3rd June 2013   ## Using a Mikrotik (RB751G) to Bridge to a Non-Mikrotik Wireless AP

[http://img.routerboard.com/pricelist/262_l.png]

It took me almost a day to get this working. And it only hit me after having a good night's sleep (actually I couldn't sleep that well.... thinking about the problem)...

AIM:
I wanted to bridge the Mikrotik (RB751G) with a Non-Mikrotik Wireless AP (Asus RT-N12) and use the Ethernet ports to connect to my devices (without WIFI) like my Raspberry Pi and Media Centres.

PROBLEM:
The day before, I managed to connect the wireless (wlan1) to my Asus AP. It was able to obtain an IP address via DHCP, but it couldn't relay any DHCP signal or packets when connected to the Ethernet ports. I tried give the wlan1 IP Address and started to give static routes to the Mikrotik. However it didn't work properly. Lots of material online were based on Mikrotik to Mikrotik using the WDS services... however in my case, I needed to connect to a Wireless AP (Non-Mikrotik)

PROBLEM SOLVED:
After thinking about it overnight, it shouldn't be that difficult, or complicated. I already knew that the Wireless component (wlan1) could connect to the Wireless AP, but it couldn't route any packets... To simplify the matter, all I wanted it to do is to run like a Switch, nothing else. So that is what I set out to do and managed to solve the problem.
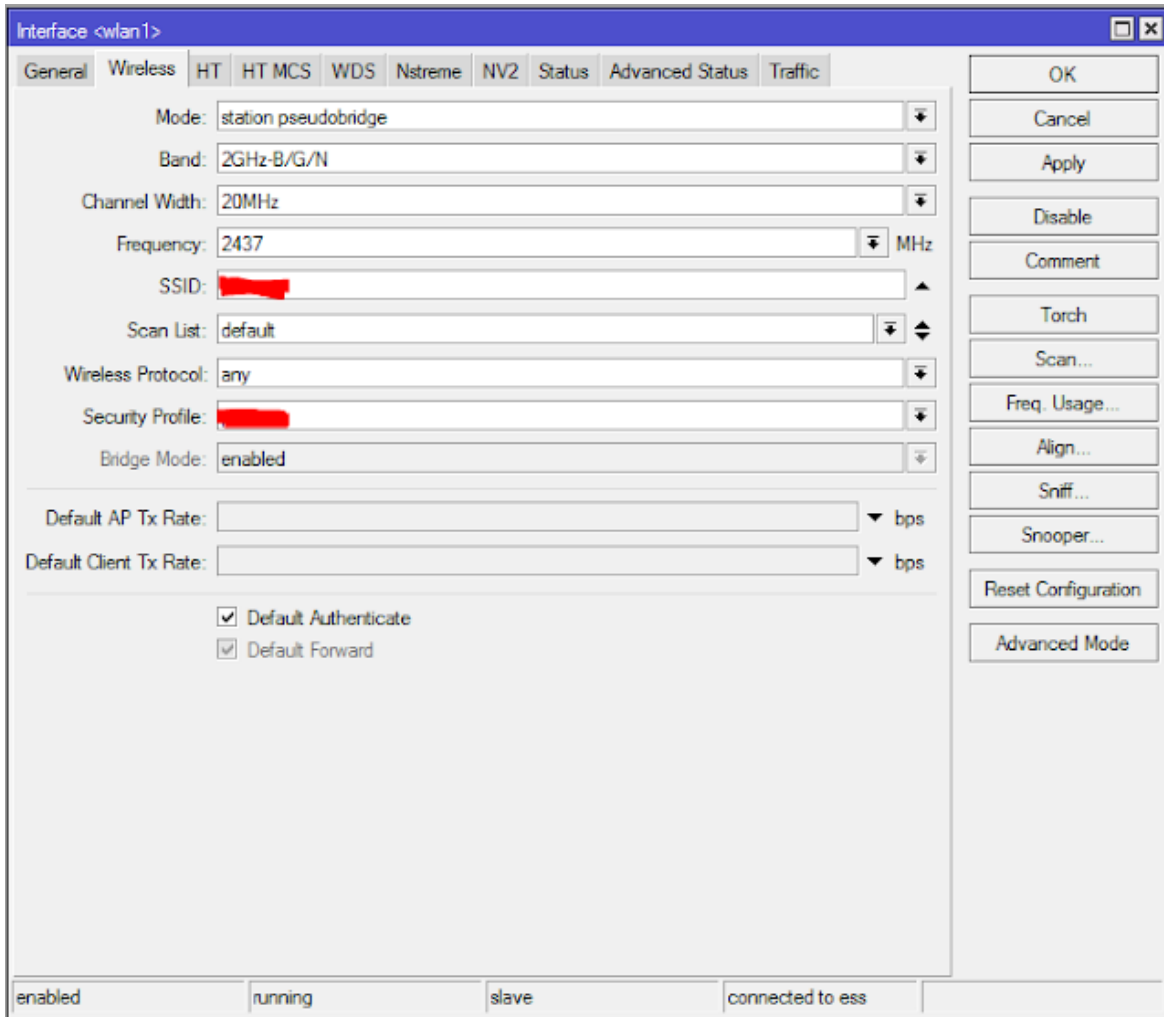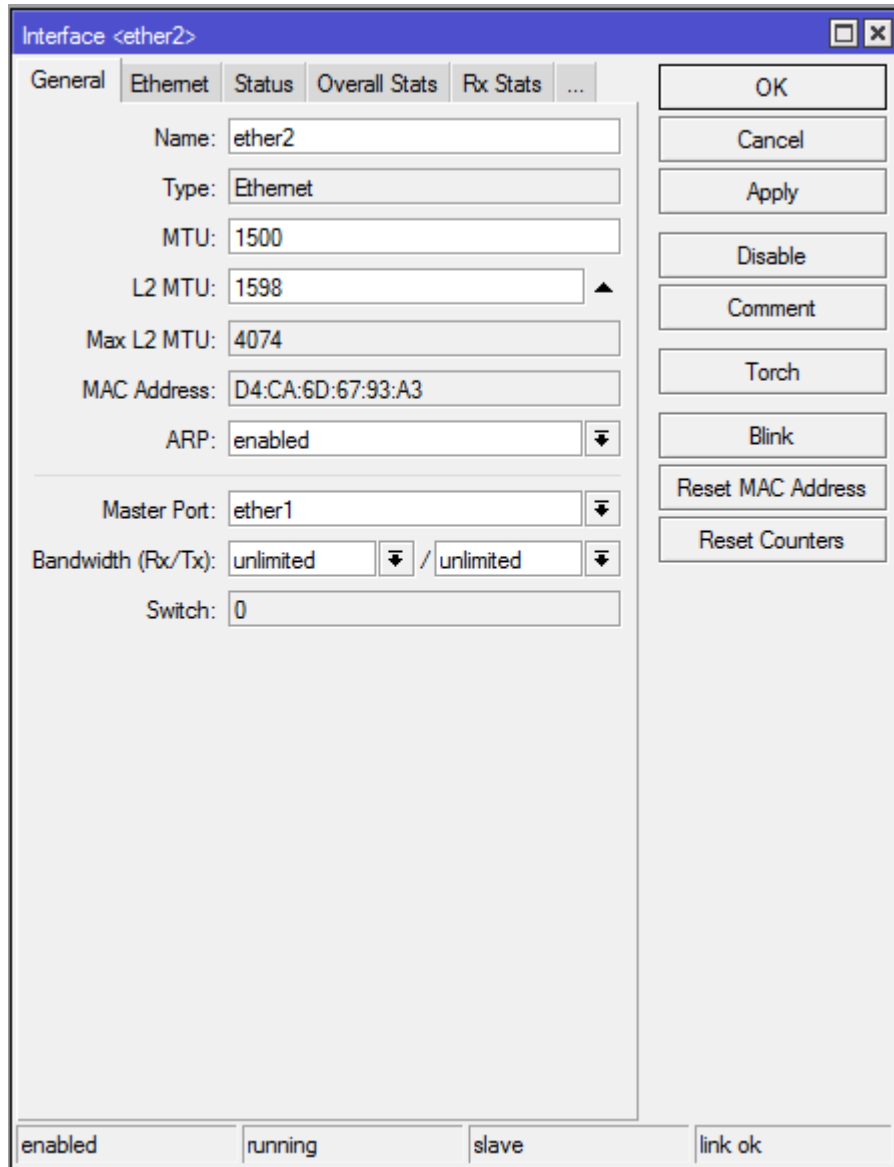
Start with setting up your Wireless module (wlan1). Use mode *station pseudobridge*. Remember to set your SSID and Security Profile (wireless password). If your password is correct, you should see that you are "*connected to ess*" in the status bar.

