

B. Select port wiphy0 and click Create

1 MAC-VLAN 802.1Q-VLAN Redirect Bridge Bond
 GRE Tunnel **WiFi STA** WiFi VAP WiFi Monitor WiFi Virtual Radio

2 Shelf: 1 Resource: 1 (1f0350-81e8) Port: 3 (wiphy0)

3 Quantity: 1

4 Basic Settings WiFi Settings Advanced Settings

VLAN ID:
STA ID:
Parent MAC: 04:f0:21:38:ad:b3
MAC Addr:
 DHCP-IPv4 Multiple Subnets
IP Address:
IP Mask or Bits:
Gateway IP:
#1 Redir Name:
#2 Redir Name:

5 Down

C. Select the **Wifi STA** button, then enter **MAC**, **Quantity**, **STA ID**, and **SSID**. Select the DHCP-IPv4 checkbox:

1 MAC-VLAN 802.1Q-VLAN Redirect Bridge Bond
 GRE Tunnel **WiFi STA** WiFi VAP WiFi Monitor WiFi Virtual Radio

2 Shelf: 1 Resource: 1 (1f0350-81e8) Port: 3 (wiphy0)

3 Quantity: 4

4 Basic Settings WiFi Settings Advanced Settings

VLAN ID:
STA ID: 0
Parent MAC: 04:f0:21:38:ad:b3
MAC Addr:
 DHCP-IPv4 Multiple Subnets
IP Address:
IP Mask or Bits:
Gateway IP:
#1 Redir Name:
#2 Redir Name:

5 Down

- A. In this example, all 4 virtual stations will connect to the same access point
- B. If your access point can serve DHCP, you can select the 'DHCP-IPv4' checkbox here to enable each virtual station as a DHCP client
- C. If you choose to enter IP addresses manually, the create function will increment the last octet of the IP address for each virtual station created
- D. Click **Apply** when finished

D. Verify that the virtual wireless stations are created

Port	Pha...	Down	IP	SEC	Alias	Parent Dev	RX Bytes	RX Pkts	Pps RX	bps RX	TX Bytes	TX Pkts	Pps TX	t
1.1.00			192.168.100.216	0	eth0		104,514,688	1,364,054	15	13,122	230,922,952	230,972	16	
1.1.01			10.1.1.7	0	eth1		747,276	4,850	0	48	699,364	4,990	0	
1.1.02		<input checked="" type="checkbox"/>	0.0.0.0	0	eth2		0	0	0	0	0	0	0	
1.1.03			0.0.0.0	0	wiphy0		8,770,822,...	13,489,...	37	73,887	4,797,568,...	3,196,706	0	
1.1.04			0.0.0.0	0	wiphy1		0	109	0	0	0	0	0	
1.1.05		<input checked="" type="checkbox"/>	0.0.0.0	0	wlan0	wiphy0	1,026	3	0	0	2,082	13	0	
1.1.06		<input checked="" type="checkbox"/>	0.0.0.0	0	wlan1	wiphy1	0	0	0	0	0	0	0	
1.1.07			10.1.5.11	0	sta0	wiphy0	2,371,710,...	1,580,197	0	35	2,443,823,...	1,608,241	0	
1.1.10			10.1.5.8	0	sta1	wiphy0	2,358,154,...	1,572,053	0	0	2,457,516,...	1,616,318	0	
1.1.11			10.1.5.9	0	sta2	wiphy0	444,146	3,281	0	0	511,478	3,871	0	
1.1.13			10.1.5.10	0	sta3	wiphy0	442,070	3,263	0	35	511,714	3,861	0	

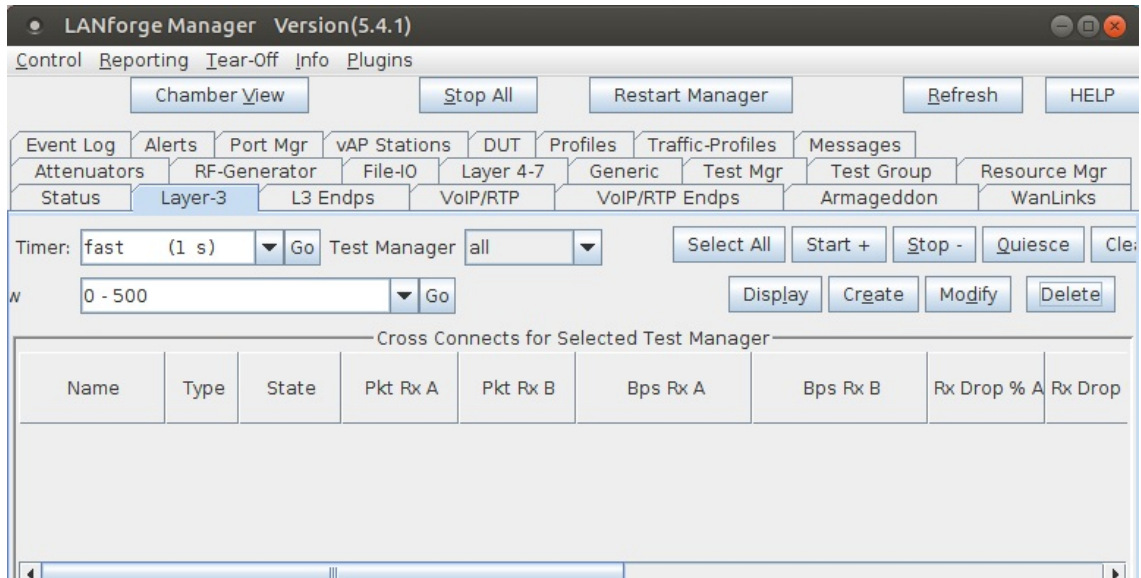
E. Scroll to the right to view each station's link quality and other interface details

