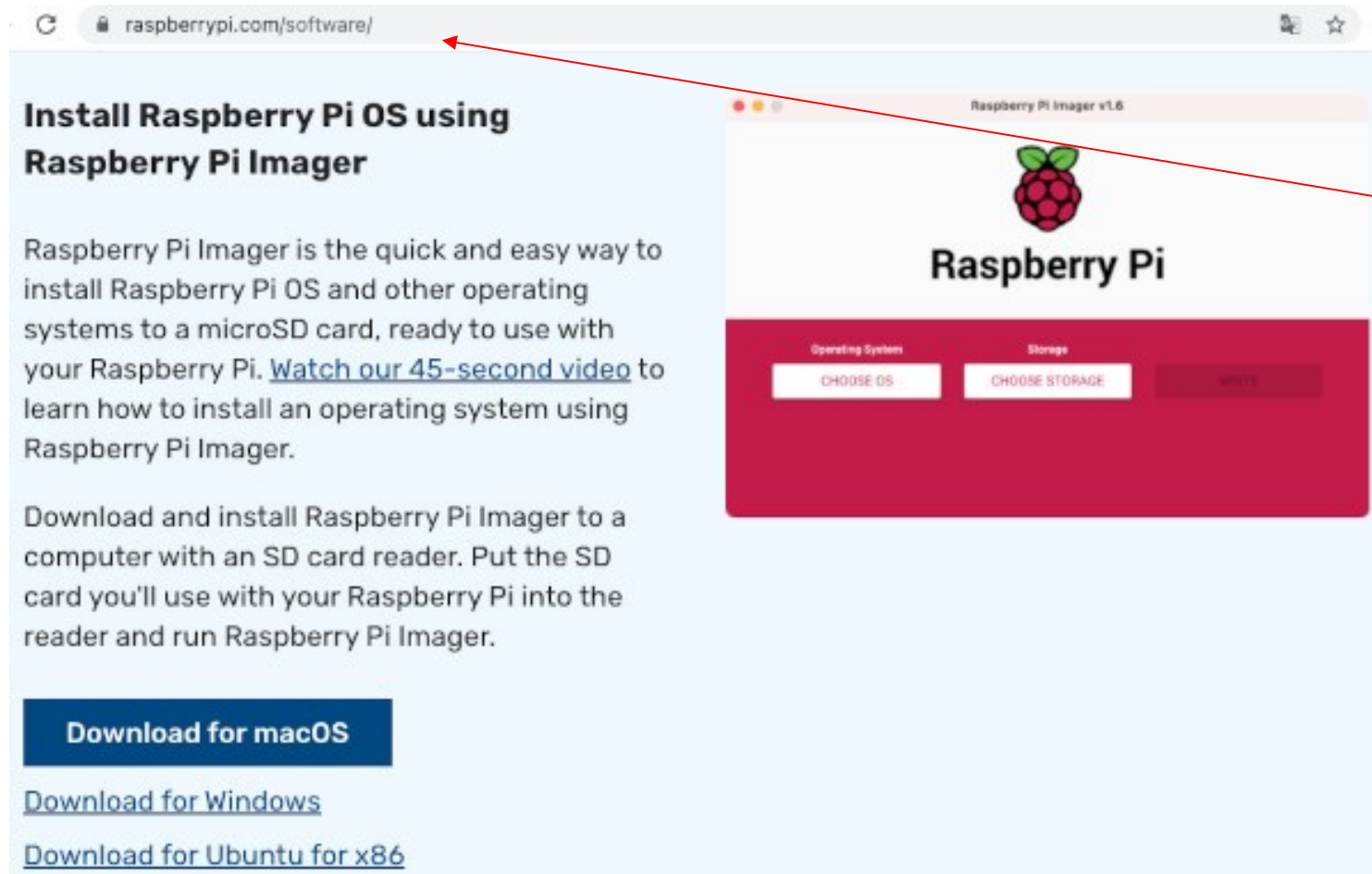
Download

[Download torrent](#)



Raspberry Pi Imager

- Descargar el software que prepara las memorias MicroSD para instalar el Raspberry Pi:

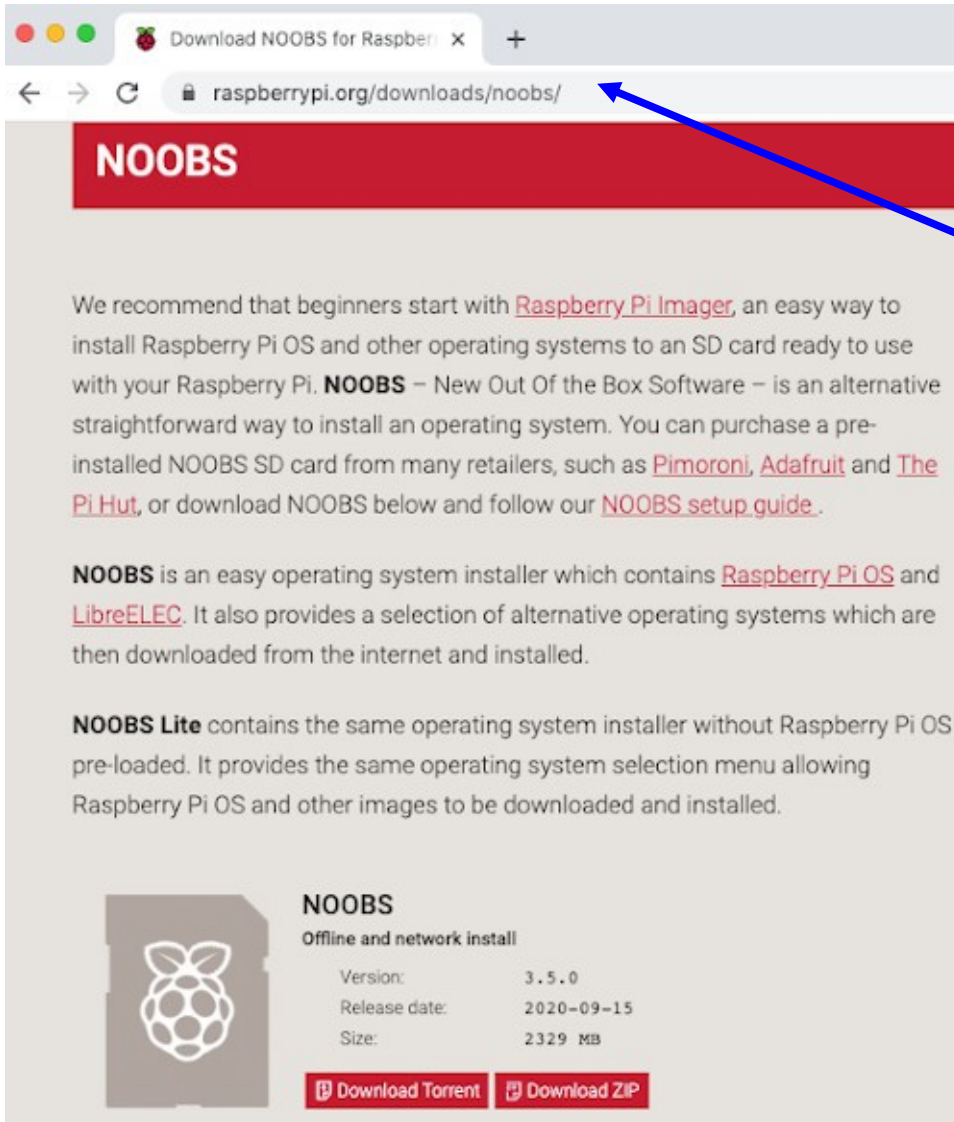


The image shows a screenshot of the Raspberry Pi website's software page. The browser address bar shows 'raspberrypi.com/software/'. The main heading is 'Install Raspberry Pi OS using Raspberry Pi Imager'. Below this, there is a paragraph explaining that Raspberry Pi Imager is a quick and easy way to install the OS on a microSD card. A red arrow points from the browser address bar to the application window shown in the screenshot. The application window is titled 'Raspberry Pi Imager v1.6' and features the Raspberry Pi logo and the text 'Raspberry Pi'. Below the logo, there are three buttons: 'CHOOSE OS' under 'Operating System', 'CHOOSE STORAGE' under 'Storage', and 'WRITE'.

Instalación

Página Oficial de Raspberry Pi

- Ir a la página oficial:



The screenshot shows a web browser window with the address bar displaying [raspberrypi.org/downloads/noobs/](https://www.raspberrypi.org/downloads/noobs/). The page content includes a red header with the word "NOOBS" in white. Below the header, there is a paragraph of text recommending the Raspberry Pi Imager and describing NOOBS as an alternative installation method. Further down, there are two more paragraphs describing NOOBS and NOOBS Lite. At the bottom, there is a section with a Raspberry Pi logo icon, the title "NOOBS", and the subtitle "Offline and network install". This section contains a table with the following information:

Version:	3.5.0
Release date:	2020-09-15
Size:	2329 MB

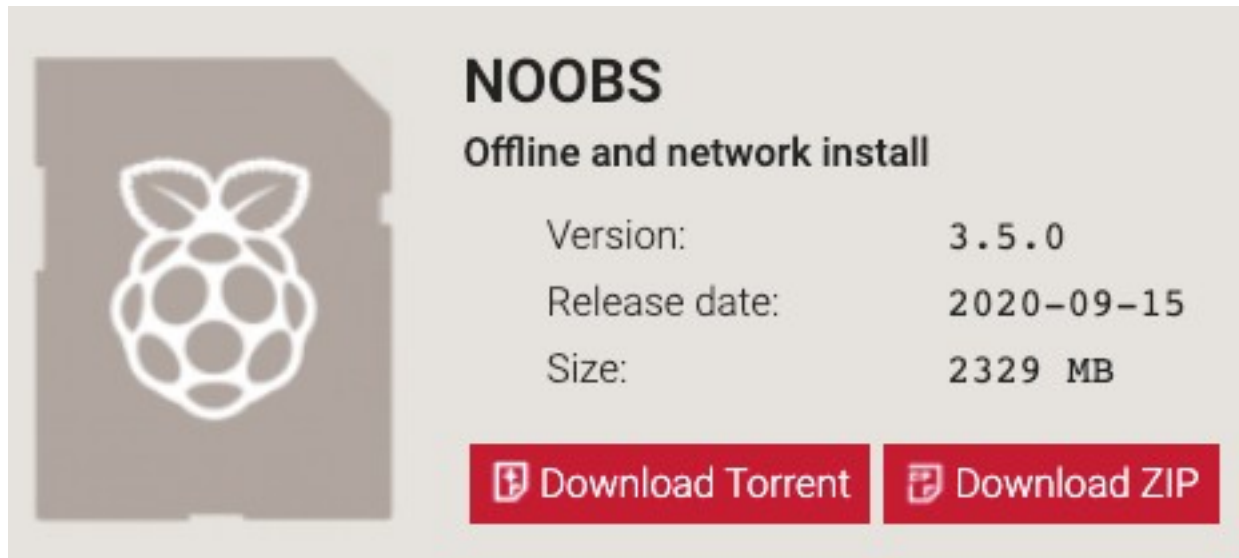
Below the table are two red buttons: "Download Torrent" and "Download ZIP". A blue arrow points from the right side of the slide to the address bar.

”Raspberry Pi”, <https://www.raspberrypi.org/downloads/noobs/>, noviembre 2020



NOOBS

- **Descargar NOOBS:**



The screenshot shows the NOOBS download page. On the left is a Raspberry Pi logo on a card. To the right, the text reads 'NOOBS' and 'Offline and network install'. Below this, a table lists the version (3.5.0), release date (2020-09-15), and size (2329 MB). At the bottom are two red buttons: 'Download Torrent' and 'Download ZIP'. A blue arrow points from the bottom right towards the 'Download ZIP' button.

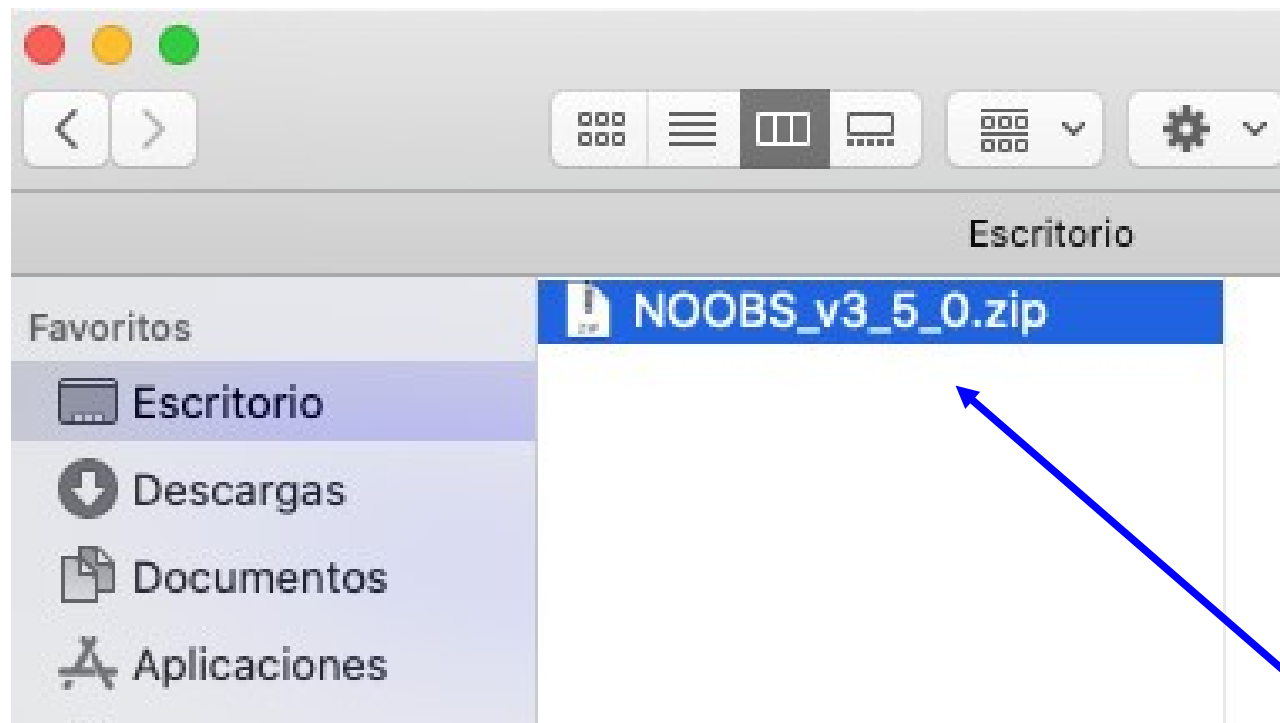
Version:	3.5.0
Release date:	2020-09-15
Size:	2329 MB

[Download Torrent](#) [Download ZIP](#)



