# **LFA Hotspot Install**

SLQ Wiki Fabrication Lab 2024/10/02 11:35

## **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 <sup>1)</sup>.
- 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:

Firmware Version		
Product ID	RT-AC68U	
New firmware notification	Click here to configure settings.	
Firmware Version	384.9	Check
New Firmware File	Browse No file selected.	Upload

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.

Persistent JFFS2 partition	
Format JFFS partition at next boot	● Yes ● No
Enable JFFS custom scripts and configs	🔍 Yes 🔍 No



Service		
Enable SSH	LAN only	
Allow SSH Port Forwarding	● Yes ● No	
SSH Port	22	

## 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.

Administration - Restore/Save/Upload Setting				
This function allows you to save current set	tings of RT-AC68U to a file, or load settings from a file.			
Router settings				
Factory default	Restore Initialize all the settings, and clear all the data log for AlProtection, Traffic Analyzer, and Web History.			
Save setting	Save			
Restore setting	Upload			

And the backups\_jffs.tar partition

JFFS Partition	
Backup JFFS partition	Save
Restore JFFS partition	Upload Browse No file selected.

#### Caution!!



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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



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then select the "restore disk image" option.

9		8.0 GB Thumb Drive /dev/sdb	Φ	= - • •
250 GB Hard Disk WDC WD2500BEKT-60PVMT0	Model	SanDisk Cruzer Switch (1.26)		Format Disk
8.0 GB Thumb Drive	Size 8.0 GB (8,004,304,896 bytes)			Create Disk Image
SanDisk Cruzer Switch	Partitioning	Master Boot Record		Restore Disk Image
	Serial Number	200512326111A7930E76		Benchmark Disk
	Volumes			SMART Data & Self-Te
	Filesystem Partition 1 107 MB Ext3			Drive Settings
		Free Space 7.9 GB	ace	Standby Now
			5B	Power Off

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



Restore Disk Image				
i The disk ima	ge is 7.9 GB smaller than the target device			
Image to Restore	📄 lfahotspot.img	ō		
Image Size	108 MB (107,844,096 bytes)			
Destination	8.0 GB Thumb Drive — SanDisk Cruzer Switch [1.26] (/dev/sdb)			
	Cancel Start Restorin	ng		

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)



Cancel	Resize Volume Res						
Resizing a filesystem resize operation will t calculated according work fast and reliably Current Size	can lead to data l take longer if a lot to the current cor	oss. You t of data htent. Ke	are ad has to ep add	lvised be mo itional	to backup you ved. The mini free space fo	ir data before. The mal size is or the filesystem to	
Minimal Size						2	
	Partition Size	7679	-	+	MB 👻	]	
Free	e Space Following	324	-	+	МВ		
	Difference	7572	-	+	MB		

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.



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Check that the USB drive shows up



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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<sup>2)</sup>

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

Install Entware (OPKG)



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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 <u>hotspot</u> is not essential for the simple install instructions  $_{2)}$ 

use only ext2 or ext3 format in this case to avoid unsupported feature errors



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