

First-time User Introduction to LANforge: Scripting and GUI

Goal: This outline is a rough and generic overview of our GUI. This outline, that references other Candela Technologies documentation on our website, briefly covers basic GUI tasks and traffic generation that may be shown to a new customer whom has never used the GUI before, without overloading them with great detail.



1. **Table of Contents**

- A. Basic GUI port manager layout and introduction
 - A. Editing the GUI tabs and Port Manager to display relevant information
 - B. Changing Columns in the Port Manager

- B. LANforge GUI Tab Introduction
 - A. Status
 - B. Port Mgr
 - C. Layer-3, Layer-3 Endps
 - D. Layer 4-7
 - E. Resource Mgr
 - F. Messages, Warnings, Wifi Messages
 - G. Using Netsmith

- C. Station Creation
 - A. Searching for Active SSIDs & Connecting to a Particular SSID

- D. MAC-VLAN Creation

- E. Bridge Creation

- F. Virtual AP (VAP) Creation

- G. Monitor Creation

- H. Layer-3 Cross-Connection

- I. Layer-4 Cross Connection

- J. Introduction to Chamber View & Running Scripts in Chamber View

2. **Basic GUI Port Manager layout and introduction:**

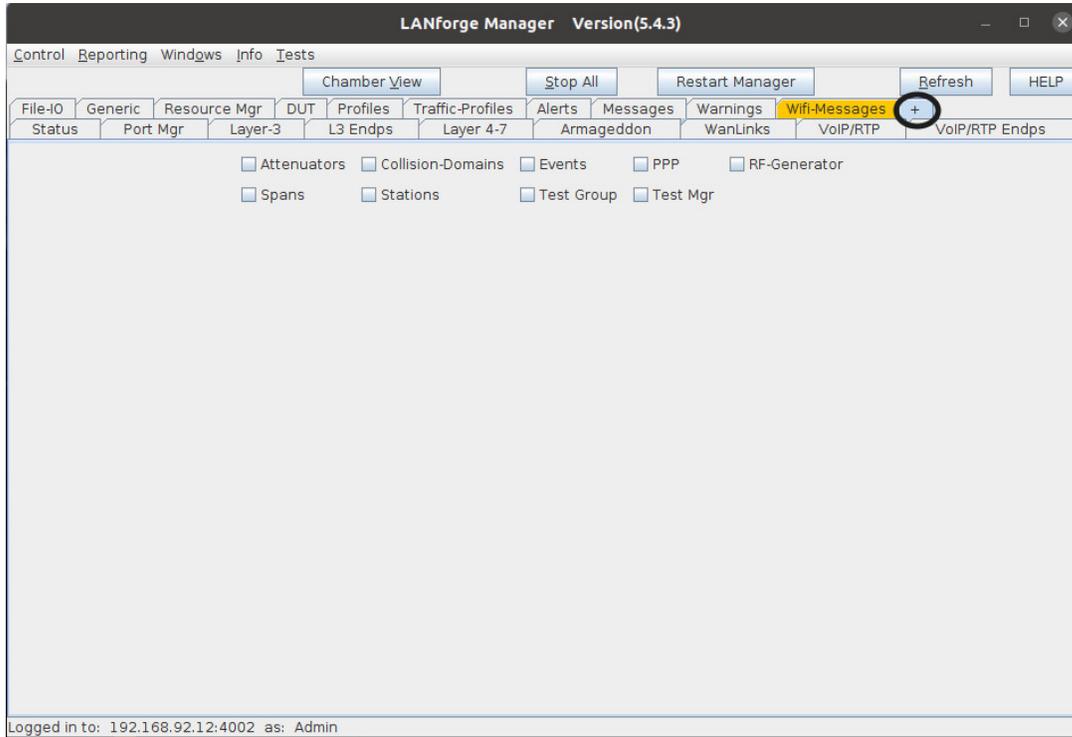
- o After connecting the GUI, the interface will automatically open to the *Status* page. There are 28 tabs/pages that the GUI has, not including the *Netsmith* View and the *Chamber View*.

A. **Editing the GUI tabs and Port Manager to display relevant information**

- Upon opening the GUI, several default GUI tabs open as well. Depending on what upcoming WiFi testing must occur, more (or less) GUI tabs may need to be open than the ones defaulted.
- When running python scripts aimed to automate the GUI, the tabs that the actions in the script are occurring in must be displayed in the GUI (unless the user is running the GUI in headless mode).