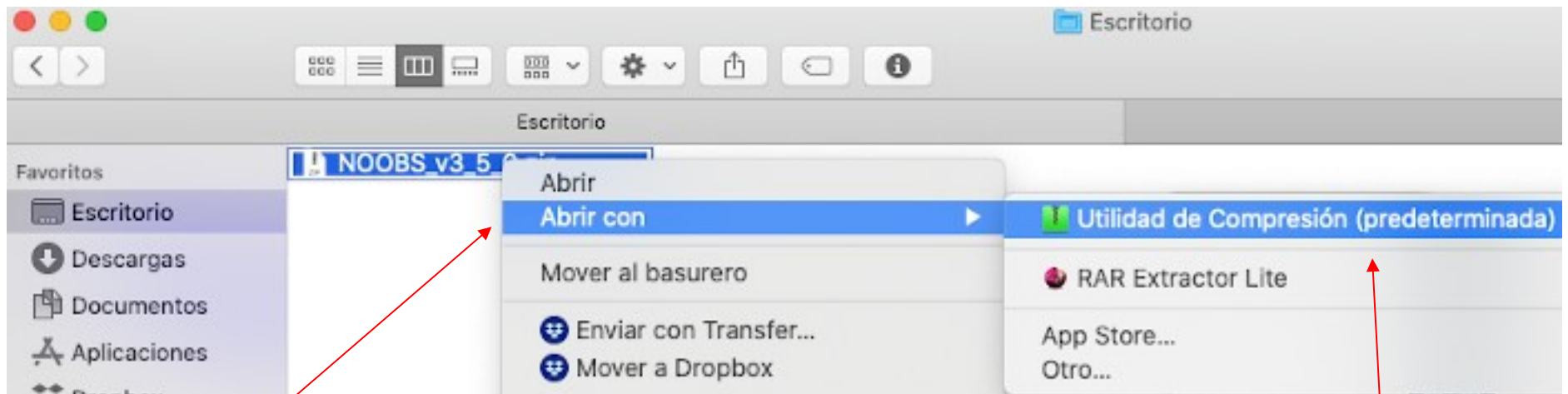
Archivo descargado

- El archivo descargado está en formato ZIP



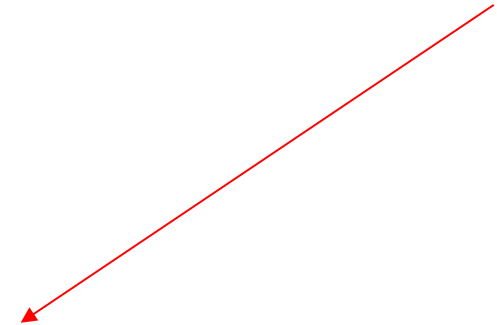
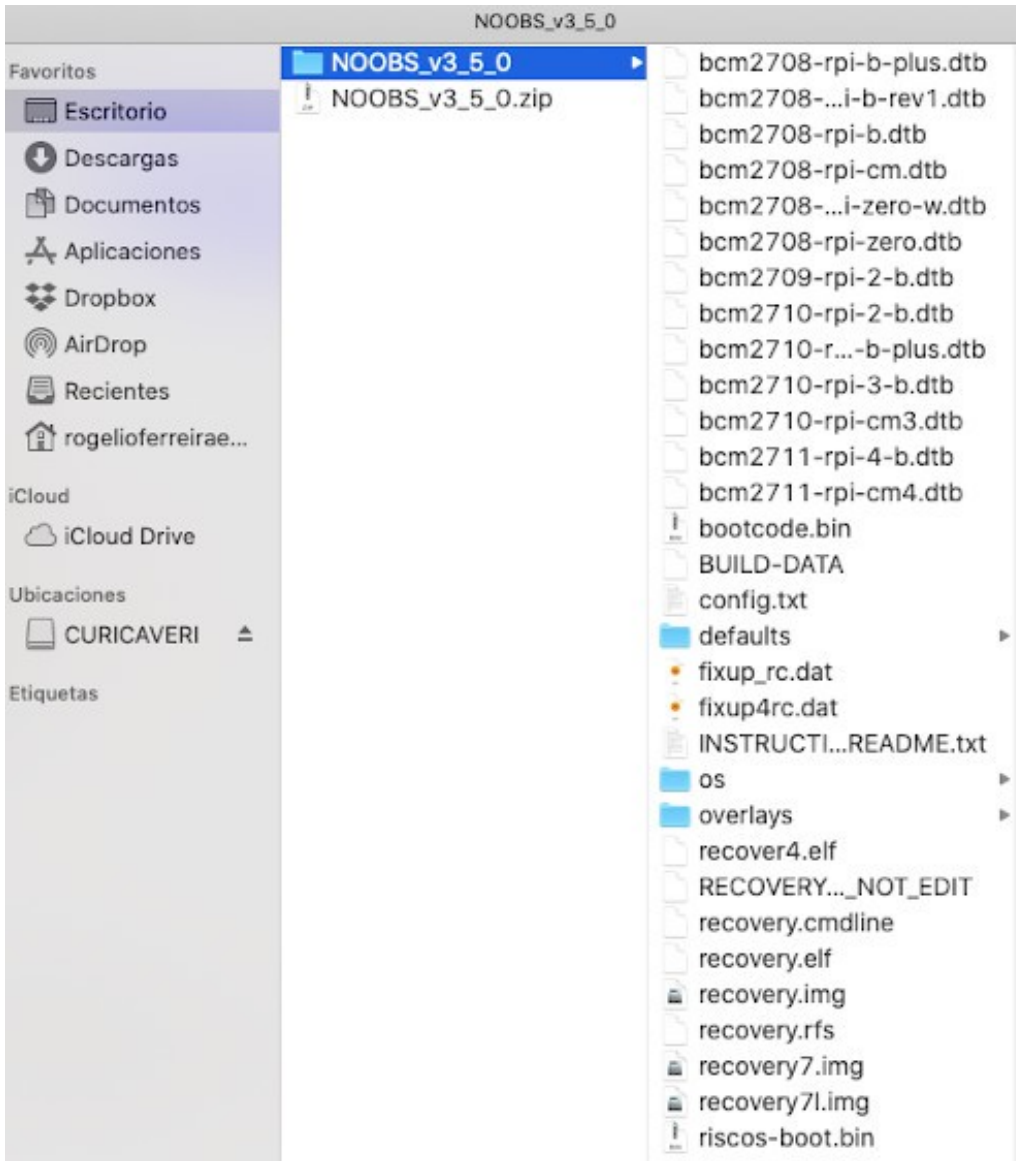
Descomprimir

- Descomprimimos el archivo ZIP



Archivos finales

- Los archivos ya descomprimidos serán los que se van a copiar en el directorio raíz de la tarjeta Micro SD:



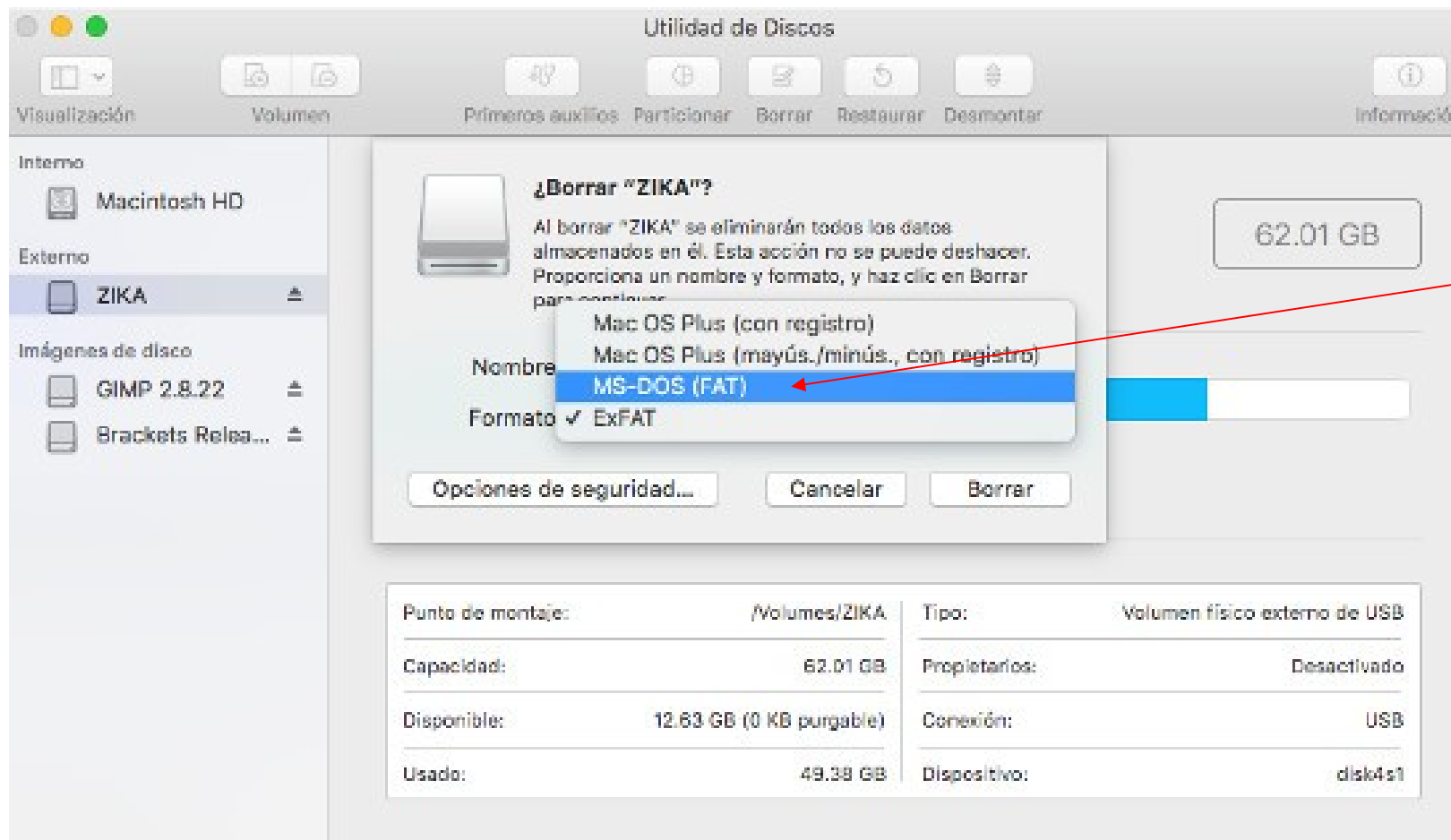
Tarjeta Micro SD

- Se requiere una tarjeta micro SD (se recomienda de 64 GB y clase 10).



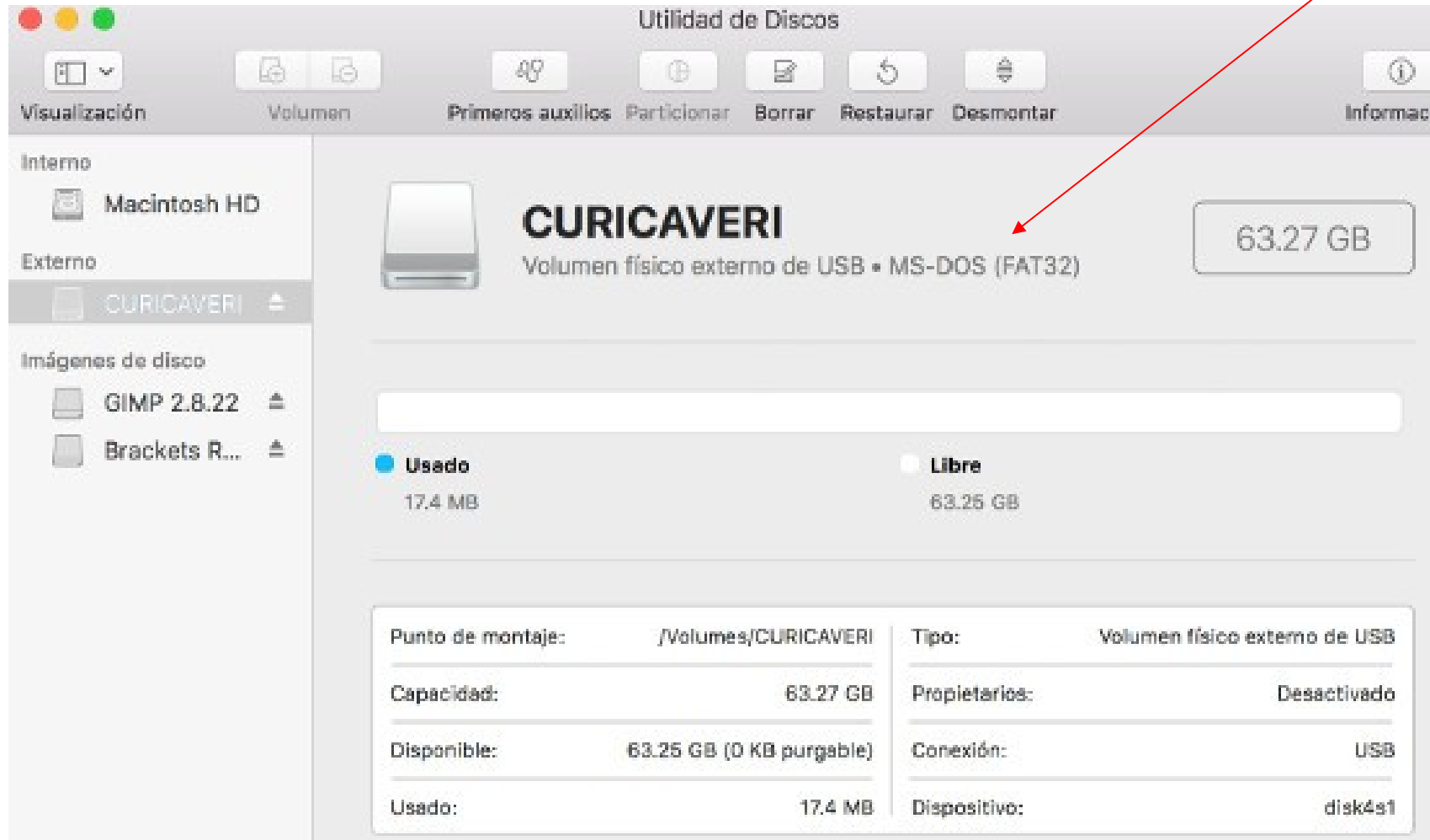
Formato

- Formatear la tarjeta a sistema FAT (FAT 32 bits).
- **NOTA: No utilizar formato ExtFAT (FAT 64 bits) o ningún otro formato!**