d	bps TX LL	Bytes TX LL	bps RX LL	Bytes RX...	Reset	TX-Rate	RX-Rate	Status	AP	Channel	Mode	Activity	Sig
0	144,706	238,555,...	16,677	137,491,...	Complete	1 Gbps	1 Gbps					0	
0	0	819,124	0	863,676	Complete	1 Gbps	1 Gbps					0	
0	0	0	0	0	Complete	0 bps	0 bps					0	
0	23	4,797,5...	73,965	8,771,9...	Complete	0 bps	0 bps			0	802.11a...	1	
0	0	0	0	0	Complete	0 bps	0 bps			0	802.11a...	0	
0	0	2,082	0	1,026	Complete	0 Mbps	0 bps	NONE	Not-Ass...	0	802.11a...	1	0 dBm
0	0	0	0	0	Complete	0 Mbps	0 bps	NONE	Not-Ass...	0	AUTO 20	0	0 dBm
0	0	2,443,8...	0	2,371,7...	Complete	6 Mbps	351 Mbps	Authorized	04:F0:21...	36	802.11a...	1	-63 dB
0	0	2,457,5...	0	2,358,1...	Complete	6 Mbps	351 Mbps	Authorized	04:F0:21...	36	802.11a...	1	-63 dB
0	39	511,964	34	444,572	Complete	6 Mbps	351 Mbps	Authorized	04:F0:21...	36	802.11a...	1	-63 dB
0	0	511,714	0	442,070	Complete	87.8 Mbps	351 Mbps	Authorized	04:F0:21...	36	802.11a...	1	-63 dB

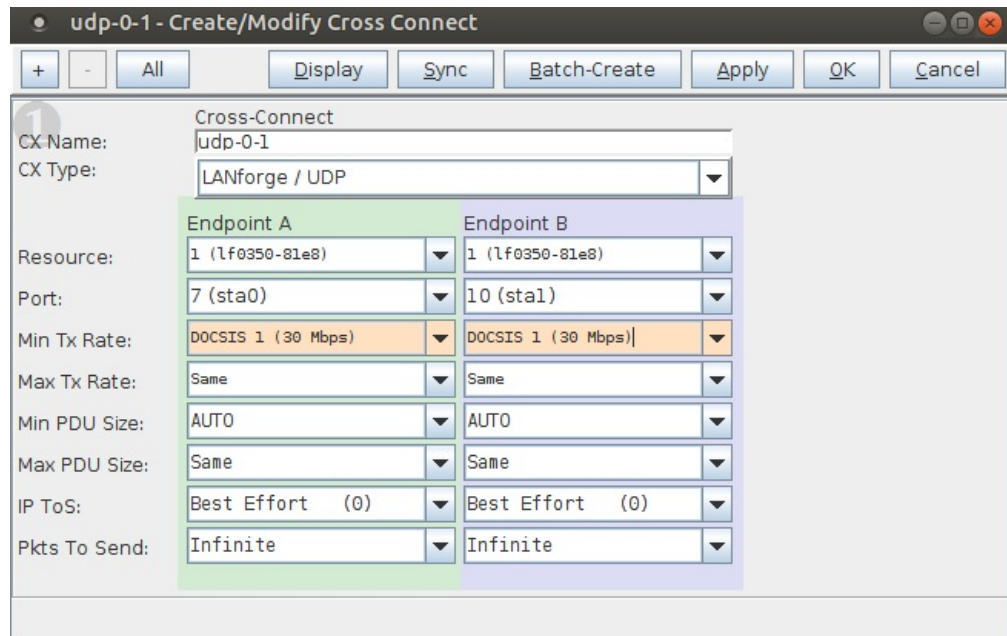
For more information see [LANforge User's Guide: Ports \(Interfaces\)](#)

2. Create Layer-3 connections between the station interfaces.

A. Go to the **Layer-3** tab and click **Create**



B. Create a station-to-station UDP speed test:



A. **Test 1:** sta0-sta1, UDP, 30Mbps

C. Create a station-to-station TCP speed test:

A. **Test 1:** sta0-sta1, TCP, 1.54Mbps bi-directional traffic

For more information see [LANforge User's Guide: Layer-3 Cross-Connects \(FIRE\)](#)

3. Run traffic tests concurrently, and view results.

A. This example shows little packet loss, however being that this is traffic sent wirelessly via stations, there may be interruptions due to busy channel frequencies, if needed, adjust your Tx rate accordingly.