A. To **display** tabs that are hidden:

- Click on the **+** tab under *Refresh* in the top right hand corner. Then, select which tabs to add to the GUI display.

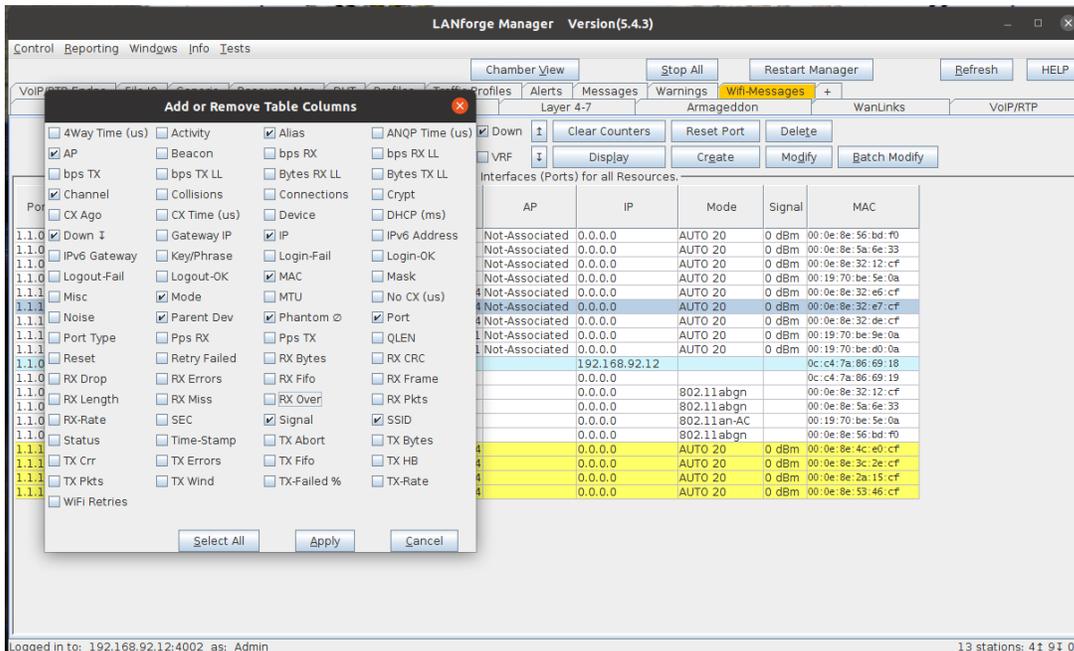


B. To **hide** tabs that are currently displayed:

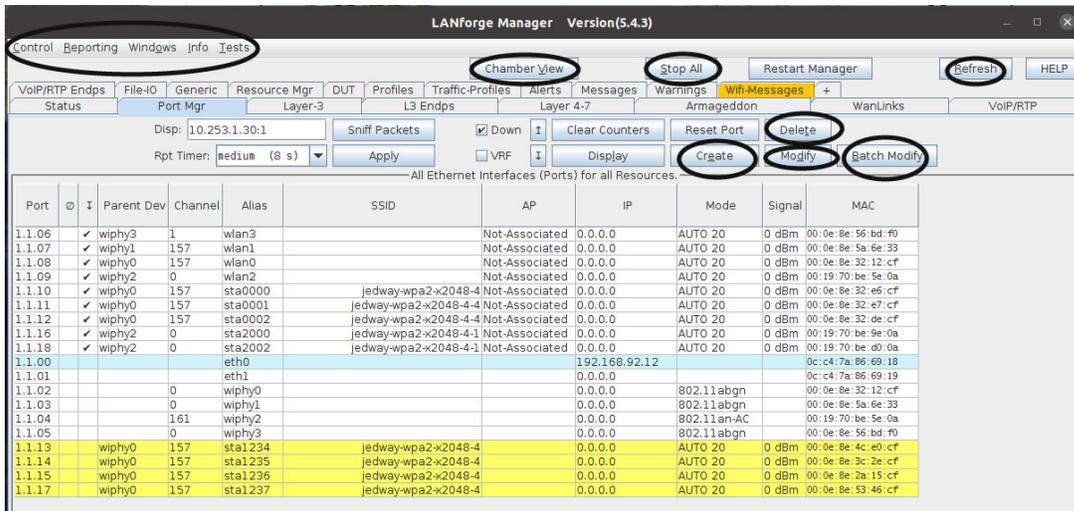
- Right-click the mouse on any tab that is aimed to remove and click *Hide*. This will remove the tab from the GUI interface currently and will be placed under the **+** category.