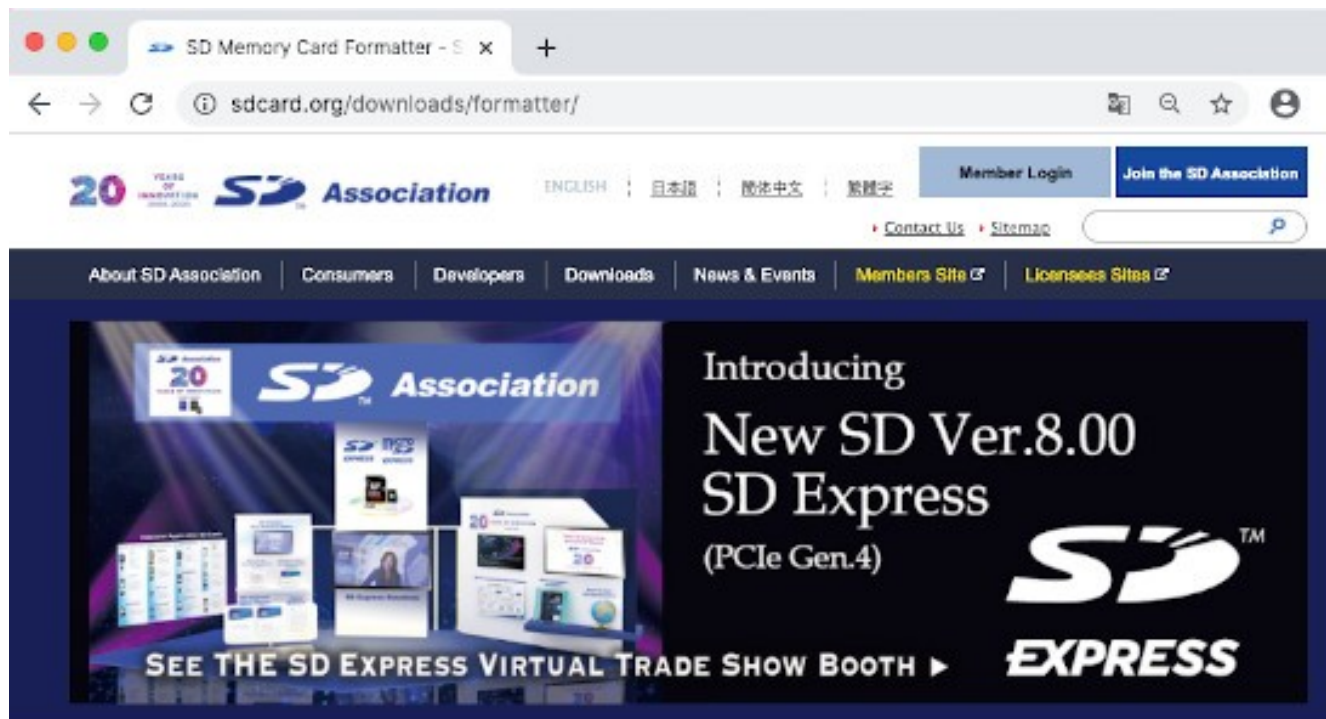
Formato

- Memoria lista formateada con “Utilidad de Discos” (Mac):



SD Formatter

- Si el sistema operativo no tiene la opción para formatear FAT 32 bits, se puede utilizar la herramienta oficial de la SD Association:



SD Memory Card Formatter

HOME > Downloads > SD Memory Card Formatter

> Downloads

> SD Association Whitepapers

> Simplified Specifications

> SD Memory Card Formatter

SHARE

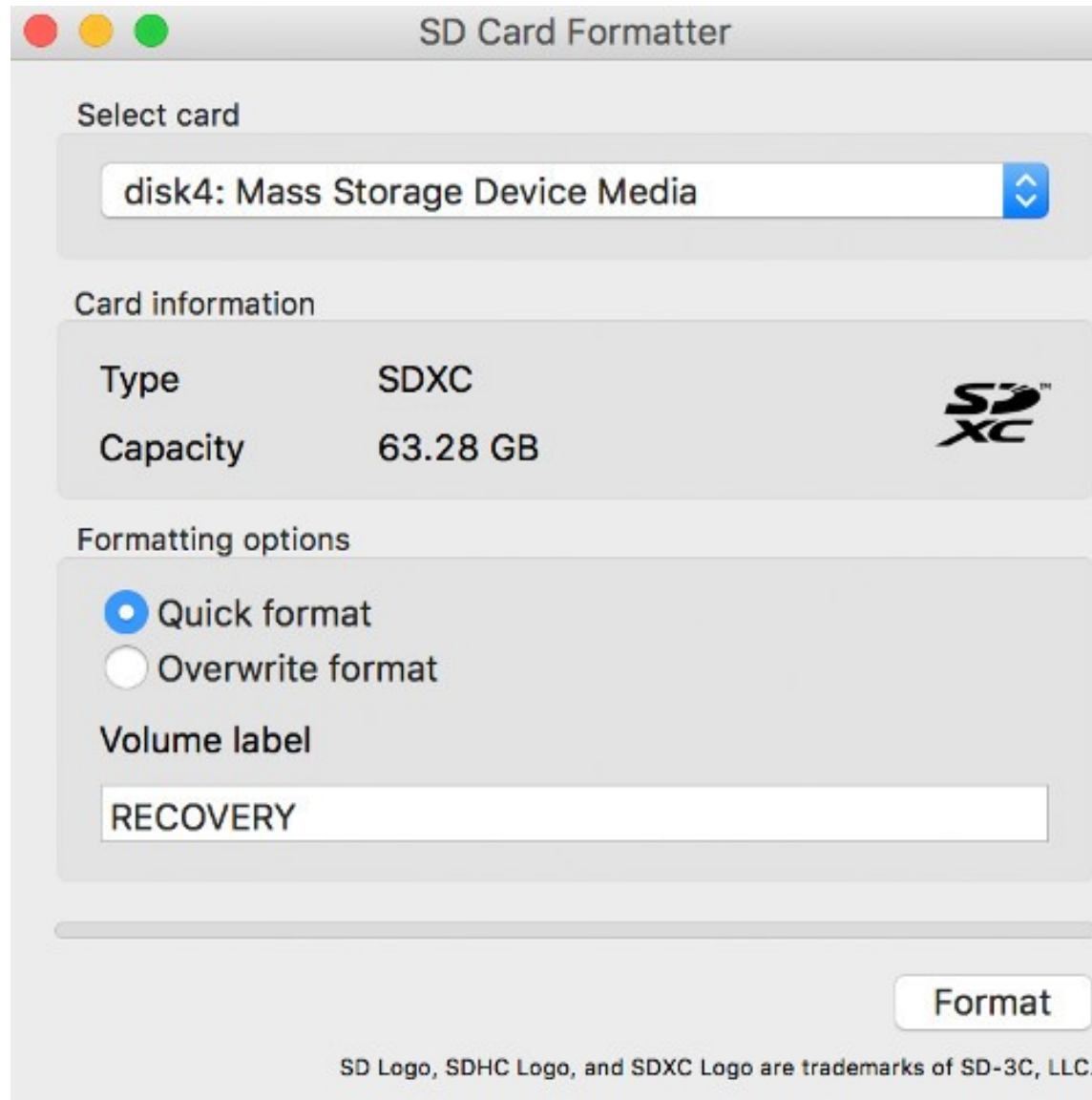


SD Memory Card Formatter 5.0.1 for SD/SDHC/SDXC

The SD Memory Card Formatter formats SD Memory Card, SDHC Memory Card and SDXC Memory Card (respectively SD/SDHC/SDXC Cards) complying with the SD File System Specification created by the SD Association (SDA).

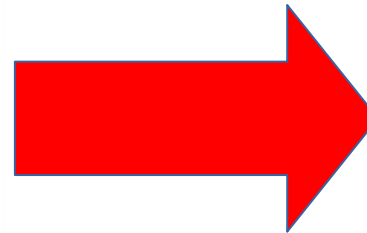
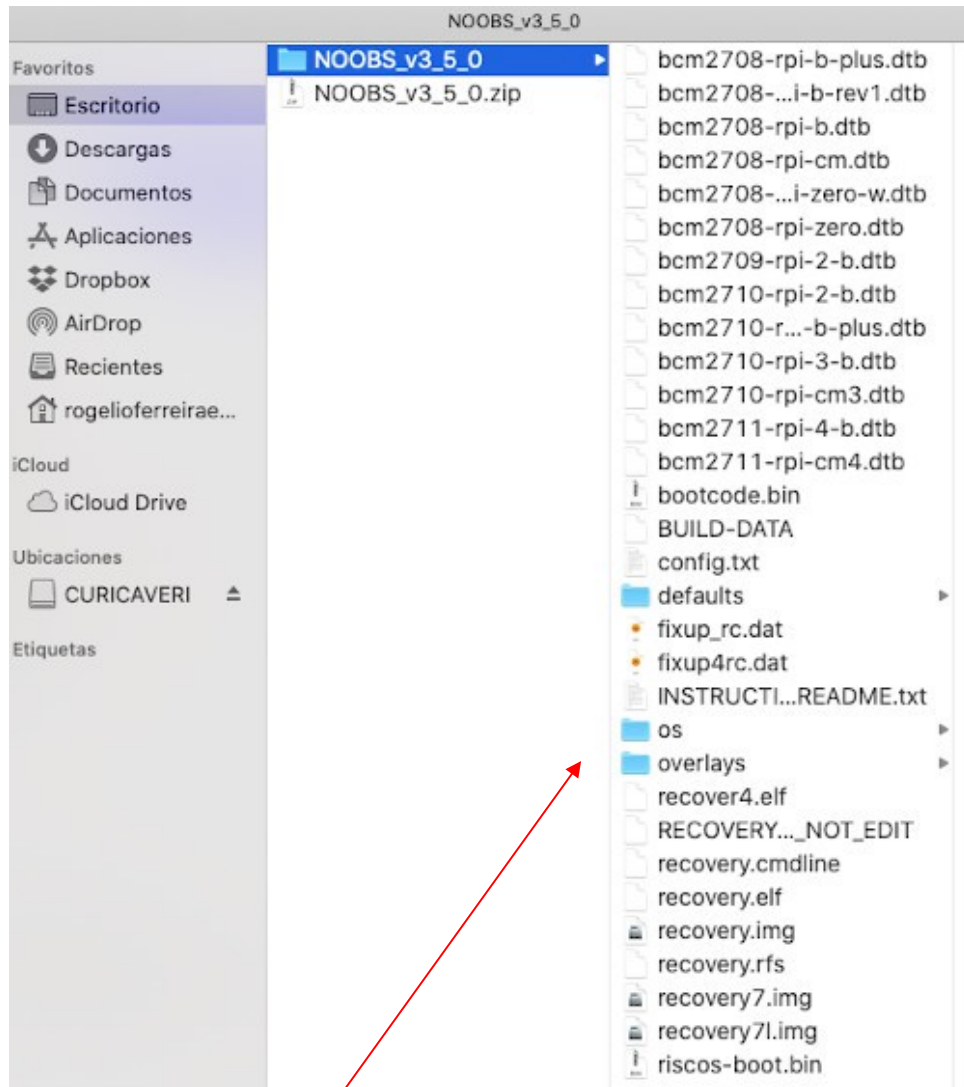


SD Formatter (Mac)



Copiar

- Copiar los archivos que se descomprimieron anteriormente a la memoria Micro SD (sólo los archivos, no la carpeta):



Raspberry Pi

- Se requiere un Raspberry Pi 4



Insertar Memoria

- Colocar la memoria Micro SD dentro del Raspberry Pi



Raspberry Pi Compatibles

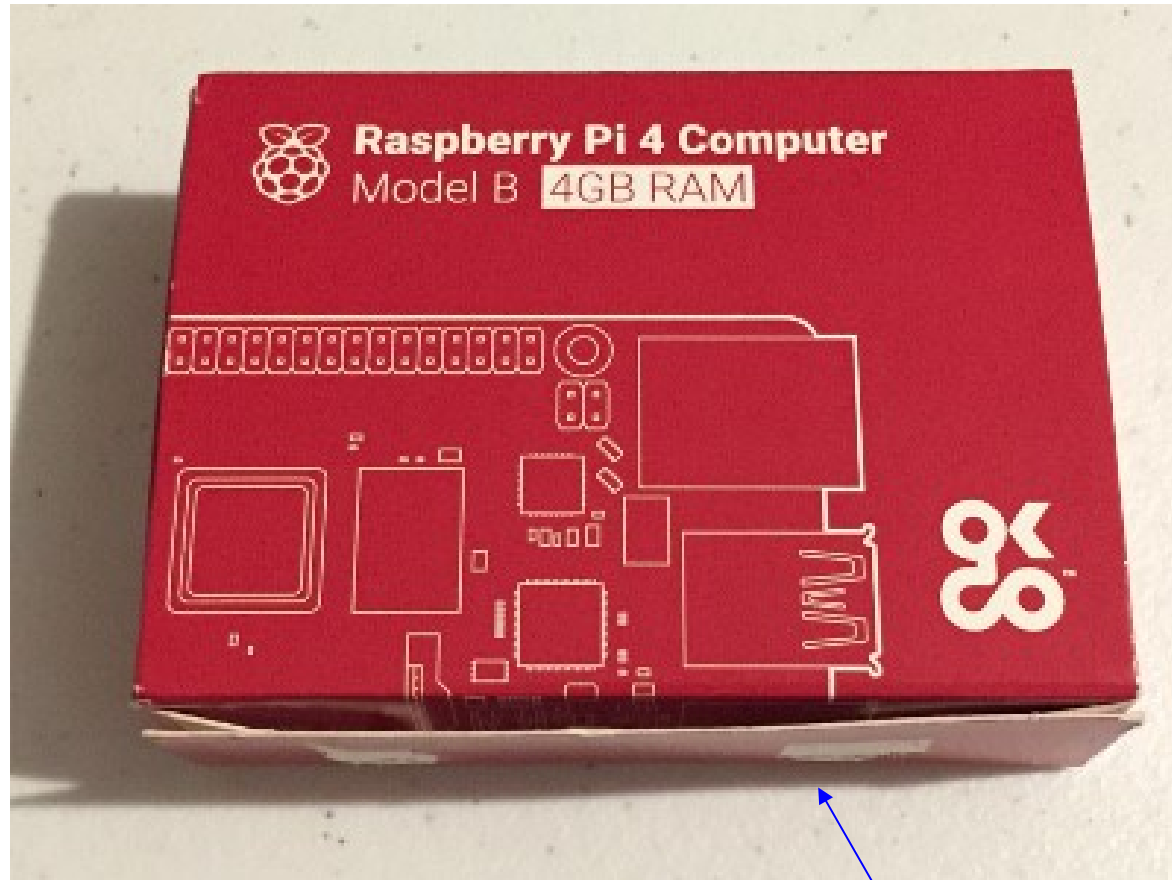


■ **Fabricado en China**

■ **Fabricado en Inglaterra**



Raspberry Pi Compatibles



- **Fabricado en Inglaterra**



Carcasa

- Se recomienda una carcasa (cajita) para proteger a la Raspberry Pi:



Ensamble

- Colocar el Raspberry Pi dentro de su carcasa.



