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## The Wireless Bridge

There are actual two ways at the moment to use the LaFonera as a wireless bridge.

### 1. Two LaFoneras WDS linked (AP not sending out SSID, a bug at the moment)

### 2. One LaFonera in WDS AP mode and the other in WDS Station mode

As you can see, to get this up and running you need to have two LaFoneras, or one LaFonera in Station mode and another DD-WRT equipped router. This is because both ways use an alternative WDS solution, with 4 fielded ethernet frames to make the bridging work.

Most wireless routers stock firmware does not support WDS, but I will test WDS Station on a LaFonera and standard AP mode on a D-Link, to see if it works.

Now to the configuration, i will write down the steps for the second solution, WDS AP/Station mode, the first solution with WDS linked routers can be found here and have worked for me with the LaFonera:

[http://www.dd-wrt.comhttp://www.dd-wrt.com/wiki/index.php/WDS\\_Linked\\_router\\_network](http://www.dd-wrt.comhttp://www.dd-wrt.com/wiki/index.php/WDS_Linked_router_network)

## STEPS

1. The best thing to do is to restore the routers to DD-WRT defaults, under "Administration" tab. This to make sure that there isnt an old setting hiding somewhere that could interfere with the new configuration.
2. Start with one LaFonera and enter the DD-WRT webinterface, go to "Wireless" tab and setup your WLAN in the subtab "Basic Settings". Choose WDS AP as the mode and check the "Bridged"-radio button. Save it.
3. Then go on to the "Wireless Security" tab and choose your encryption. As I have understood WPA2 should not work with WDS, however it looks as it works fine for me. The best thing would though be to start out with encryption disabled, just to get the connection up, then try different encryption methods.
4. Now go to the "Setup" tab and disable "Internet connection" and "STP" in the "Basic Setup" subtab, give the router a local IP in your subnet (i.e 192.168.1.2, netmask 255.255.255.0), gateway and DNS set to your main router (i.e 192.168.1.1) in your network. (I guess the LaFonera isn't :))
5. Disable DHCP server too, then finish with saving the settings at the bottom of the page.

Now the WLAN and the ethernet port are bridged (br0) with your wired network. You should be able to connect with a laptop to the WLAN and receive DHCP IP from your mainrouter (assumed 192.168.1.1)

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**Now its time to do the interesting stuff, we will configure your second LaFonera to extend your LAN**

## LaFonera\_Software\_Wireless-Bridge

### over WLAN as a Wireless Bridge.

1. Follow step 1-2 above, with the exception that this time you would want to set the wireless mode to "WDS Station". Type in the same SSID, wireless channel and network mode as on your first LaFonera.
2. Go to "Security" tab and disable encryption, just like on your first LaFonera.
3. When saved it should not take long, approx 2-3 min. at the most, then under "Status" tab you should see that your second LaFonera is connected to your first.
4. Now finish by going to "Basic" tab and give this router an local IP adress in the same subnet as your first LaFonera, i.e 192.168.1.3. This time set the gateway and DNS to 192.168.1.2 (assumed to be your first LaFonera in this setup) and disable "Internet connection" and DHCP. Finally save the setup.
5. Double check under "Status" tab that your still connected. Finish with rebooting both LaFoneras, then connect a PC to your second LaFoneras ethernet port, and you *\*should\** be able to receive an IP from your main routers DHCP, by way over your first LaFonera --- WLAN --- second LaFonera. :)

Sometimes it takes a couple of minutes, or a couple of reboots, before the bridges on both LaFoneras learn about the network, after it works you should receive an IP.

I have also noticed some reboots, i think, of the LaFoneras, breaking the WLAN connection. Maybe it will get better in coming DD-WRT firmware updates. **(fixed!)**

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