B. Customization of Column Display in the Port Manager

A. In the second tab, *Port Manager*, comes downloaded with all the tab columns selected to be displayed (73 columns). To change which columns are selected and displayed, Right-click the mouse in any column space and select *Add/Remove Table Columns*. From that point, select the necessary columns wished to be displayed in the *Port Manager*.



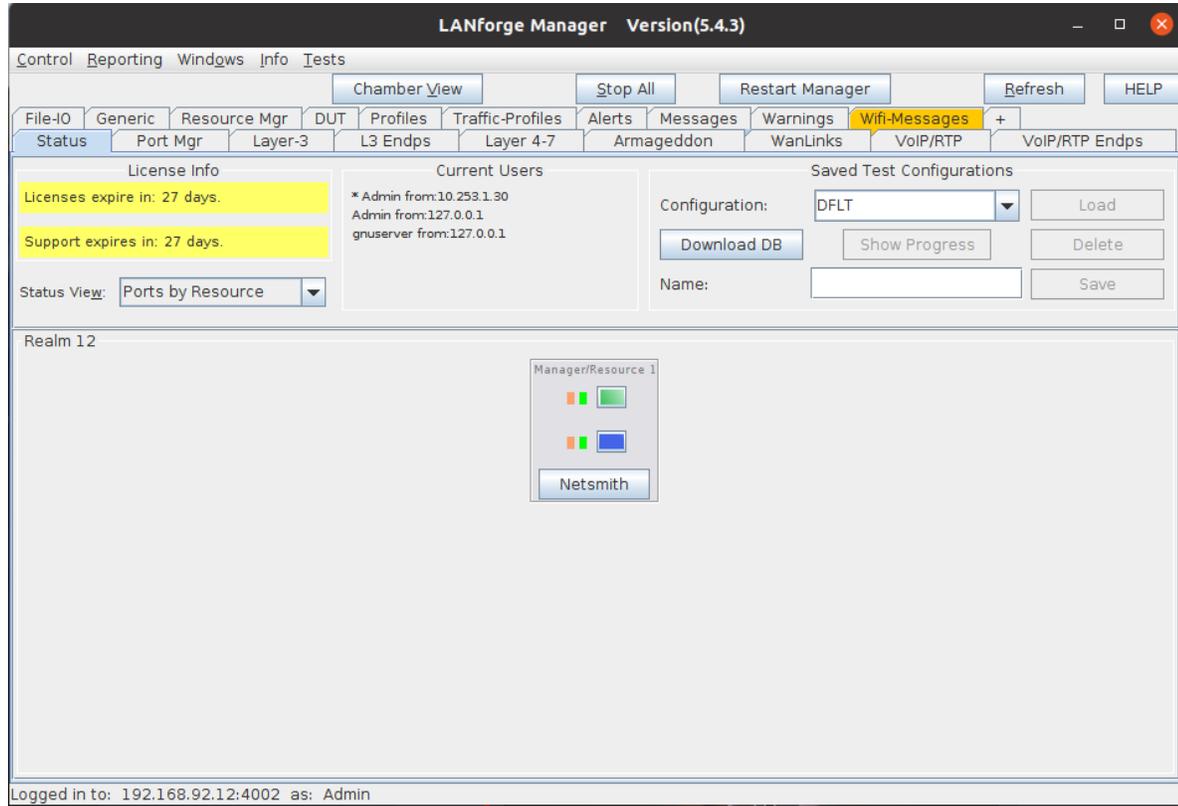
- B. After selecting the columns that wish to be displayed, Right-click the mouse again in the body/rows of the *Port Manager* and select *Save-table Layout*. This will make sure the changes don't revert the next time the GUI is opened and closed.
- C. After resizing, one can also Right-click the mouse in the body/rows of the *Port Manager* and select *Auto-size*, to auto-size the columns to make sure that all the words under each column are in vision at first glance.
- D. Tip: hot-keys are enabled throughout the entirety of the GUI. In some places in the GUI, there are lines underneath some letters in buttons. To use the keyboard shortcut for that button, press Alt + that letter underlined in the word to press the button. This also works for drop-down menus when the shortcut is enabled via an underlined letter in a word. **Note:** MAC users need to use key combo **ctrl+alt** + letter to do shortcuts. Circled below are some examples of hotkeys enabled.