NEW

More powerful processor

Choice of RAM

1GB 2GB 4GB

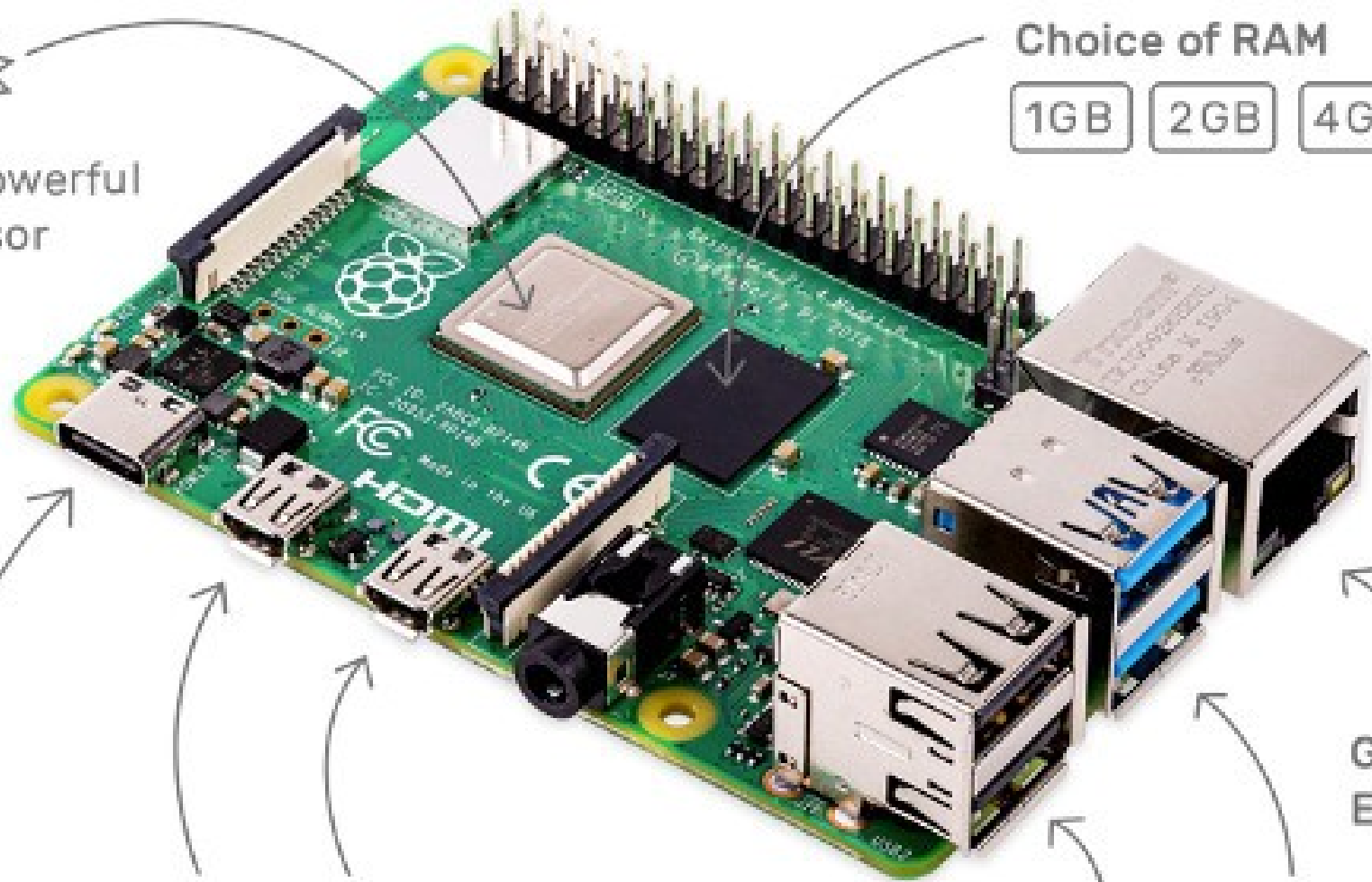
USB-C Power supply

MICRO HDMI PORTS
Supporting 2 x 4K displays

USB 2

USB 3

GIGABIT
ETHERNET



Monitor

- Se requiere un monitor con conexión HDMI



Monitor

- **Monitor Samsung HDMI de 24 pulgadas**



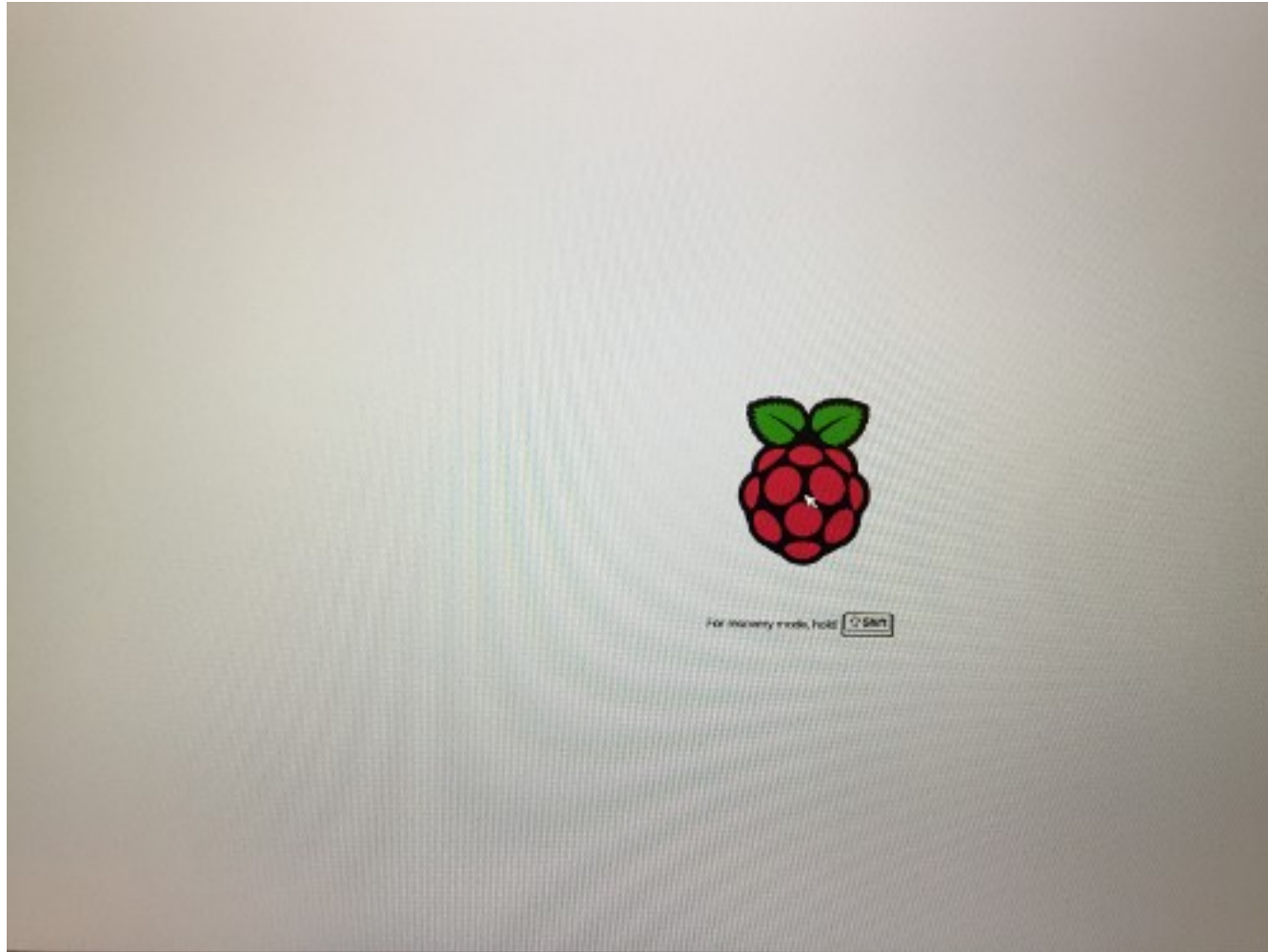
Inicio

- **Pantalla de inicio:**



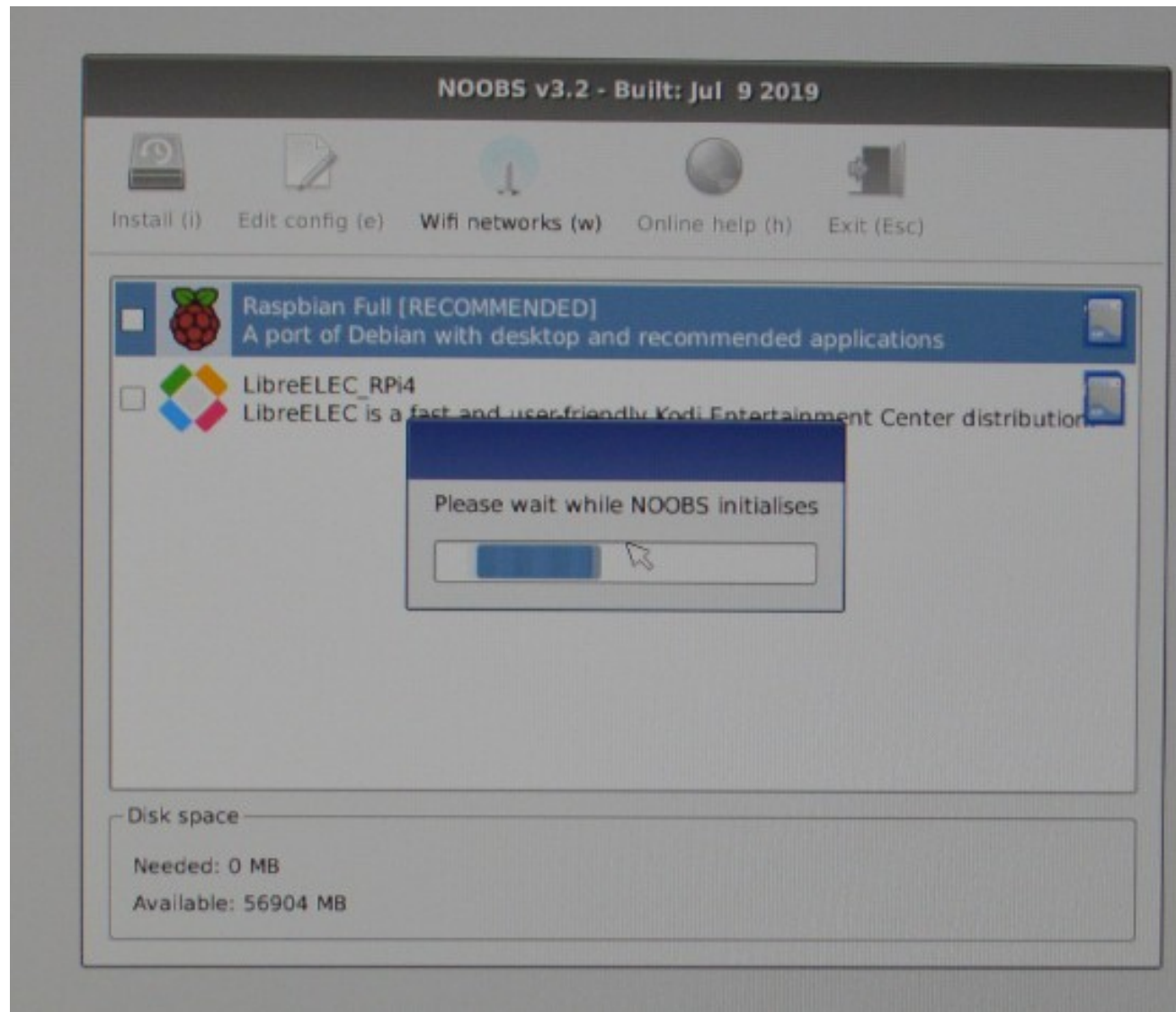
Arranque

- Conectar el Raspberry y arranca con la siguiente pantalla:



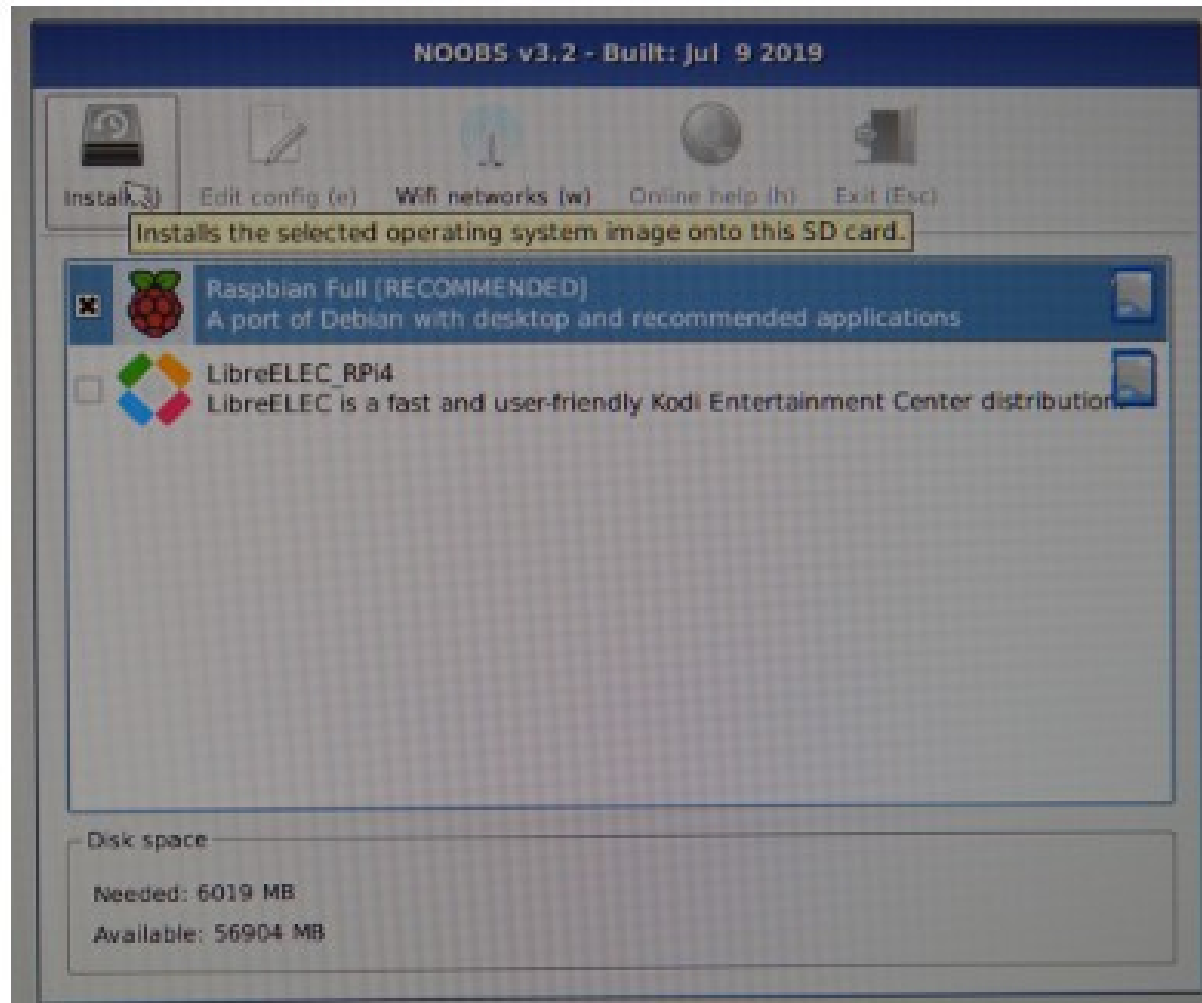
Opciones

- **Aparecen las opciones a instalar:**



Raspbian

- Se selecciona Raspbian como el sistema a instalar:



Raspbian

- Se indica que se borrará todo el contenido de la memoria:



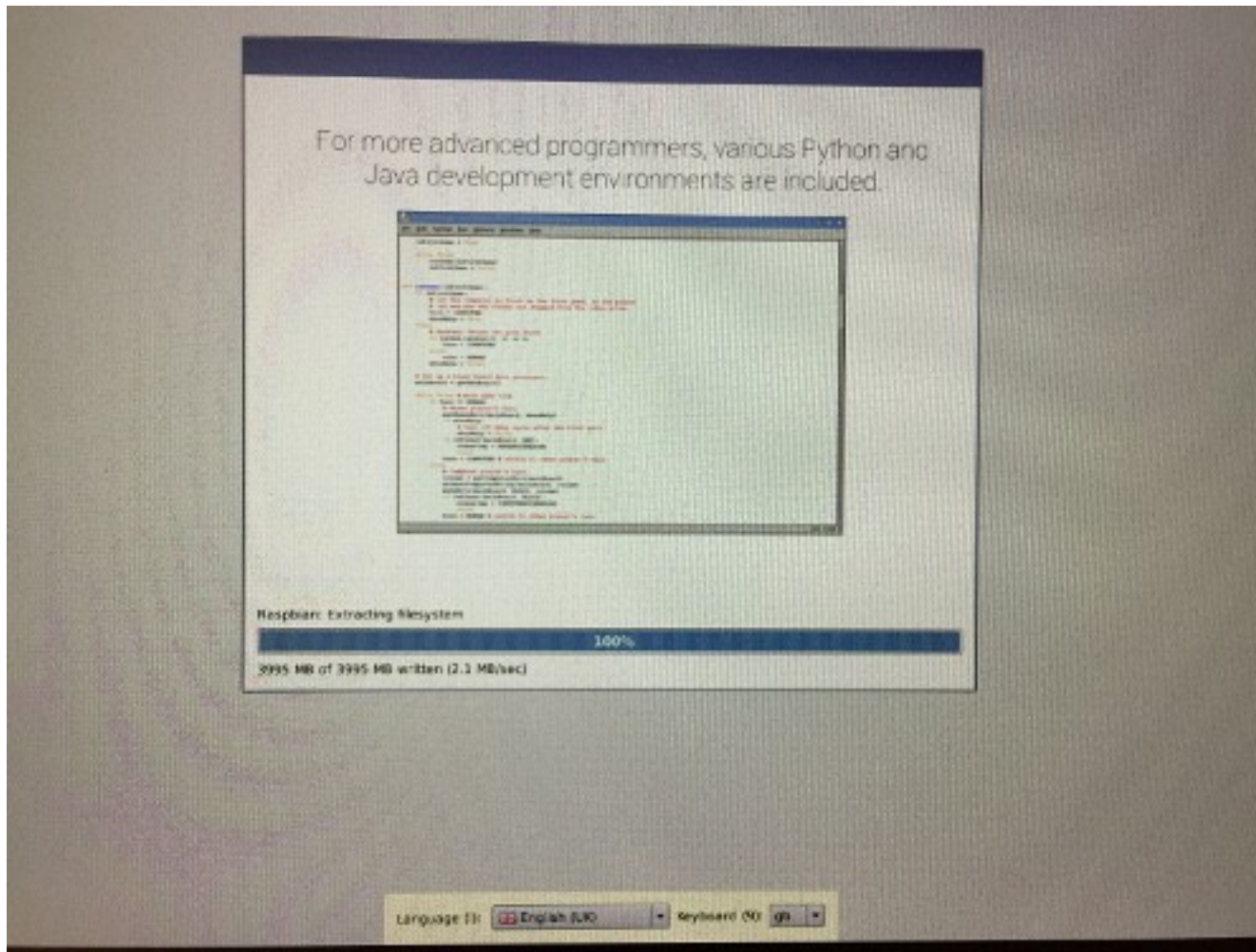
Instalación

- Inicia el proceso de instalación (aproximadamente 20 minutos en total):



