LFA Hotspot Install

SLQ Wiki Fabrication Lab 2026/05/31 22:08

LFA Hotspot Install

01 Getting Started

This guide assumes you have

- linux laptop (Ubunutu)
- ASUS RT-AC68U connect to laptop via ethernet LAN (the yellow ports)
- ASUS RT-AC68U WAN port (blue port) is connected to internet access [1)] .
- Two USB sticks - preferably USB3.0 speed.

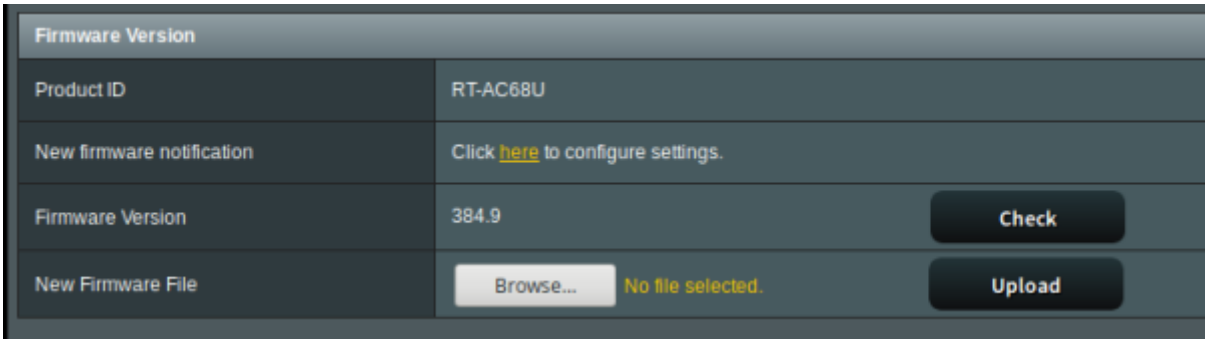
Install Asus-Merlin Firmware

Download the asus-merlin firmware.

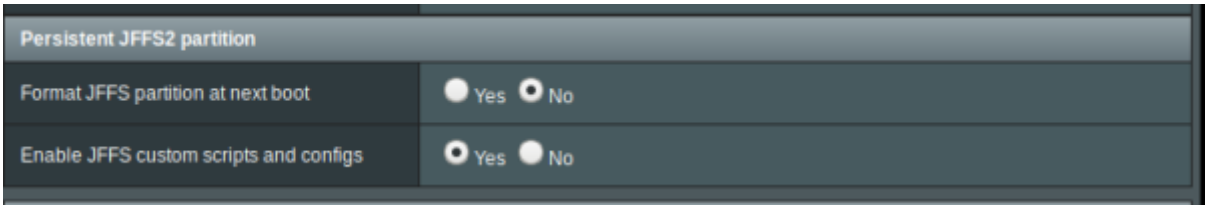
Connect via ethernet port then go to http://192.168.1.1/index.asp

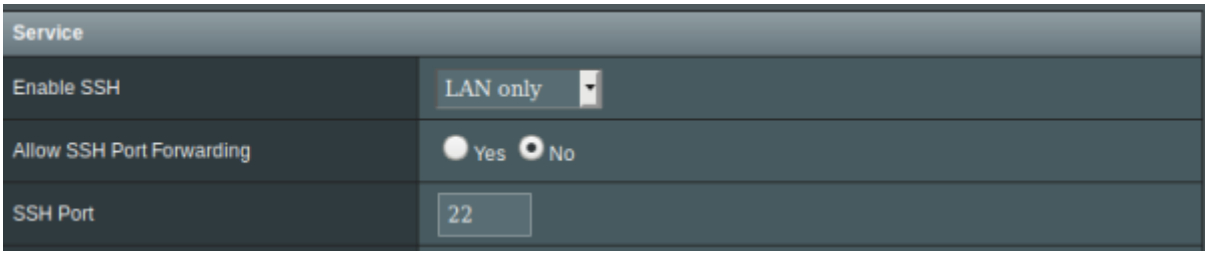
Create username and password at the prompt

Go to http://192.168.1.1/Advanced_FirmwareUpgrade_Content.asp and upload your new firmware:



Once this is complete, go to http://192.168.1.1/Advanced_System_Content.asp and Enable SSH (LAN only) and Enable JFFS custom scripts.





02 LFA Hotspot Quick Install

The quick install builds on the basic steps outlined above to include a basic config, jffs folder settings and a USB data drive image.