3. LANforge GUI Tab Introduction

A. **Status** tab:

Please read the see also below (LANforge Manager) to read about the LANforge Status tab. This is where information about the server is typically stored, configurations of the GUI are able to be saved, and where the *Netsmith* is.



For more information see [Step 2: LANforge Manager](#)

B. Port Mgr tab:

The *Port Mgr* tab is where all the ports and representations of the radios, wifi objects, and ethernet connections are located. The *Port Mgr* (or *Port Manager*) includes the location/appearance of all further MAC-VLANs, 802.1Q-VLANs, Redirects, Bridges, Bonds, GRE Tunnels, WiFi Stations, WiFi VAPs, WiFi Monitors and WiFi Virtual Radios. Please read more about the *Port Mgr* tab next to *see-also* below

The screenshot shows the LANforge Manager GUI with the Port Mgr tab selected. The interface includes a menu bar (Control, Reporting, Windows, Info, Tests), a toolbar with buttons like Stop All, Restart Manager, Refresh, and HELP, and a navigation pane with tabs for File-I/O, Generic, Resource Mgr, DUT, Profiles, Traffic-Profiles, Alerts, Messages, Warnings, Wifi-Messages, WanLinks, and VoIP/RTP. The main area displays a table titled "All Ethernet Interfaces (Ports) for all Resources." with columns for Port, Parent Dev, Channel, Alias, SSID, AP, IP, Mode, and Signal. The table lists various ports and their configurations, including wireless interfaces (wiphy) and ethernet interfaces (eth).

Port	Parent Dev	Channel	Alias	SSID	AP	IP	Mode	Signal
1.1.06	wiphy3	1	wlan3		Not-Associated	0.0.0.0	AUTO 20	0 dBm 00:0e:8
1.1.07	wiphy1	157	wlan1		Not-Associated	0.0.0.0	AUTO 20	0 dBm 00:0e:8
1.1.08	wiphy0	157	wlan0		Not-Associated	0.0.0.0	AUTO 20	0 dBm 00:0e:8
1.1.09	wiphy2	0	wlan2		Not-Associated	0.0.0.0	AUTO 20	0 dBm 00:19:7
1.1.10	wiphy0	157	sta0000	jedway-wpa2-x2adasdasd048-4-4	Not-Associated	0.0.0.0	AUTO 20	0 dBm 00:0e:8
1.1.11	wiphy0	157	sta0001	jedway-wpa2-x2048-4-4	Not-Associated	0.0.0.0	AUTO 20	0 dBm 00:0e:8
1.1.12	wiphy0	157	sta0002	jedway-wpa2-x2048-4-4	Not-Associated	0.0.0.0	AUTO 20	0 dBm 00:0e:8
1.1.16	wiphy2	0	sta2000	jedway-wpa2-x2048-4-1	Not-Associated	0.0.0.0	AUTO 20	0 dBm 00:19:7
1.1.18	wiphy2	0	sta2002	jedway-wpa2-x2048-4-1	Not-Associated	0.0.0.0	AUTO 20	0 dBm 00:19:7
1.1.00			eth0			192.168.92.12		0c:c4:7
1.1.01			eth1			0.0.0.0		0c:c4:7
1.1.02		0	wiphy0			0.0.0.0	802.11abgn	00:0e:8
1.1.03		0	wiphy1			0.0.0.0	802.11abgn	00:0e:8
1.1.04		161	wiphy2			0.0.0.0	802.11an-AC	00:19:7
1.1.05		0	wiphy3			0.0.0.0	802.11abgn	00:0e:8
1.1.13	wiphy0	157	sta1234	jedway-wpa2-x2048-4		0.0.0.0	AUTO 20	0 dBm 00:0e:8
1.1.14	wiphy0	157	sta1235	jedway-wpa2-x2048-4		0.0.0.0	AUTO 20	0 dBm 00:0e:8
1.1.15	wiphy0	157	sta1236	jedway-wpa2-x2048-4		0.0.0.0	AUTO 20	0 dBm 00:0e:8
1.1.17	wiphy0	157	sta1237	jedway-wpa2-x2048-4		0.0.0.0	AUTO 20	0 dBm 00:0e:8