Bridge						
Bridge Ports Filters NAT Hosts						
Interface	Bridge	Priority (h...	Path Cost	Horizon	Role	Root Pat...
ether1	bridge1	80	10		designated port	
wlan1	bridge1	80	10		designated port	

2 items

Next bridge **ether1** and **wlan1** into 1 bridge interface (bridge1). We only need to bridge ether1, because we are going to switch all 5 Ethernet ports together in the next step.

Interface <ether2>

General | Ethernet | Status | Overall Stats | Rx Stats | ...

OK
Cancel
Apply
Disable
Comment
Torch
Blink
Reset MAC Address
Reset Counters

Name: ether2
Type: Ethernet
MTU: 1500
L2 MTU: 1598
Max L2 MTU: 4074
MAC Address: D4:CA:6D:67:93:A3
ARP: enabled

Master Port: ether1
Bandwidth (Rx/Tx): unlimited / unlimited
Switch: 0

enabled | running | slave | link ok

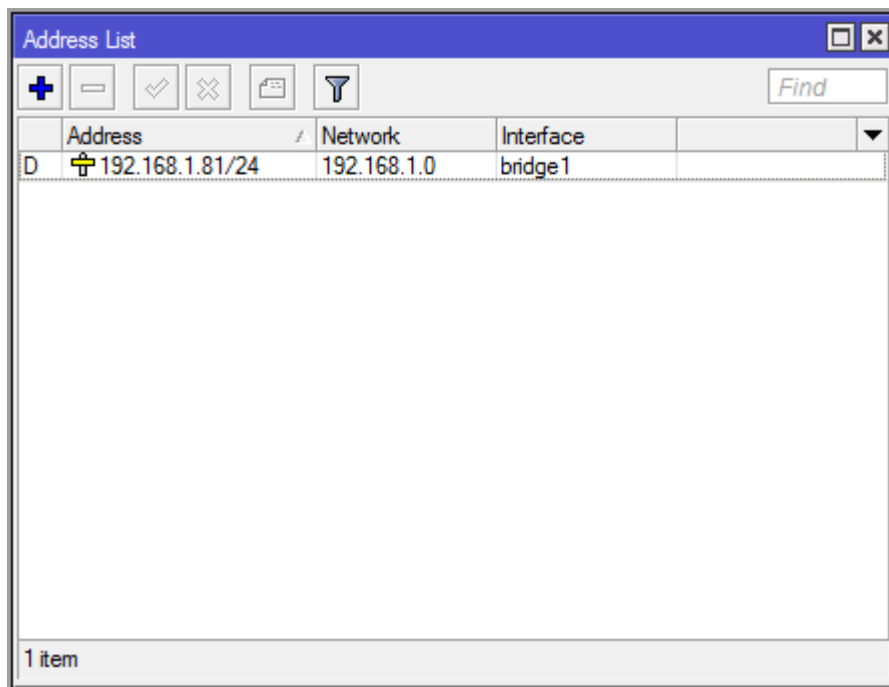[http://3.bp.blogspot.com/-LgW_cuJYjtc/Ua0y3A2SrSI/AAAAAAAAIJg/lgctrd5_g2Q/s1600/6.PNG]