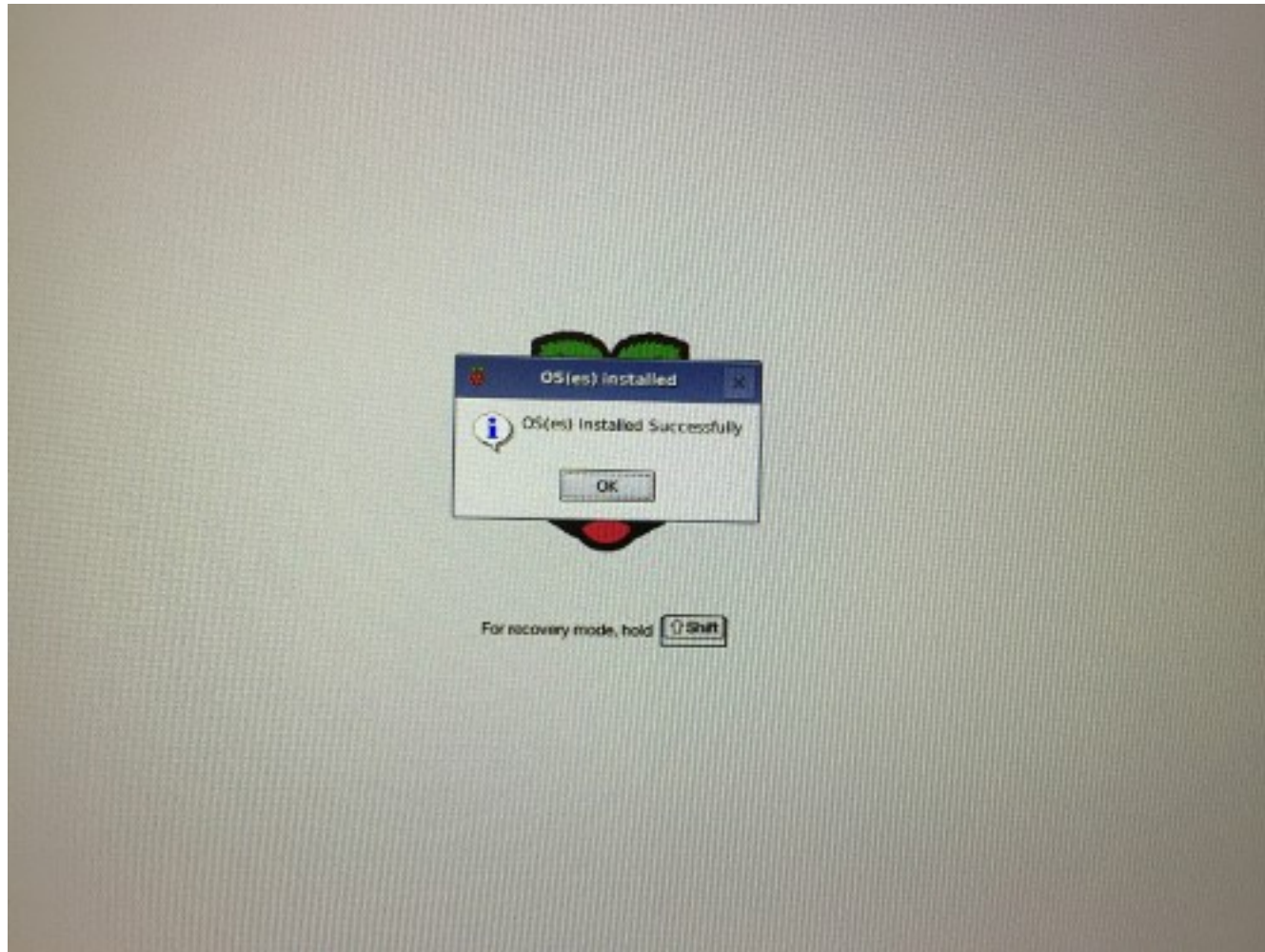
Instalación

- **Pantalla indicando el 100% de la instalación:**



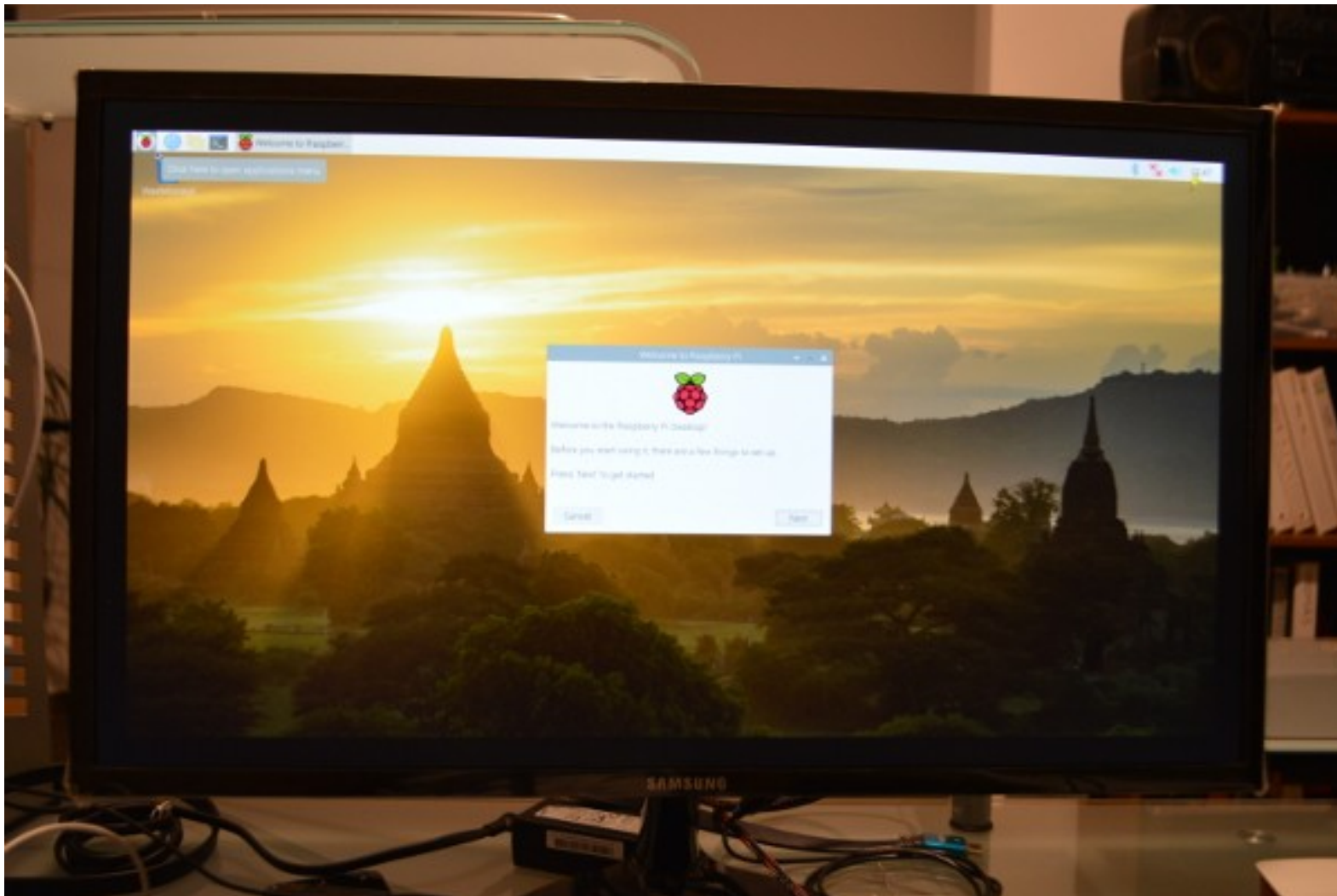
Instalación

- **Pantalla de finalización de la instalación:**



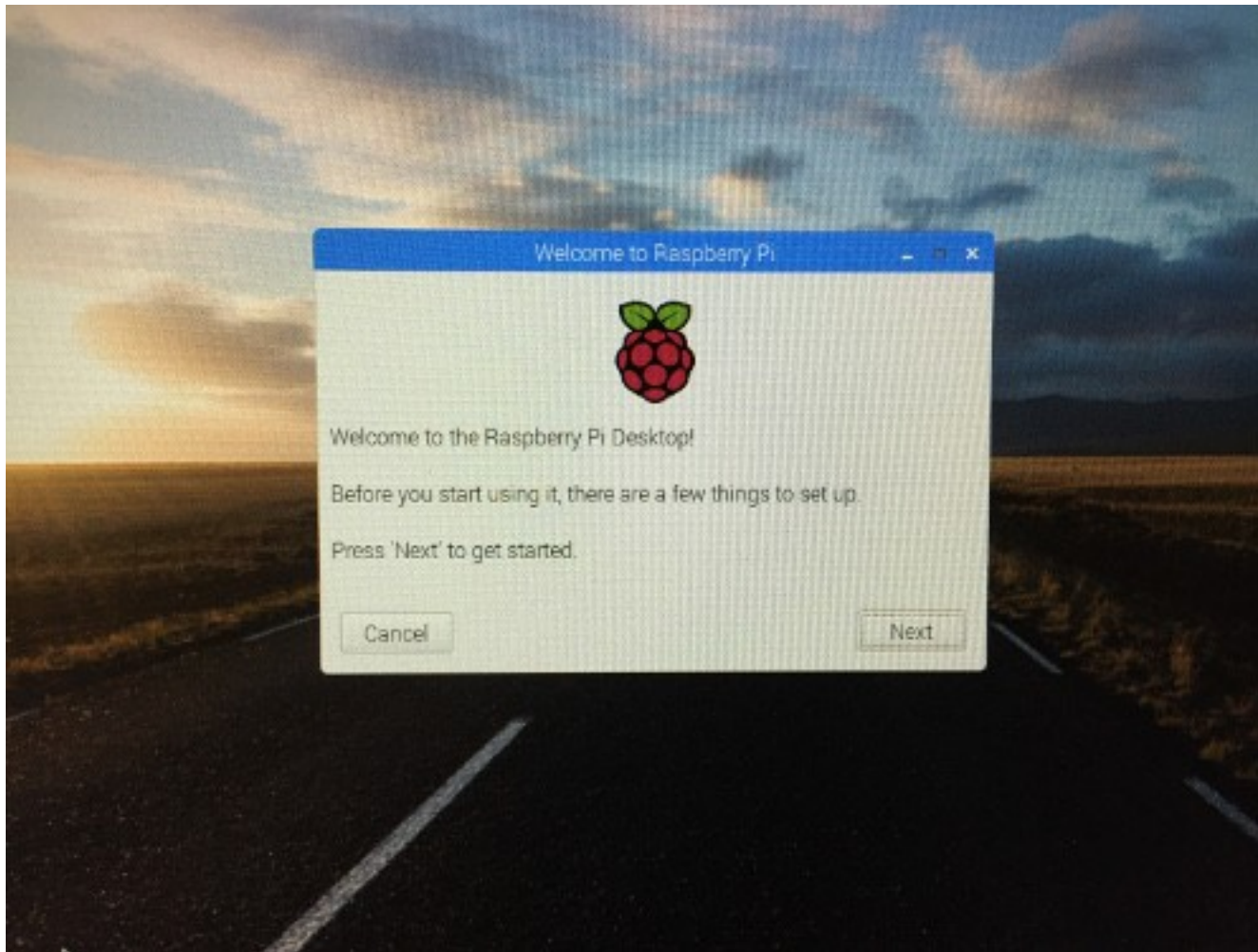
Pantalla

- **Pantalla completa al terminar la instalación:**



Configuración

- **Ahora viene el proceso de configuración:**



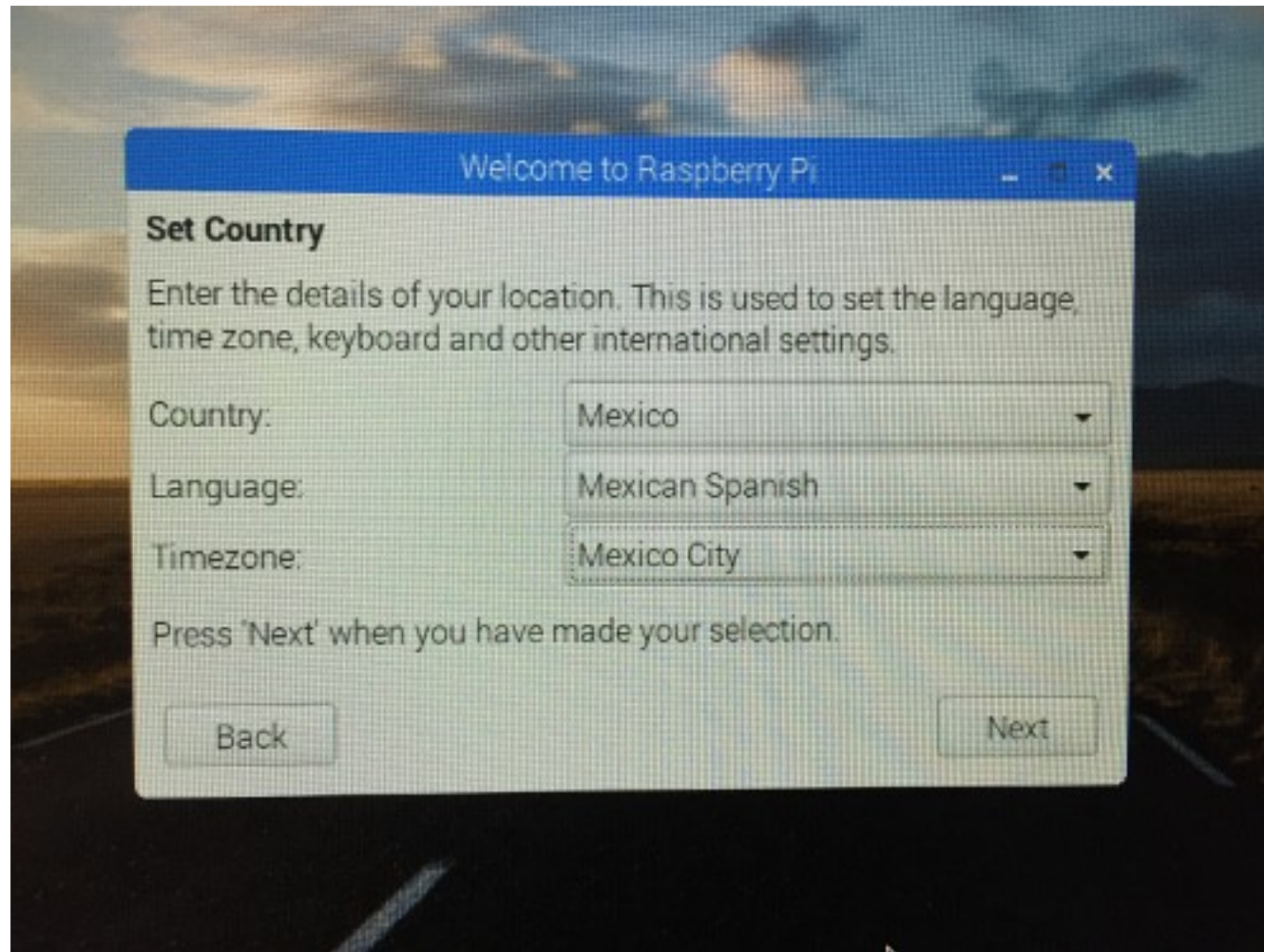
Teclado

- **Seleccionar teclado:**



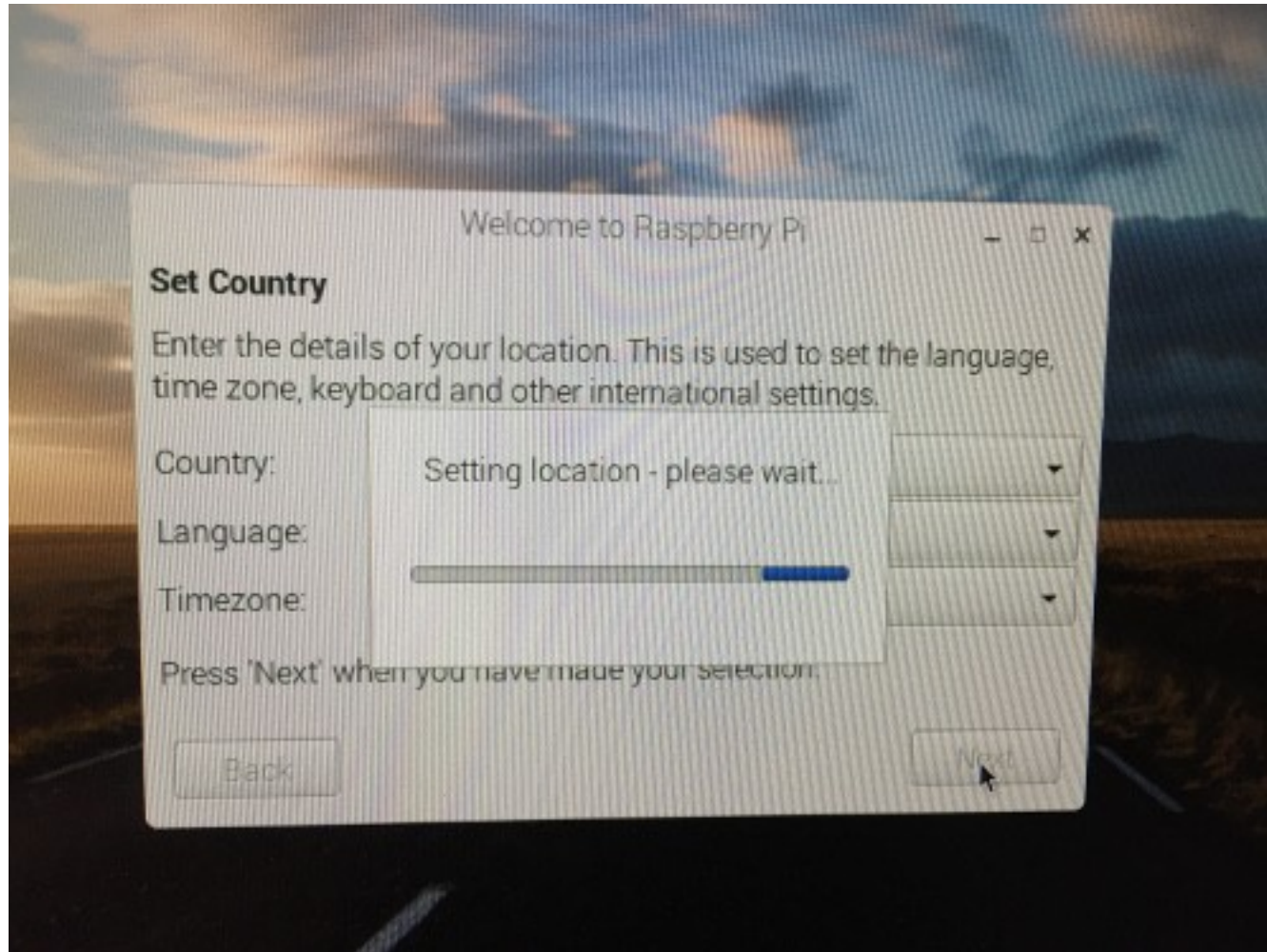
País

- **Seleccionar país, lenguaje y zona horaria:**



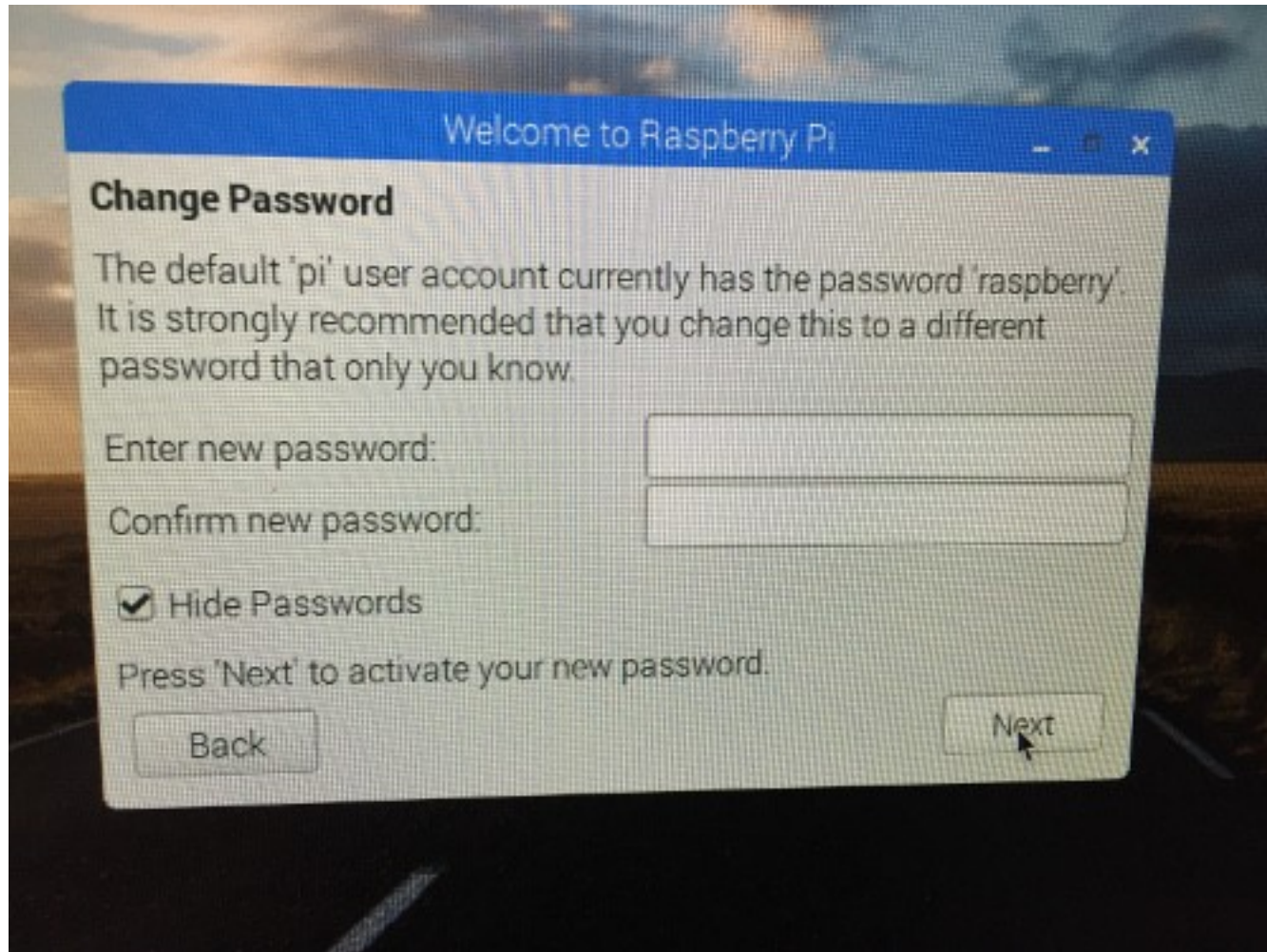