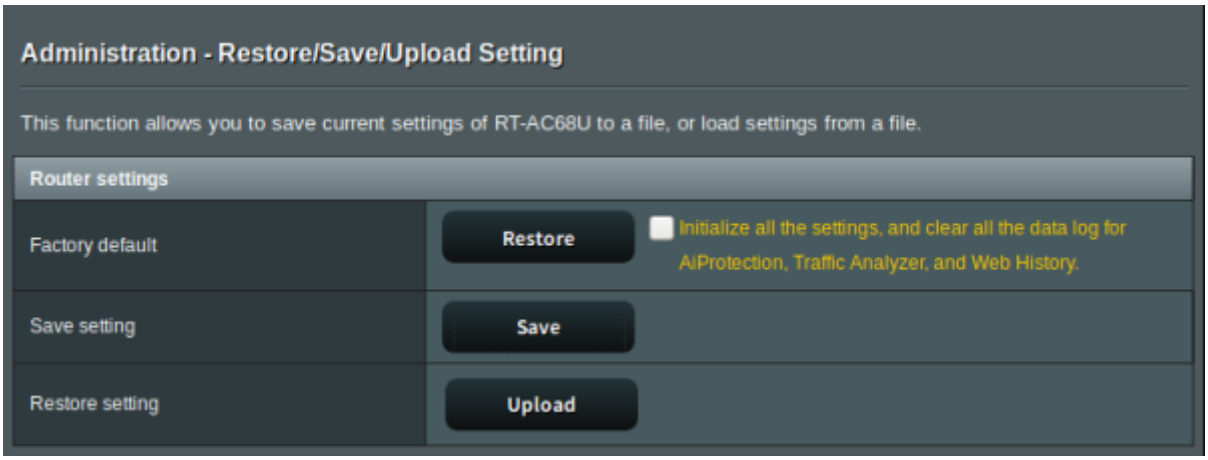
Settings and JFFS

First we upload our custom settings and jffs folder. Grab this

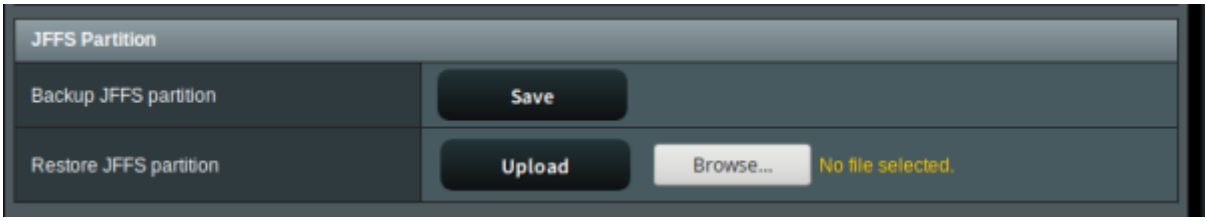
zip file

and uzip it, then go to http://192.168.1.1/Advanced_SettingBackup_Content.asp

First upload the .CFG file as settings.



And the backups_jffs.tar partition



Caution!!

Please note the wifi networks are open!! Please configure with a password before using in public.

Test the router over ssh

Test the SSH with the credentials you set up earlier.

> You may have to remove the existing ssh keys for your connection to work, as all routers have the same IP.

Make USB Storage

The USB storage is used to store the entware packages and our webserver files. The USB stick should be USB3.0 and big enough to store your LFA files.