Logged in to: 192.168.92.12:4002 as: Admin 13 stations: 41 91 02

For more information see [Ports \(Interfaces\)](#)

C. Layer-3 tab, L3 Endps tab:

The *Layer-3* tab are where Layer-3 WiFIRE traffic connections are made, started, stopped, modified, and displayed. Each cross-connects have 2 endpoints each. These endpoints and the traffic/data associated with them are found and elaborated under the *L3 Endps* tab in the GUI. Please visit the introduction to Layer-3 Cross-Connects, linked below, for a general overview.

The screenshot shows the LANforge Manager GUI with the L3 Endps tab selected. The interface includes a menu bar (Control, Reporting, Tear-Off, Info, Plugins), a toolbar with buttons like Stop All, Restart Manager, Refresh, and HELP, and a navigation pane with tabs for Attenuators, File-I/O, Layer-4, Test Mgr, Test Group, Resource Mgr, Event Log, Alerts, Port Mgr, and Messages. The main area displays a table titled "Cross Connects for Selected Test Manager" with columns for Name, Type, State, Pkt Rx A → B, Pkt Rx A ← B, Rate A → B, Rate A ← B, Rx Drop % A, Rx Drop % B, Drop Pkts A, Drop Pkts B, and Avg RTT. The table lists various cross-connects (xcdx) and their performance metrics.

Name	Type	State	Pkt Rx A → B	Pkt Rx A ← B	Rate A → B	Rate A ← B	Rx Drop % A	Rx Drop % B	Drop Pkts A	Drop Pkts B	Avg RTT
xcdx-1	LF/UDP	Run	17,294	17,549	9,998,239	9,997,437	0	0	0	0	1
xcdx-10	LF/UDP	Run	17,377	17,716	9,997,632	9,996,340	0	0	0	0	0
xcdx-2	LF/UDP	Run	17,548	17,802	9,997,351	9,996,964	0	0	0	0	0
xcdx-3	LF/UDP	Run	17,633	17,802	9,997,891	9,996,964	0	0	0	0	0
xcdx-4	LF/UDP	Run	17,633	17,802	9,997,891	9,996,964	0	0	0	0	1
xcdx-5	LF/UDP	Run	17,718	17,036	9,997,947	9,992,326	0	0	0	0	1
xcdx-6	LF/UDP	Run	17,718	17,044	9,997,947	9,997,018	0	0	0	0	1
xcdx-7	LF/UDP	Run	17,718	17,044	9,997,947	9,997,018	0	0	0	0	1
xcdx-8	LF/UDP	Run	17,718	17,044	9,997,947	9,997,516	0	0	0	0	1

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For more information see [Layer-3 Cross-Connects \(FIRE\)](#)

D. Layer 4-7 tab:

The 'Layer 4-7' tab is currently where *Layer-4* HTTP, HTTPS, FTP, FTPS, TFTP, SCP and SFTP endpoints are made. These are stateful protocols that will communicate properly with third-party servers. FTP, FTPS, TFTP, SCP and SFTP can upload and download, and the other protocols are only for downloading. The Layer 4-7 tab is used to manage Layer 4-7 endpoints.