País

- **Actualizando los datos:**



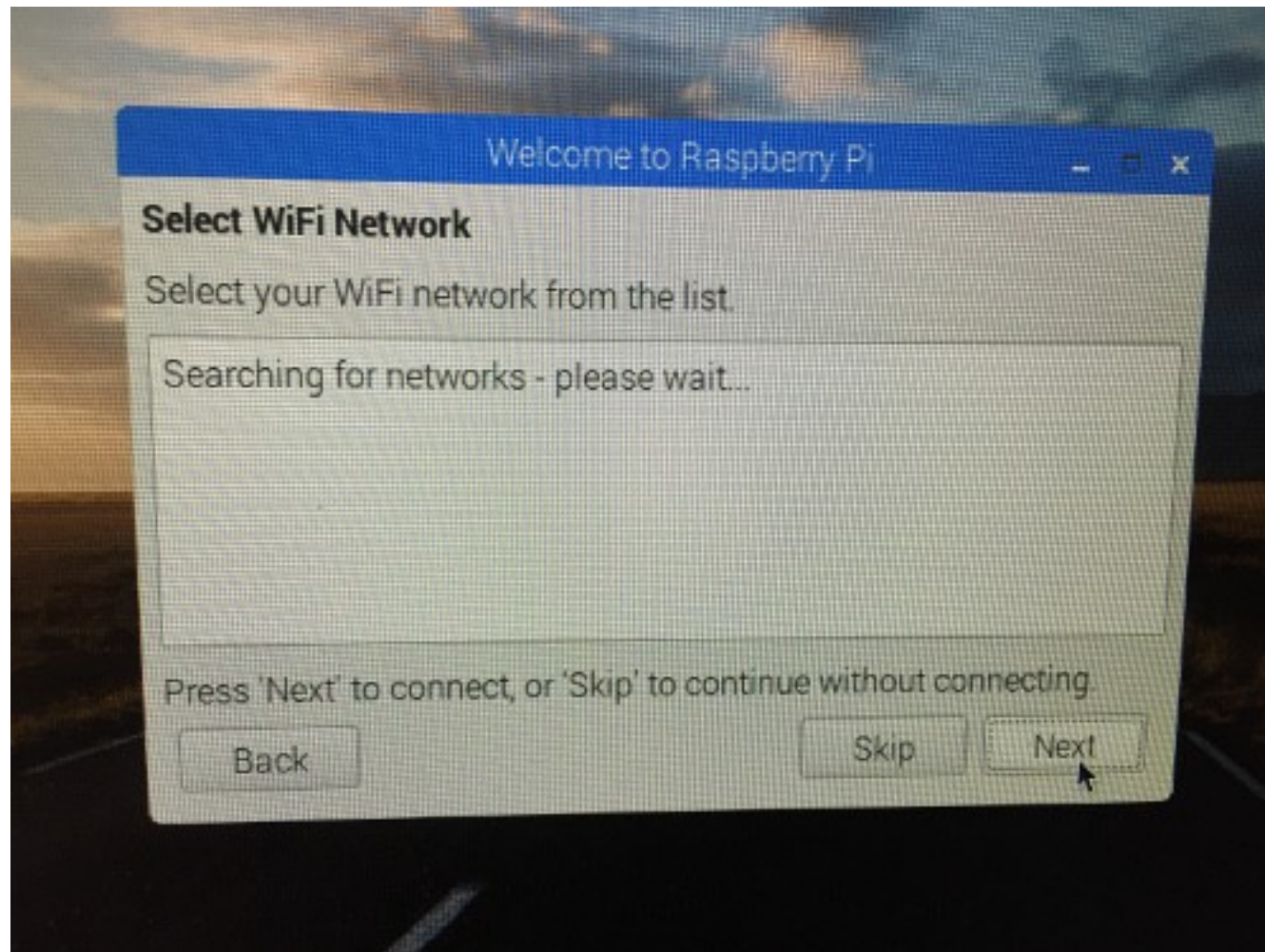
Clave

- **Pregunta la clave de acceso:**



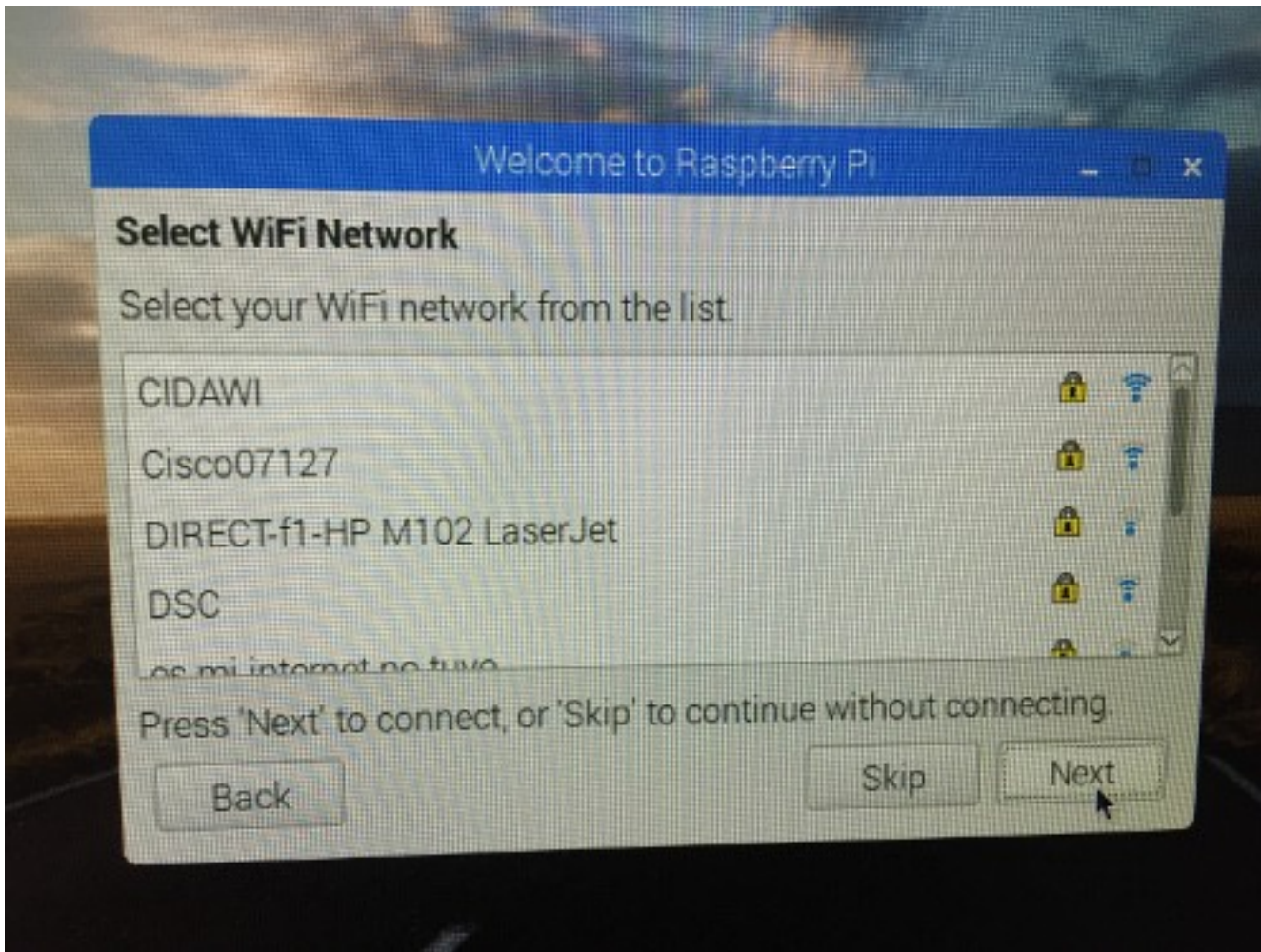
Internet

- **Buscando y configurando redes para acceso a Internet:**



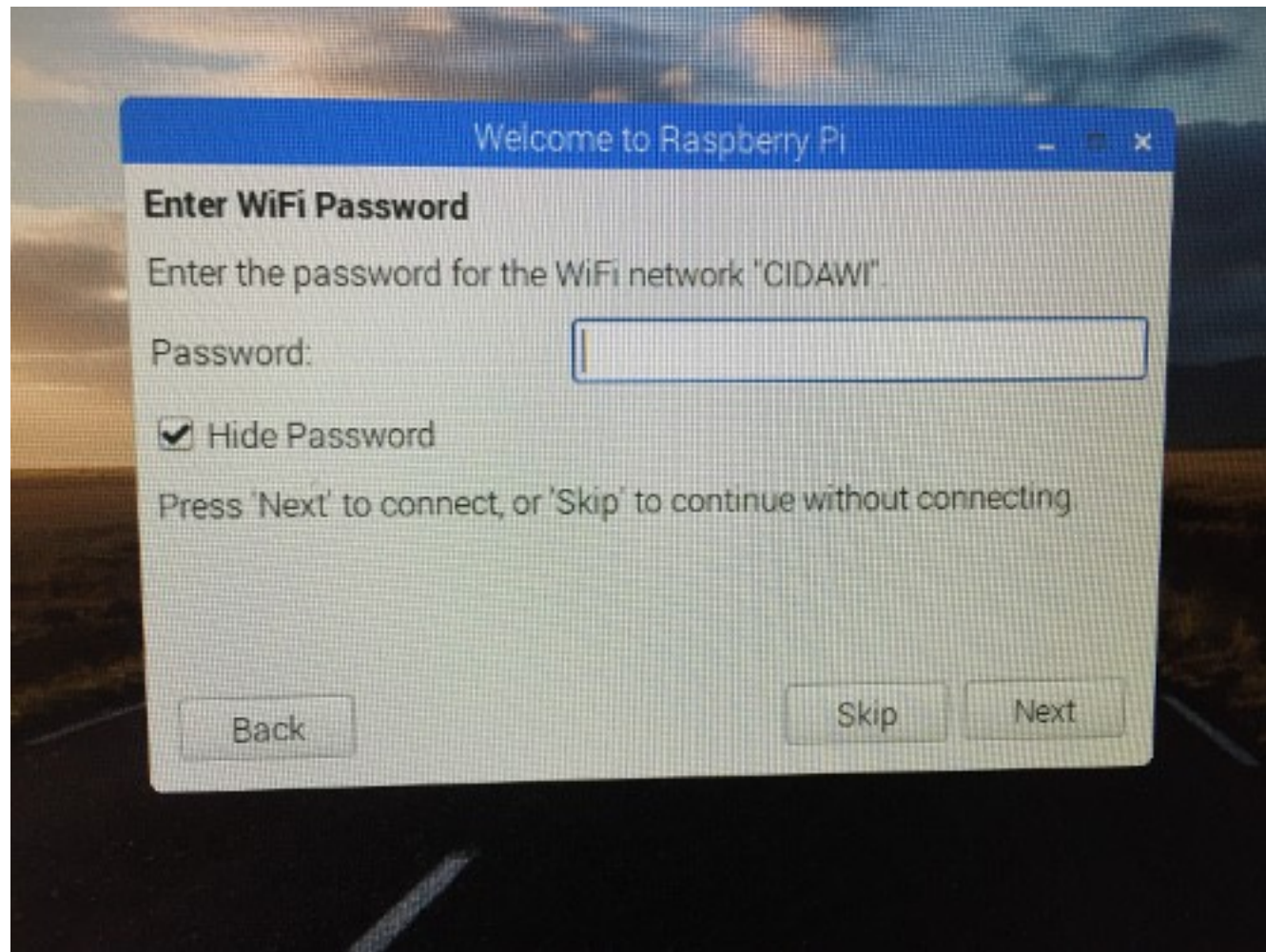
Internet

- **Redes encontradas:**



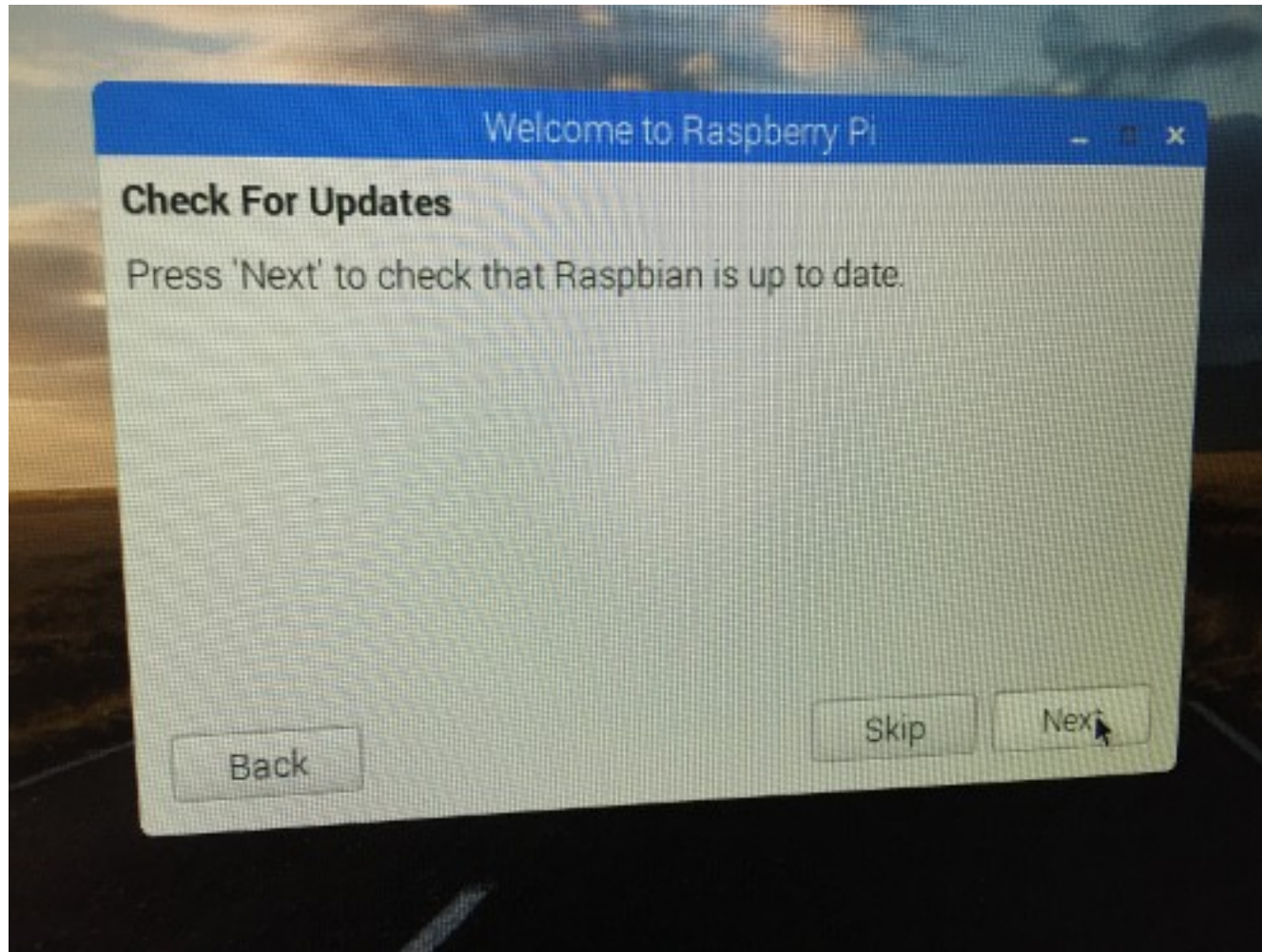
Internet

- **Clave para acceder la red:**



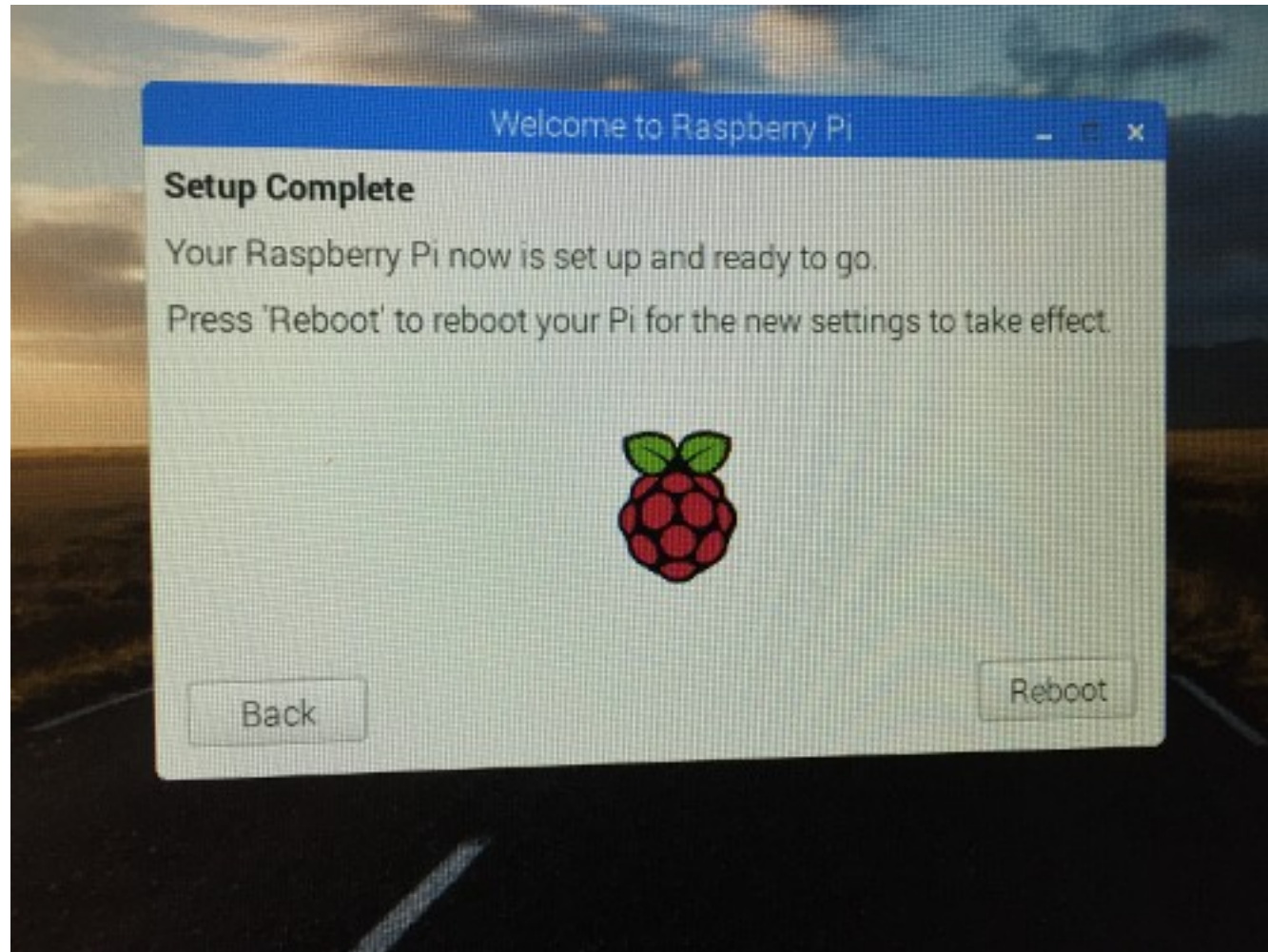
Actualización

- **Buscar actualización de paquetes:**



Finalizar

- **Terminando la configuración:**



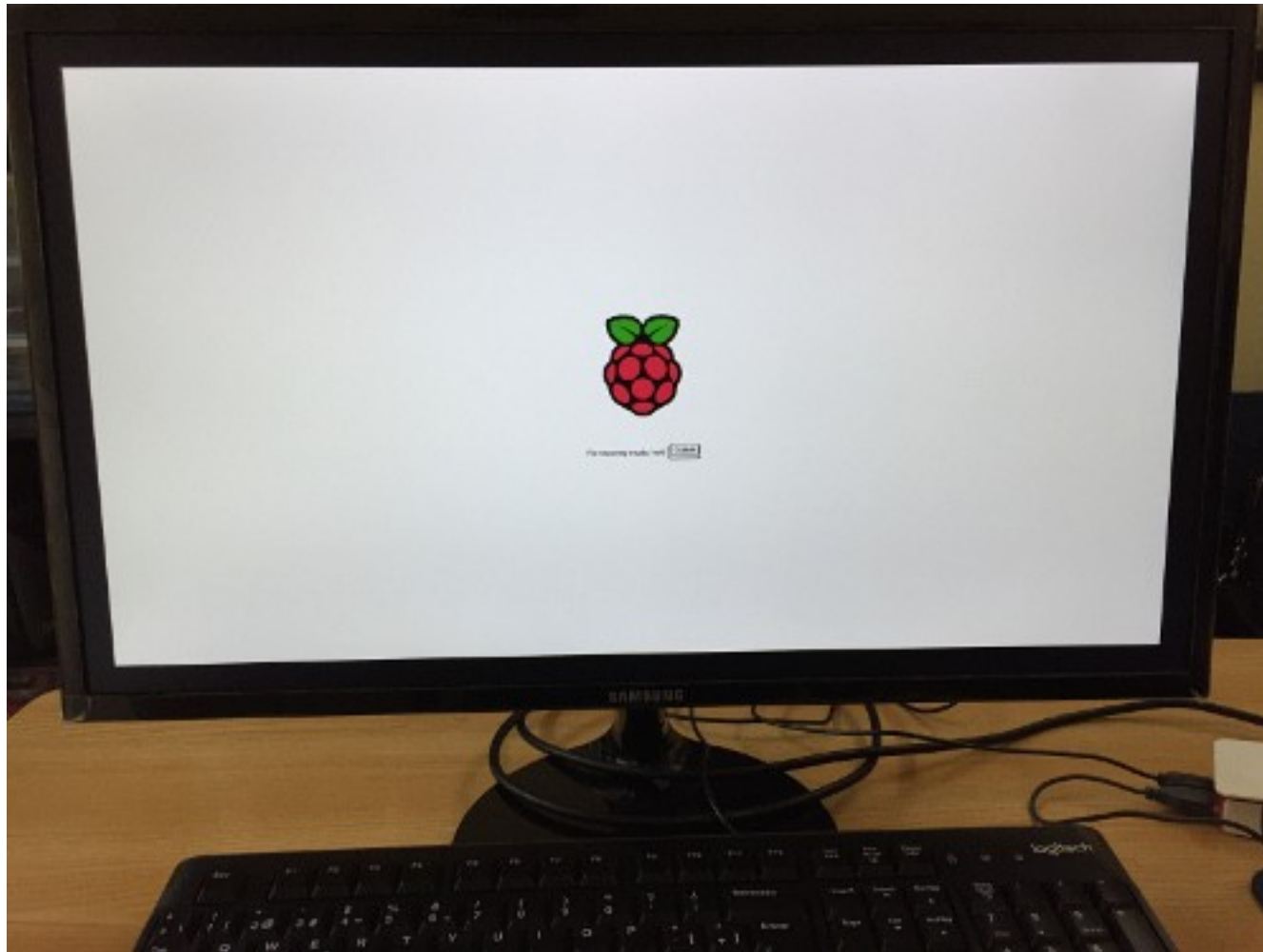