Download the

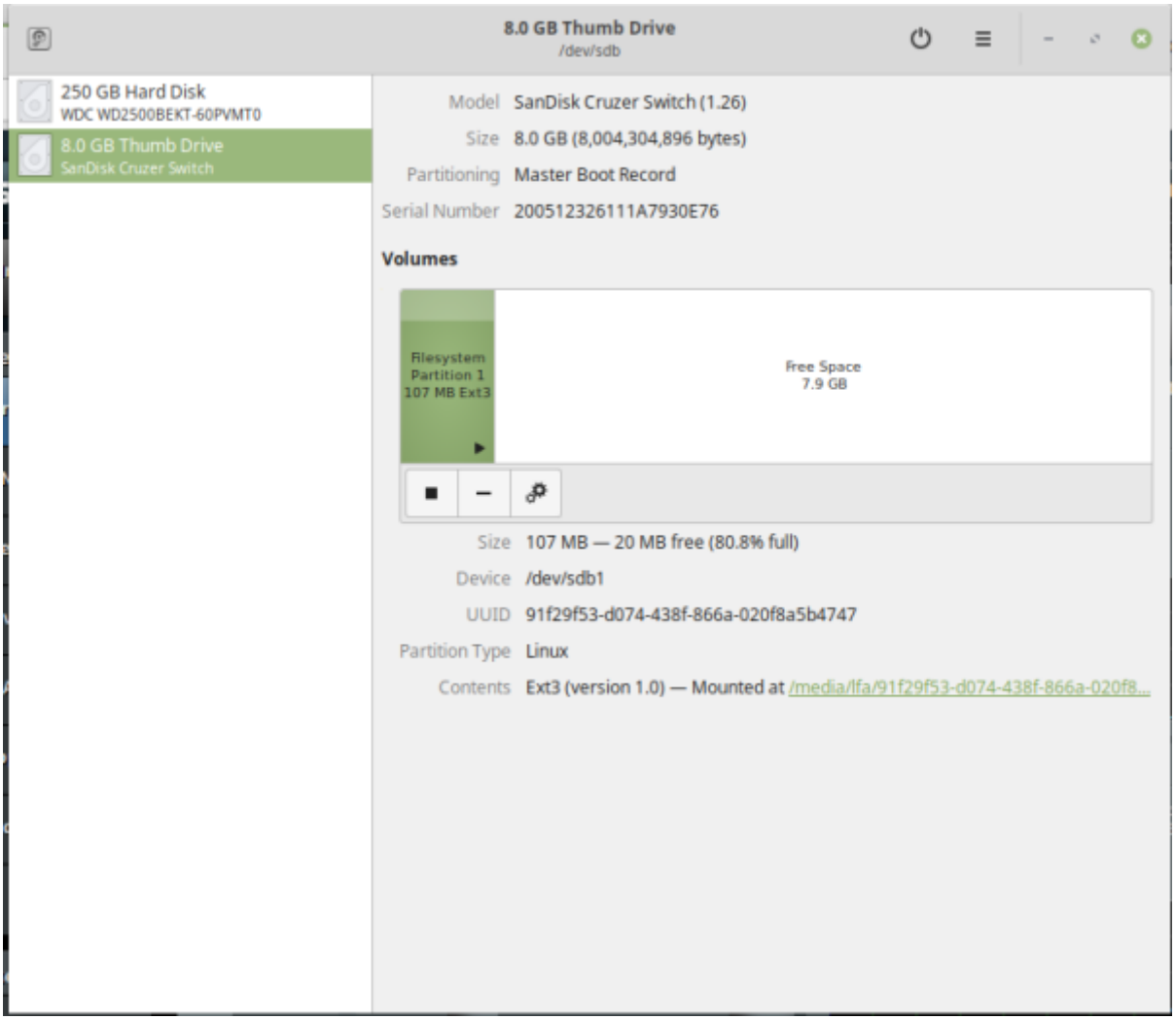
image file

and unzip it. You will get a disk image (.img) ready to be restored or clone with linux (or maybe mac?). Note this img is small for easy download - you will need to expand it to suit the size of your USB stick to maximize your storage space. We will use gnome-disk-utilities.

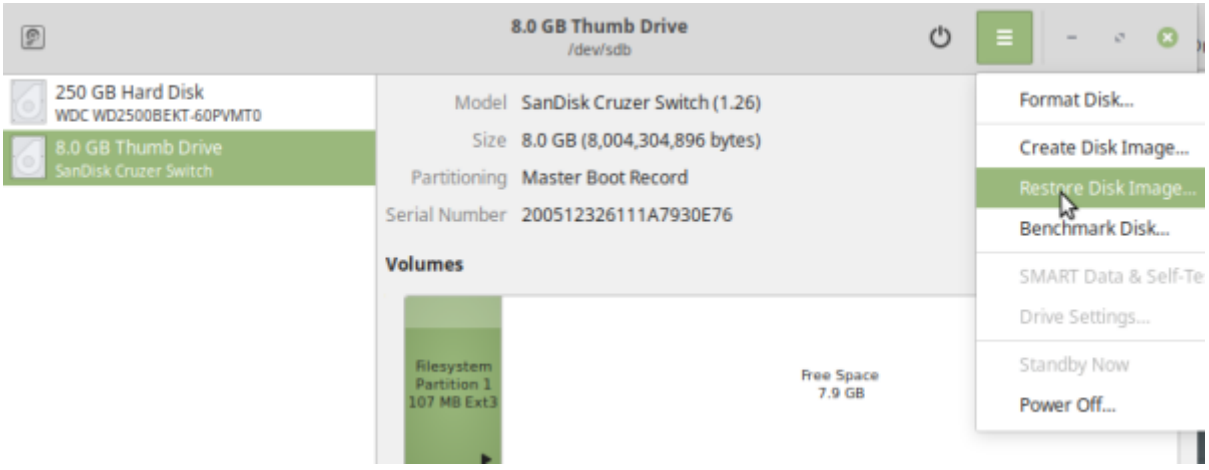
You can install this with

```
sudo apt update
sudo apt install gnome-disk-utilities
```