LANforge Manager Version(5.2.4)

Control Reporting Tear-Off Help

Stop All Restart Manager Refresh HELP

Layer-4 Generic Test Mgr Resource Mgr Serial Spans PPP-Links Event Log Alerts Port Mgr Messages

Status Layer-3 L3 Endps VoIP/RTP VoIP/RTP Endps Armageddon WanLinks Collision-Domains File-IO

Rpt Timer: fast (1 s) Go Test Manager all Select All Start Stop Quiesce Clear

View 0 - 200 Display Create Modify Batch Modify Delete

Layer-4 Endpoints for Selected Test Manager												
Name	EID	Type	Status	Total-URLs	URLs/s	Bytes-RD	Bytes-WR	Tx Rate	Tx Rate(1)	Rx Rate	Rx Rate(1)	
ftp-lb-1	1.1.18...	L4/Gen	Stopped	0	0	0	0	0	0	0	0	
google-0...	1.1.0.62	L4/Gen	Run	7	0.143	307,084	0	0	0	50,211	50,338	
google-0...	1.1.0.63	L4/Gen	Run	8	0.163	333,384	0	0	0	54,177	54,280	
google-0...	1.1.0.64	L4/Gen	Run	7	0.142	322,814	0	0	0	52,466	52,476	
google-0...	1.1.47.65	L4/Gen	Uninitializ...	0	0	0	0	0	0	0	0	
google-0...	1.1.48.66	L4/Gen	Uninitializ...	0	0	0	0	0	0	0	0	
google-0...	1.1.49.67	L4/Gen	Uninitializ...	0	0	0	0	0	0	0	0	
google-0...	1.1.50.68	L4/Gen	Uninitializ...	0	0	0	0	0	0	0	0	

Logged in to: 192.168.100.138:4002 as: Admin

For more information see [Layer 4-7](#)

E. Resource Mgr tab:

The *Resource Mgr* tab displays information on all Resources discovered by the LANforge server and provides the ability to perform system functions on selected machines (one or more). The definition of a resource is a LANforge machine that belongs to a numbered realm. The realm 255 is always a stand-alone realm while the realm resource 1 is the manager. The Resource Mgr tab displays LANforge servers in the same realm. LANforge systems have to be manually numbered, two LANforge systems with the same resource ID will confuse the manager resource. Please visit the link below for more information on the *Resource Mgr*

LANforge Manager Version(5.2.4)

Control Reporting Tear-Off Help

Stop All Restart Manager Refresh HELP

Layer-4 Generic Test Mgr Resource Mgr Serial Spans PPP-Links Event Log Alerts Port Mgr Messages

Status Layer-3 L3 Endps VoIP/RTP VoIP/RTP Endps Armageddon WanLinks Collision-Domains File-IO