Next switch all the Ethernet ports together using the "Master Port" function. Just set the master port to ether 1. Remember to do it for ether 2 ~ 5. You could of course just use the bridge function to do it, but utilizing the Master Port (switch) function uses almost no CPU cycles. So make this a habit to switch the ports together to get wire speeds rather than bridge it.
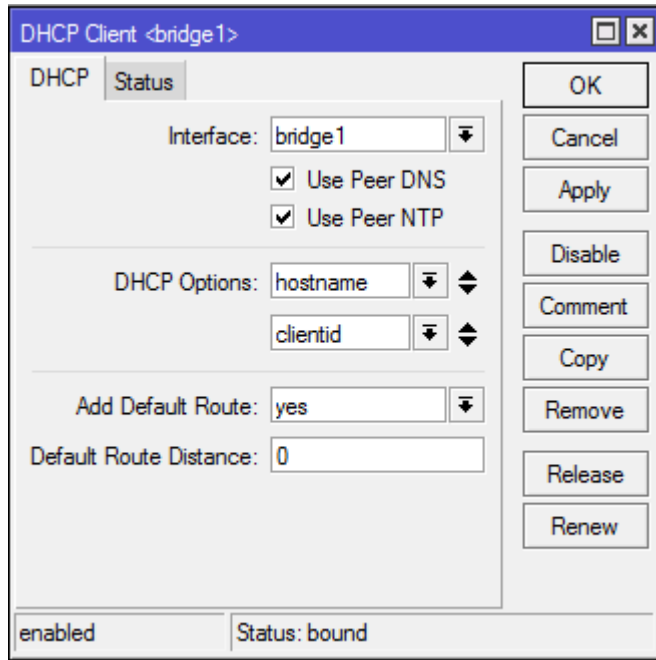
DHCP Client <bridge1>

DHCP | **Status**

Interface: bridge1

☑ Use Peer DNS
☑ Use Peer NTP

DHCP Options: hostname

clientid

Add Default Route: yes

Default Route Distance: 0

OK
Cancel
Apply
Disable
Comment
Copy
Remove
Release
Renew

enabled | Status: bound

Last step is to get an IP address for your Mikrotik device. You could just cheat and use a DHCP Client to obtain it. Remember to bind it to the **bridge1** interface. I decided to go DHCP because I really didn't care what IP it was, since it was being used as a dumb device (switch).

Address List

Find

	Address	/	Network	Interface	
D	192.168.1.81/24		192.168.1.0	bridge1	

1 item

However if you wanted, you could just set it up manually under the IP -> Address menu, by adding a static IP. Remove the DCHP client if you decide to do this.

If you get to this step, means you would have gotten the Wireless Bridge working.

CONCLUSION:

Because I didn't need anything additional routing features (QOS or queue), I shouldn't complicate matters. To keep it simple, imagine that I have a switch and it is connected to the main router via a very long network Cable. It is essentially what I have done, except that the long network is cable replaced with a Wireless Bridge.

TECHNICAL STUFF:

You can read more about the Wireless Modes [http://wiki.mikrotik.com/wiki/Manual:Wireless_Station_Modes] available on the Mikrotik. By using the *"station pseudobridge"*, I managed to setup my Mikrotik to work on a L2 level, essentially a dumb Switch. It would also work if I just used "*bridge*", however I would need to treat the Mikrotik as a router and do numerous settings and static routes.

Posted 3rd June 2013 by Eric Tan

Labels: Bridge, Mikrotik, Non-Mikrotik Wireless AP, Wireless Bridge, Wireless Bridge to AP

4 View comments

Anonymous January 2, 2017 at 12:12 PM

thanks for your post. What if you want to use DHCP Clients on your ETH ports instead using fixed IP on your final devices? How can you do that?

Reply

Gabriel Alves June 23, 2017 at 10:03 PM

Worked flawlessly. I had to manage this setup for a customer who wanted to connect his DVR (ethernet only) to the wireless network shared with his upper floor neighbour (i didn't even know their AP's model, no access at all to it). Thankfully the signal strength was basically always near-perfect.
Thanks!

Reply

Bogdan September 9, 2017 at 2:06 AM

Thanks a lot, man! That station-pseudobridge made all the difference. :)

Reply

Replies

Techy May 26, 2019 at 9:42 PM

http://mikrotrik.com/mikrotik-hap-wifi-router-wisp-mode-configuration

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