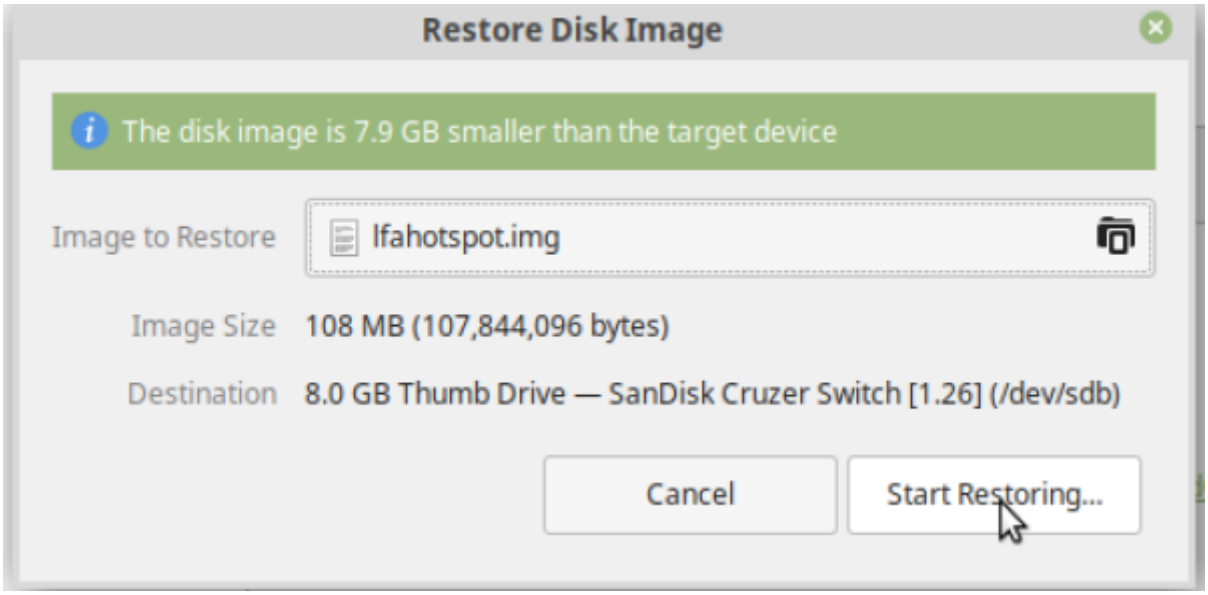
Insert your USB stick (mine is a sandisk cruzer) and launch disks