Rpt Timer: fast (1 s) Go Test Manager all Select All Start Stop Quiesce Clear

View 0 - 200 Display Create Modify Batch Modify Delete

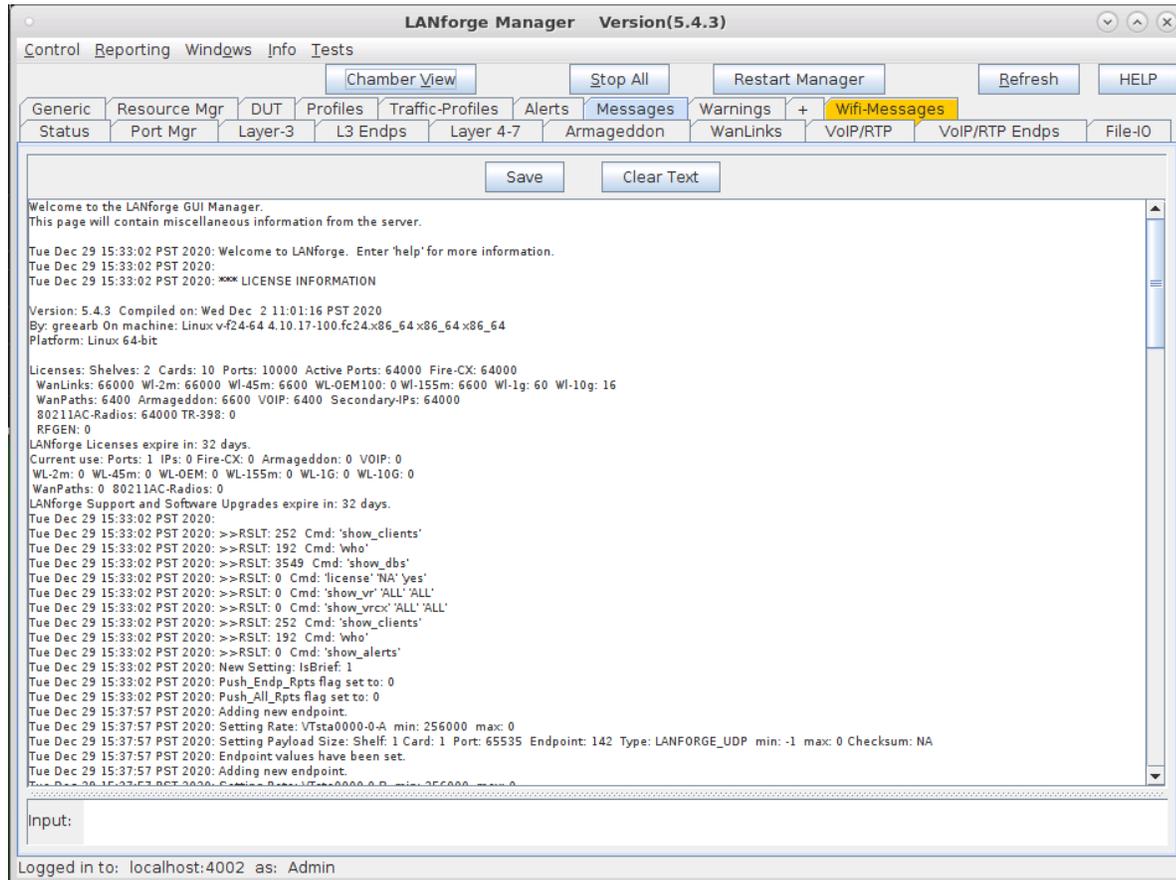
Layer-4 Endpoints for Selected Test Manager												
Name	EID	Type	Status	Total-URLs	URLs/s	Bytes-RD	Bytes-WR	Tx Rate	Tx Rate(1)	Rx Rate	Rx Rate(1)	
ftp-lb-1	1.1.18...	L4/Gen	Stopped	0	0	0	0	0	0	0	0	
google-0...	1.1.0.62	L4/Gen	Run	7	0.143	307,084	0	0	0	50,211	50,338	
google-0...	1.1.0.63	L4/Gen	Run	8	0.163	333,384	0	0	0	54,177	54,280	
google-0...	1.1.0.64	L4/Gen	Run	7	0.142	322,814	0	0	0	52,466	52,476	
google-0...	1.1.47.65	L4/Gen	Uninitializ...	0	0	0	0	0	0	0	0	
google-0...	1.1.48.66	L4/Gen	Uninitializ...	0	0	0	0	0	0	0	0	
google-0...	1.1.49.67	L4/Gen	Uninitializ...	0	0	0	0	0	0	0	0	
google-0...	1.1.50.68	L4/Gen	Uninitializ...	0	0	0	0	0	0	0	0	

Logged in to: 192.168.100.138:4002 as: Admin

For more information see [Resources \(Data Generator Machines\)](#)