Re-Inicio

- **Pantalla al volver a arrancar:**



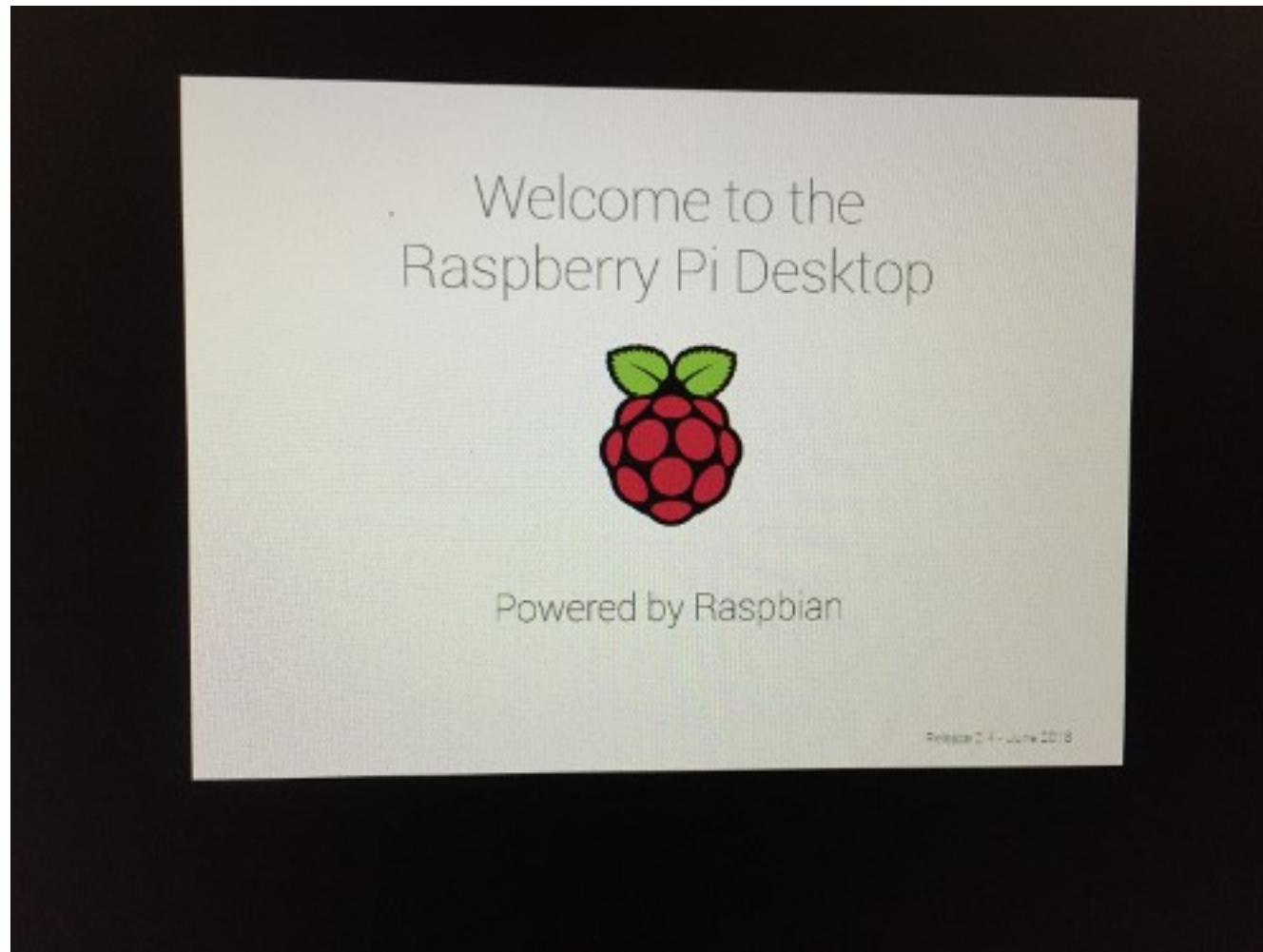
Re-Inicio

- **Pantalla al volver a arrancar:**



Pantalla inicial

- **Pantalla de bienvenida al sistema:**



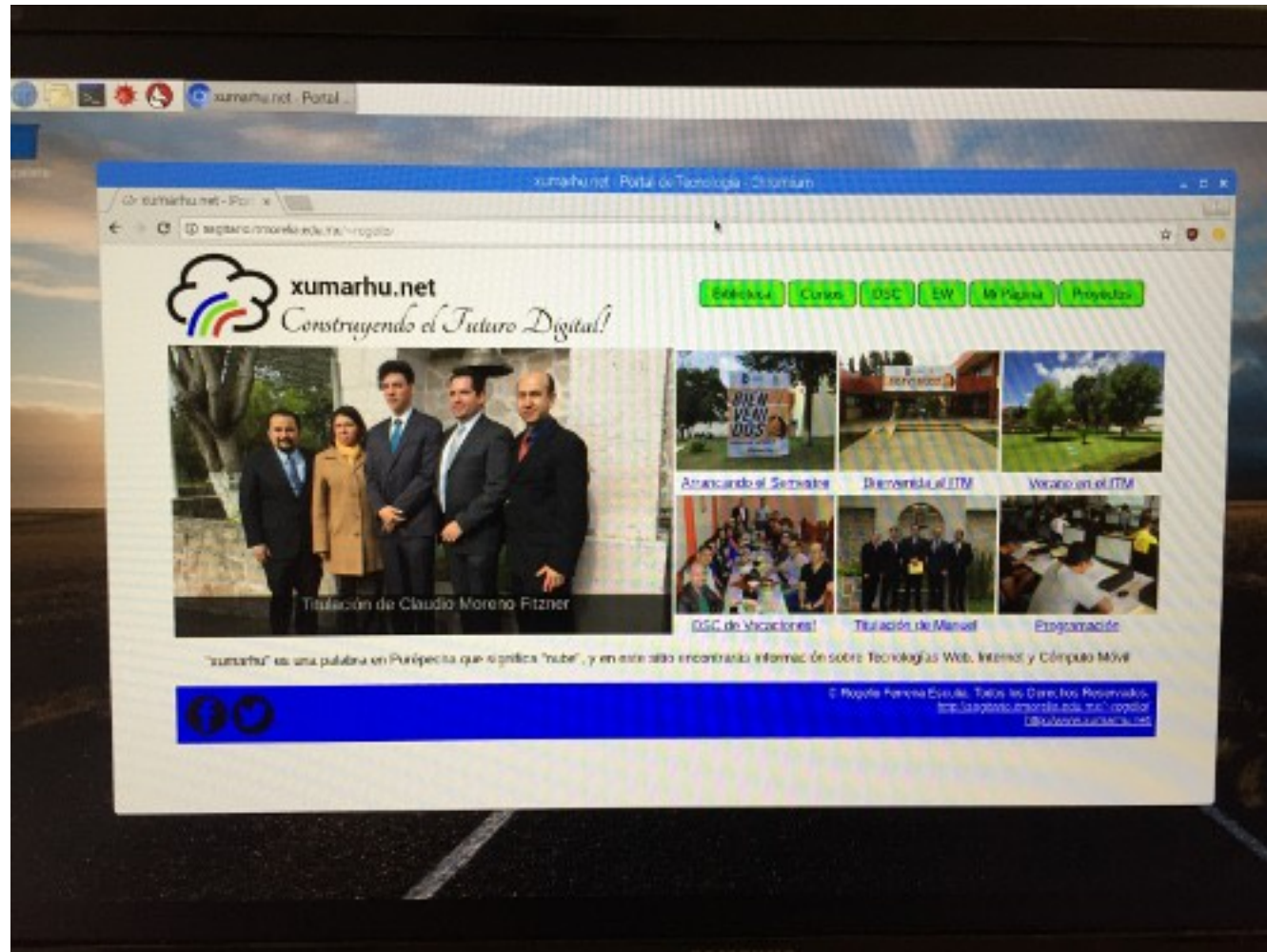
Escritorio

- **Pantalla del escritorio completa al arranque:**



Navegador

- Navegador Chromium en funcionamiento:





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channel/UC0on88n3LwTKxJb8T09sGjg](https://www.youtube.com/channel/UC0on88n3LwTKxJb8T09sGjg)



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