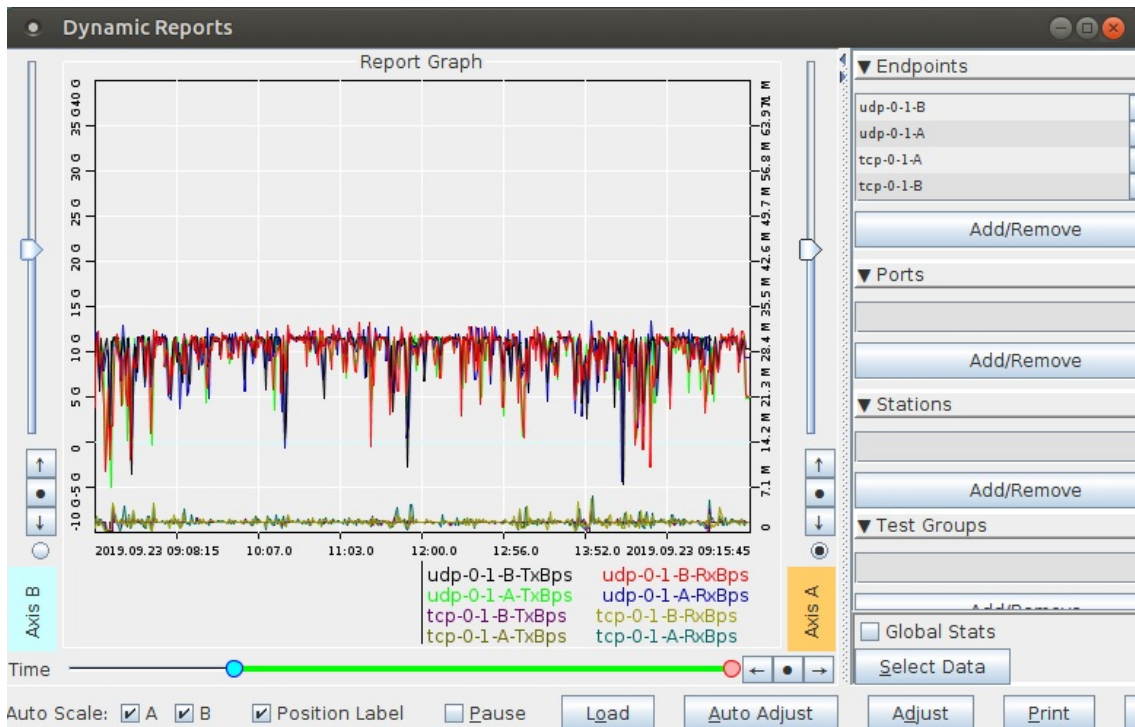
Name	Type	State	Pkt Rx A	Pkt Rx B	Bps Rx A	Bps Rx B	Rx Drop % A	Rx Drop
tcp-0-1	LF/TCP	Run	22	23	1,437,232	1,445,531	4.348	
udp-0-1	LF/UDP	Run	19,723	20,615	28,522,417	29,094,228	0	

B. The **Layer-3 Endpoints** tab has more detail.

The screenshot shows the LANforge Manager interface. The 'Layer-3 Endps' tab is selected. Below the navigation tabs, there are configuration options for 'U Size' (set to AUTO), 'Rate' (set to New Modem (56 Kbps)), and 'MAX Tx Rate' (set to Same). A table titled 'All Endpoints' displays the following data:

Name	EID	Run	Mng	Script	Tx Rate	Tx Rate (1 min)	Tx Rate (last)	Tx Rate LL
tcp-0-1-A	1.1.7.7	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	None	1,441,042	1,444,123	1,563,483	1,636,842
tcp-0-1-B	1.1.10.8	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	None	1,483,618	1,493,826	1,565,038	1,648,968
udp-0-1-A	1.1.7.5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	None	27,559,037	27,565,469	29,943,347	30,596,386
udp-0-1-B	1.1.10.6	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	None	28,705,922	28,804,337	30,432,095	31,337,008

C. Select the cross-connects or endpoints and Right-Click → Dynamic Report on the **L3 Endp** or **Layer-3** table to view a live report of the connections.



For more information see [LANforge User's Guide: Layer-3 Endpoints \(FIRE\)](#)

For more information see [LANforge User's Guide: Reporting](#)