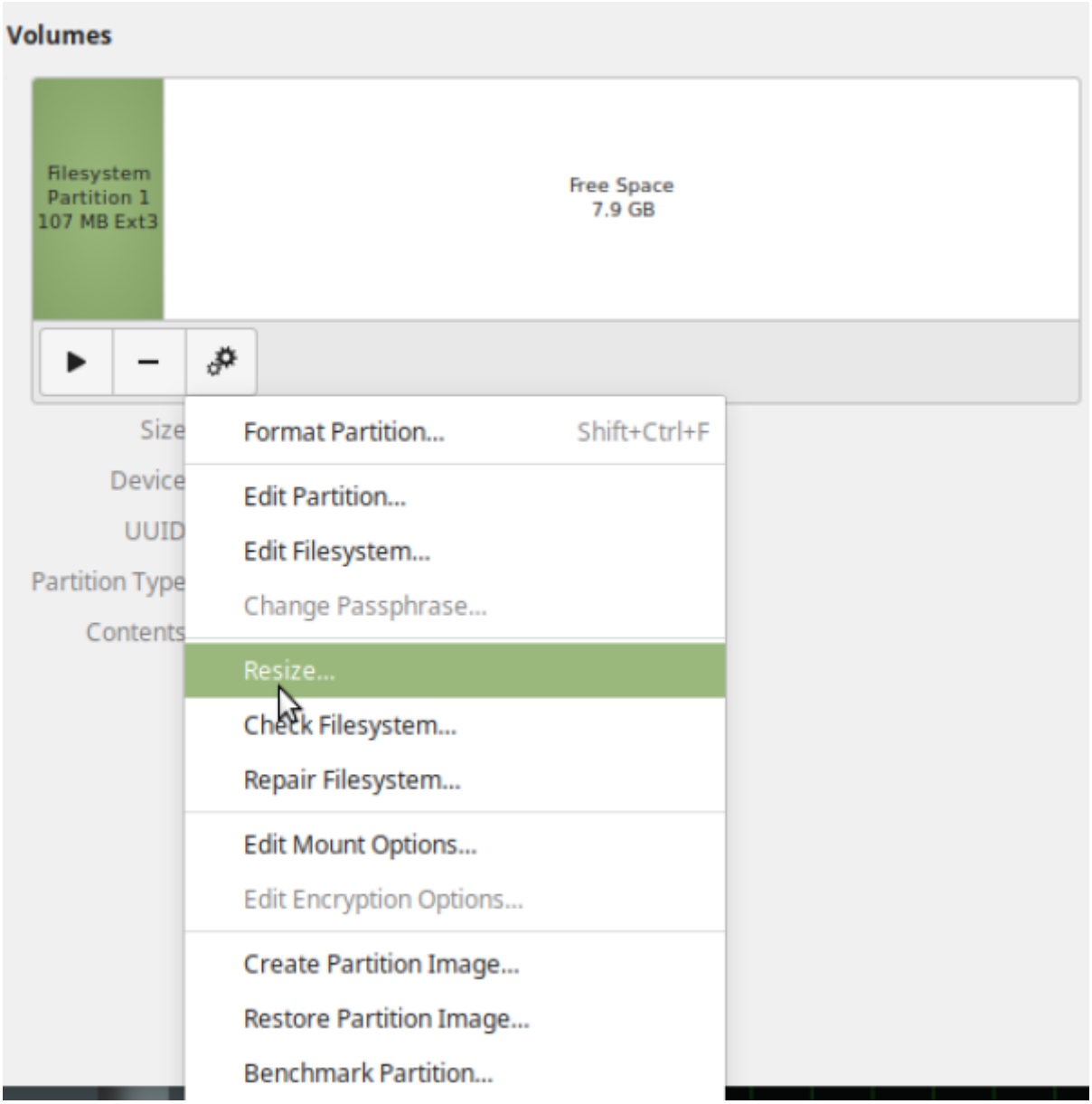
then select the “restore disk image” option.



