

Tunneling

In order to setup a tunnel connection between two AREDN nodes, one node needs to act as the server, and the other as the client. See the current [list of tunnels](#) to know who to contact.

In this example, VA7FI-HAP-1 is the server and VE7RBE-HAP-1 is the client (and the details are made up):

Server Side

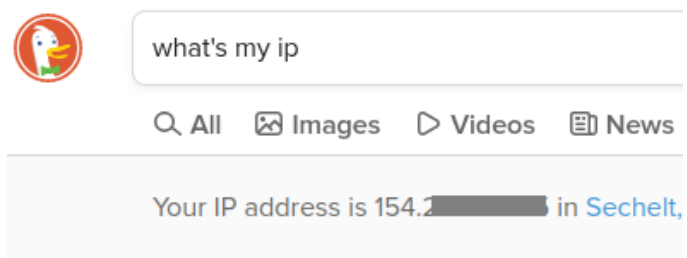
On [VA7FI-HAP-1's](#) Tunnel Server page:

Enabled?	Client	Pwd	Net	Active	Action
<input checked="" type="checkbox"/>	VE7RBE-HAP-1	password	172.31.39.164	<input checked="" type="checkbox"/>	

Contact Info/Comment (Optional): va7fi@rbox.me

- **Client:** VE7RBE-HAP-1 is Robert's node name.
- **Pwd:** Create a unique password for that node.
- **Net:** 172.31.39.164 is automatically assigned by the hAP.
- Some optional contact info can be added.

In addition to this information, VA7FI's public IP address will also need to be given to VE7RBE. To find your public IP address quickly, you can simply search for “what's my ip” in your favourite search engine:



Search for “what's my ip” in [DuckDuckGo](#)

what's my ip

[All](#) [News](#) [Maps](#) [Shopping](#)

What's my IP

154.12.201.102

Your public IP address

Search for “what's my ip” in [Google](#)

Client Side

On [VE7RBE-HAP-1's](#) Tunnel Client page:

Node Status	Basic Setup	Port Forwarding, DHCP, and Services	Tunnel Server	Tunnel Client	Administration	Advanced Configuration
Help Save Changes Reset Values Refresh						
Connect this node to the following servers:						
Enabled?	Server	Pwd	Network	Active	Action	
<input checked="" type="checkbox"/>	154.12.201.102	password	172.31.39.164	<input checked="" type="checkbox"/>	Del	
Contact Info/Comment (Optional): <input type="text" value="VA7FI@rbox.me"/>						

- **Server:** 154.12.201.102 is VA7FI-HAP-1's public IP address
- **Pwd:** is the password created by VA7FI
- **Network:** 172.31.39.164 is the **Net** address automatically generated by VA7FI-HAP-1

More About Public IP Addresses

Most residential internet services are given a single *dynamic* IP address, which means that the address can *change* every few days or so (or when the router power cycles). This means that when a server node suddenly gets a new public IP address, the client node can't find it anymore.

One solution is to use a [Dynamic_DNS](#) service like [No-IP](#). These services query your *dynamic* IP address, and translate it into a *static* hostname. It's that hostname that you then give the AREDN client (instead of your public IP address).

However, the No-IP service needs to be “told” when your dynamic IP address changes. This can be done by installing a small program that notifies them of the change, or alternatively, some routers have that

function already built in. For example, the No-IP account can be entered in the Telus T3200M router here:

[Advanced Setup](#) → Dynamic DNS

The screenshot shows the router's web interface. At the top, there is a green navigation bar with icons for Home, Status, Wireless Setup, Firewall, and Advanced Setup. The Advanced Setup icon, which shows a wrench and screwdriver, is highlighted with a red rectangle. Below the navigation bar, on the left, is a sidebar menu. Under the 'Blocking/Filtering' section, 'Dynamic DNS' is highlighted with a red rectangle. The main content area is titled 'Dynamic DNS' and contains the following steps:

- 1. Set the dynamic DNS state.**
Dynamic DNS State: ☒ Enable ☐ Disable
- 2. Select the dynamic DNS provider.**
Dynamic DNS provider:
- 3. Enter your username and password.**
Username:
Password:
- 4. Enter the dynamic DNS host name.**
Hostname:
- 5. Click Apply to save changes.**

With this setup, every time Telus gives me a new public IP address, the router notifies No-IP, which updates it so that `myfancyhostname.ddns.net` continues to point to my router. So using `myfancyhostname.ddns.net` instead of `154.12.201.102` as the Server address will ensure the connection continues when the IP address changes.

Port Forwarding

On Telus, I port 5525 had to be forwarded to the hAP. There are two steps to this:

DHCP Reservation

Just like Telus gives the router a *dynamic* WAN IP address, the router gives the home devices *dynamic* LAN IP addresses. The first step is to force the router to always give the same IP address to the hAP. On the T3200M this is done in:

[Advanced Setup](#) → DHCP Reservation


The screenshot shows the router's web interface. At the top, there is a navigation bar with icons for Home, Status, Wireless Setup, Firewall, and Advanced Setup. The Advanced Setup icon is highlighted with a red box. Below the navigation bar, on the left, is a sidebar menu with categories: Blocking/Filtering, IP Address, and others. Under the IP Address category, 'DHCP Reservation' is highlighted with a red box. The main content area is titled 'DHCP Reservation' and contains the following text: 'DHCP reservation leases a permanent DHCP allocated address to a client.' Below this, there are two steps: 1. Select MAC Address, or manually enter a MAC address. This step includes a dropdown menu for 'Select MAC Address' (set to 'Manually enter the MAC Address') and a text input field for 'Manually Add MAC Address:'. 2. Select an IP address to associate with a MAC address. This step includes a dropdown menu for 'IP Address' (set to 'Manually enter the IP address') and a text input field for 'Manually Add IP Address:'. At the bottom of the page, there is a table with one row showing 'VA7FI-HAP-1', '08:5...', '27', and '192.168.1.204', with a 'Remove' button next to it.


- Select the MAC address of the hAP from the list.
- Choose an IP address to assign it.
- Disconnect the hAP from the router and reconnect it to clear the IP.


Port Forwarding


Now that the hAP's LAN IP address is fixed, we can forward a port to it:


[Firewall](#) → Port Forwarding


Home


Status


Wireless Setup


Firewall


Advanced Setup

Firewall

- Firewall
- IPv6 Firewall
- Port Forwarding**
- Applications
- DMZ Hosting
- IPv6 DMZ Hosting
- UPnP

Port Forwarding

Enter ports or port ranges required to forward Internet applications to a LAN device below.

1. Set the LAN/WAN port and IP information.

Select LAN Device:

LAN IP Address:

External (WAN) Start Port:

External (WAN) End Port:

Internal (LAN) Start Port:

Internal (LAN) End Port:

Protocol:

2. Click Apply to save changes.

LAN START/ END PORT	PROTOCOL	LAN IP ADDRESS	WAN START/END PORT	MODIFY	REMOVE
5525/5525	TCP	192.168.1.204	5525/5525	<input type="button" value="Modify"/>	<input type="button" value="Remove"/>

- Select the hAP's IP address from the list
- Enter 5525 in all four Port fields
- Select TCP

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<https://wcaredn.ca/> - **West Coast
AREDN**

Permanent link:
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