

# Creating an eFinder Cli SD card

## Prepare the SDcard

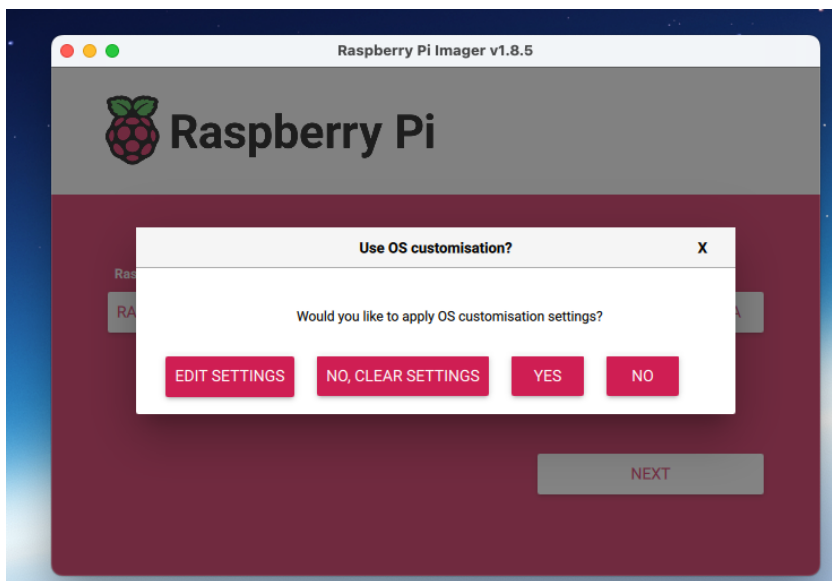
Download and open the Raspberry Pi Imager App for your PC or MAC  
<https://www.raspberrypi.com/software/>

Insert your microSD card into the computer via a suitable adapter.

On the first screen select the three options, Your Pi model (Pi Zero 2 W), Raspberry Pi OS Lite (64-bit) (under Pi OS other) & your SD card. It should look like ...



Click NEXT and you will get this ...



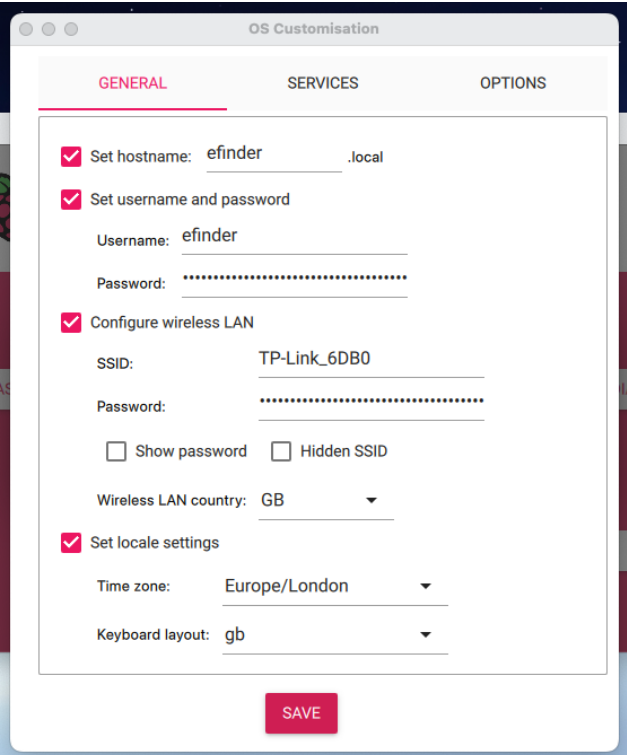
Select 'EDIT SETTINGS' and complete the options ...

On the GENERAL tab ...

For eFinder hostname is 'efinder', username 'efinder', password your choice.

**Note it is important that the username is all lowercase.**

You must set the wireless LAN to initially at least connect to your home network wireless router.



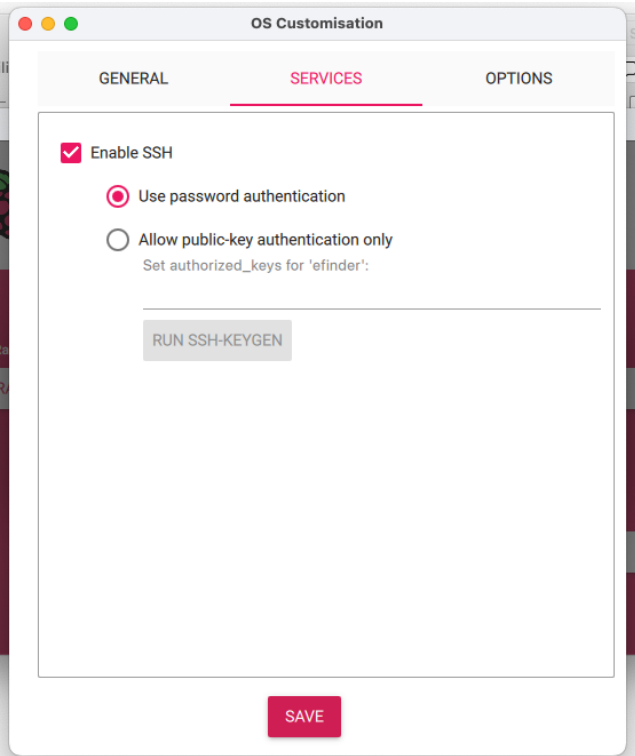
The screenshot shows the 'OS Customisation' window with the 'GENERAL' tab selected. The window has three tabs: 'GENERAL', 'SERVICES', and 'OPTIONS'. The 'GENERAL' tab contains the following settings:

- ☒ Set hostname: efinder .local
- ☒ Set username and password
  - Username: efinder
  - Password: [masked]
- ☒ Configure wireless LAN
  - SSID: TP-Link\_6DB0
  - Password: [masked]
  - ☐ Show password ☐ Hidden SSID
  - Wireless LAN country: GB
- ☒ Set locale settings
  - Time zone: Europe/London
  - Keyboard layout: gb

A 'SAVE' button is located at the bottom right of the window.

On the SERVICES tab ...

Select the Enable SSH and Use password authentication



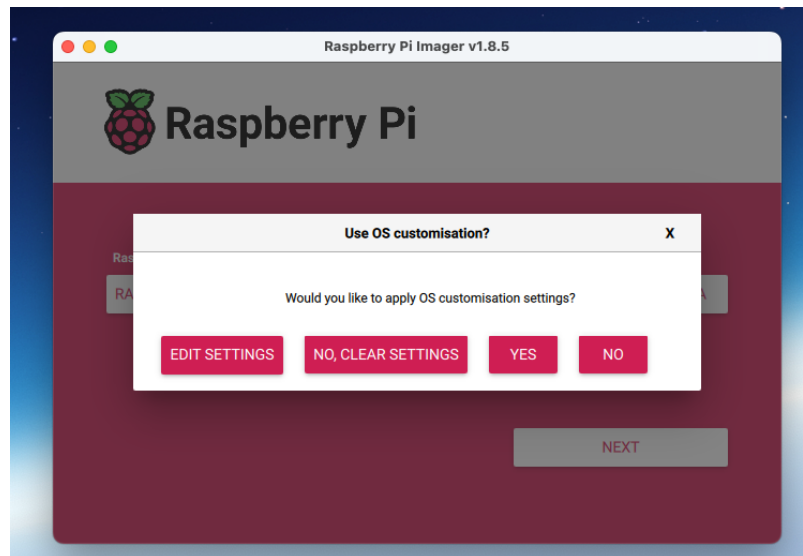
The screenshot shows the 'OS Customisation' window with the 'SERVICES' tab selected. The window has three tabs: 'GENERAL', 'SERVICES', and 'OPTIONS'. The 'SERVICES' tab contains the following settings:

- ☒ Enable SSH
  - ☒ Use password authentication
  - ☐ Allow public-key authentication only
    - Set authorized\_keys for 'efinder':

A 'RUN SSH-KEYGEN' button is located below the authentication options. A 'SAVE' button is located at the bottom right of the window.

Click SAVE and you will be back to ...

This time select YES and YES again and maybe enter your PC password and your SD card will be ready in about 10 minutes.



The next stage is to install the specific eFinder code ...

Accessing the Pi Zero over your home network connection (ssh)

Insert the SDcard into the Pi. Power up the Pi which will go through a couple of reboots and finally connect to your home wifi network. After a few minutes open a terminal window on your PC or Mac and enter the appropriate command ...

```
ssh efinder@efinder.local
```

After agreeing to connect ('yes') and entering your set password when asked, you will see the efinder username prompt, eg 'efinder@efinder:~ \$'

## Install eFinder code

In the terminal window, enter each of the following lines in turn. When hitting 'return' at the end of the line 1 you will see some activity. Wait for it to finish before entering the next line. The last line will initiate the install process and may take 30 minutes depending on your internet speed.

```
wget https://github.com/astrokeith/efinder_cli/raw/main/install.sh
sudo chmod a+x install.sh
./install.sh
```

When complete, reboot the Pi.

```
sudo reboot now
```

You will need to reconnect after the boot.

eFinder Cli will automatically start and wait until a host computer connects. It first sends a simple message "ID=eFinder".

Note: eFinder can also be manually started from a terminal window which will show additional runtime information and error messages. If an instance of eFinder may be running then enter ...

```
venv-efinder/bin/python Solver/eFinder_cli.py run
```

This kills any running autostart version. followed by ...

```
venv-efinder/bin/python Solver/eFinder_cli.py
```

Alternatively, this single command will kill the autostart version and start a specific version, eg \_5\_5 in this case. Enter ...

```
venv-efinder/bin/python Solver/eFinder_cli_5_5.py run
```

At this stage you can connect to the eFinder in a number of ways over wifi ...

1. ssh to [efinder@efinder.local](mailto:efinder@efinder.local), your set password
2. Samba file share at [efinder@efinder.local](mailto:efinder@efinder.local), password 'efinder', selecting 'efindershare' as the volume
3. Web browser to [efinder.local](http://efinder.local) will show the latest image captured using the eFinder focus/exposure utility.

AstroKeith    27/7/2025