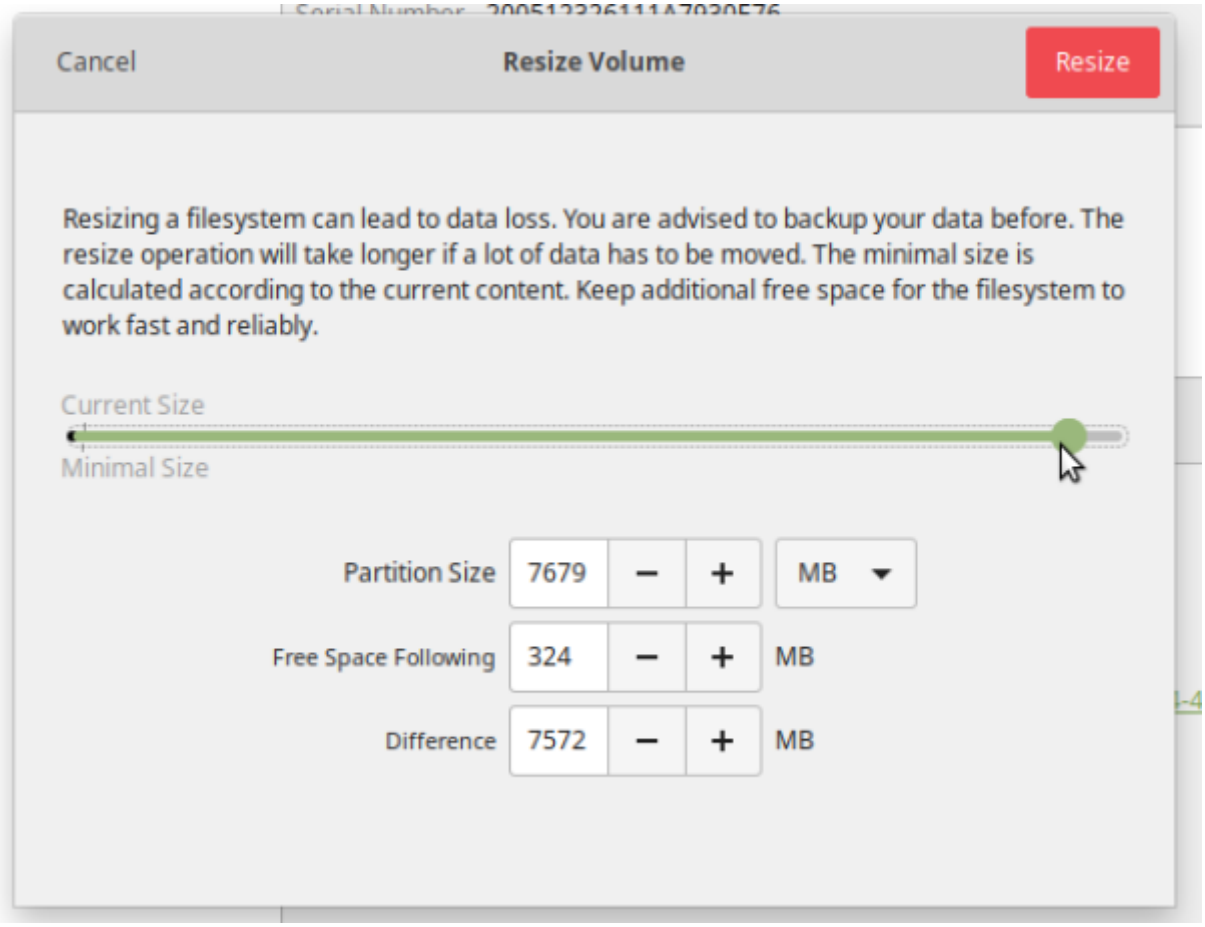
The image should be about 100mB - start restoring it.



Once this is complete - select resize



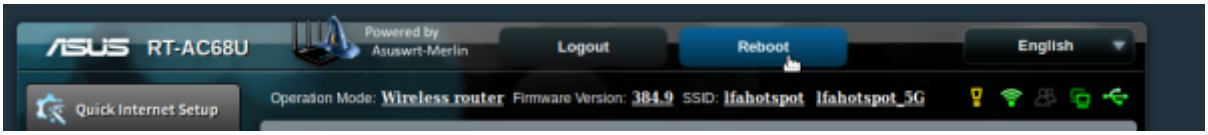
and drag the slider to resize to close the maximum (always leave a bit of space at the end of the disk)



Once the resize is complete, eject the disk from your computer (safely!!) and go to http://192.168.1.1/index.asp to check the USB ports on your router. It should be empty.

Check that the USB drive shows up

Then reboot the router.



And your hotspot is ready to set-up

LFA Hotspot from Scratch

Building the hotspot from scratch involves formatting a USB drive using the router, installing the required opks , then copying the AULFA develop files from github.

SSH into your ASUS

```
ssh user@192.168.1.1
```

Now its time to make a USB formatted flash drive for storage. Follow the guide below and make a EXT4 formatted disk on the device itself, or use your linux disk utility of choice[2)]

https://github.com/RMerl/asuswrt-merlin/wiki/Disk-formatting

Install Entware (OPKG)

https://github.com/RMerl/asuswrt-merlin/wiki/Entware

install required packages:

```
opkg update
opkg install daemontools-encore haveged lighttpd lighttpd-mod-accesslog
lighttpd-mod-alias
lighttpd-mod-cgi logrotate lua rsync uuidgen
```

Download the lfa hotspot files:

https://github.com/AULFA/hotspot.lfa.one/archive/develop.zip

and unzip on local machine.

cd into it then use rsync to copy the files - remember to replace user with your username:

```
 rsync -aP jffs/ user@192.168.1.1:/jffs
```

```
 rsync -aP storage/ user@192.168.1.1:/tmp/mnt/sda1
```

now reboot

```
/sbin/reboot
```

1)
Internet access for the hotspot is not essential for the simple install instructions
2)
use only ext2 or ext3 format in this case to avoid unsupported feature errors