F. Messages, Warnings, Wifi-Messages Mgr tab:

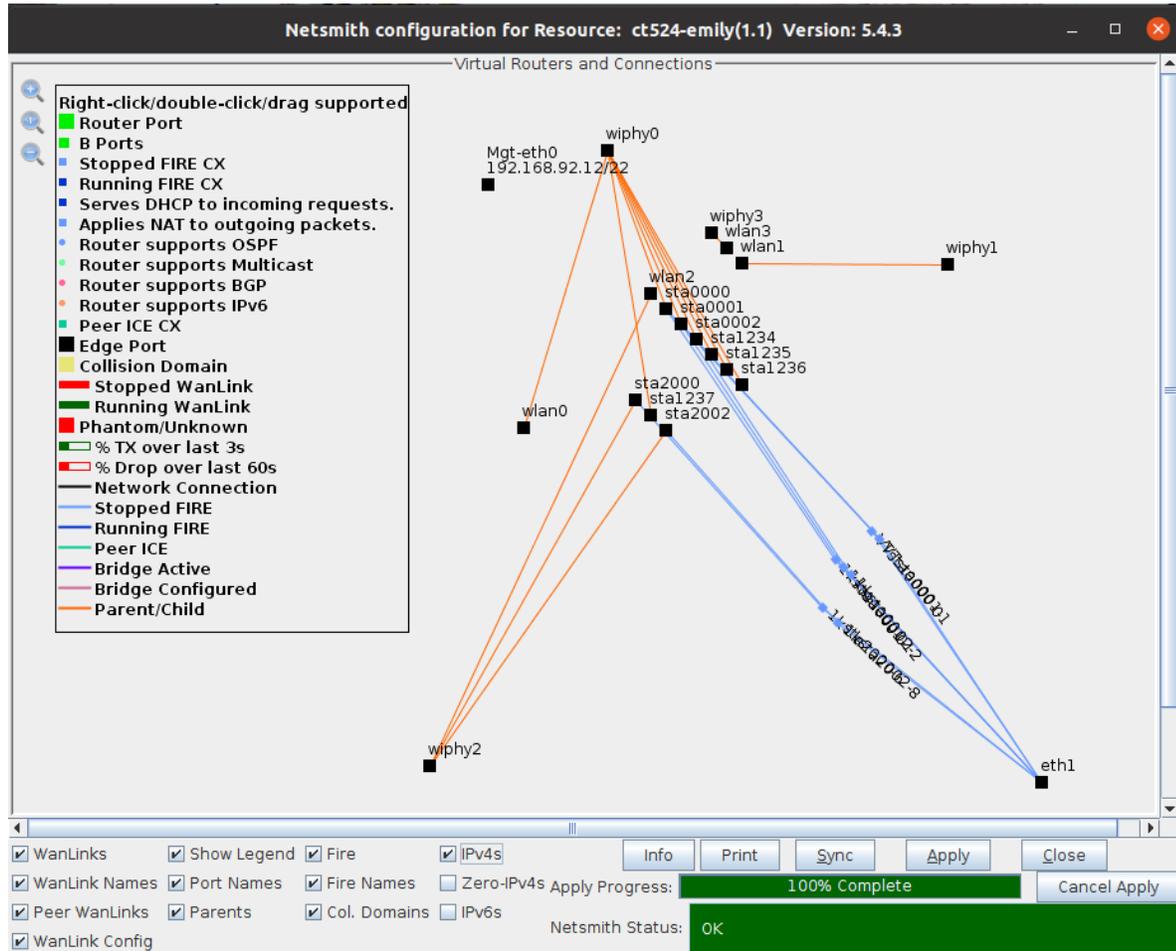
The *Messages*, *Warnings* and *Wifi-Messages* tab are all tabs that should be open at all times. All these tabs contain important information about the LANforge GUI Interface. The *Messages* tab displays detailed CLI command feedback from the LANforge Server. When scripting, command failures can be shown here. If any one of these 3 tabs are highlighted/have a yellow background in the tab bar, there is a new update in that yellowed tab. For information on any other tabs, besides the ones mentioned above, please visit the link below *LANforge-GUI User Guide: Tab Display Preferences* for further tab descriptions.



For more information see [Tab Display Preferences](#)

G. Using Netsmith tab:

In the LANforge GUI, on the *Status* page there is a small button named *Netsmith*. It is a tool used to help visualize the relationships of ports and cross connects defined in the resource you are viewing. There is a separate *Netsmith* view for each LANforge resource in your realm. There are several ways to edit the GUI objects in *Netsmith*, display the different up-to-date connections in the GUI, and what is shown in *Netsmith*. Please visit the link below to understand how to use *Netsmith* in greater detail.



For more information see [Netsmith: Virtual Network Configurator](#)

4. Station Creation:

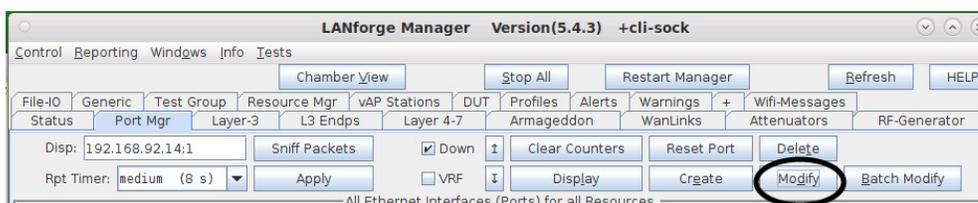
Please visit Step 1 of the following cookbook below to learn how to Create a Station in the LANforge-GUI. Please visit the link at the bottom of this section on how to script a station in the GUI.

A. Searching for Active SSIDs & Connecting to a Particular SSID:

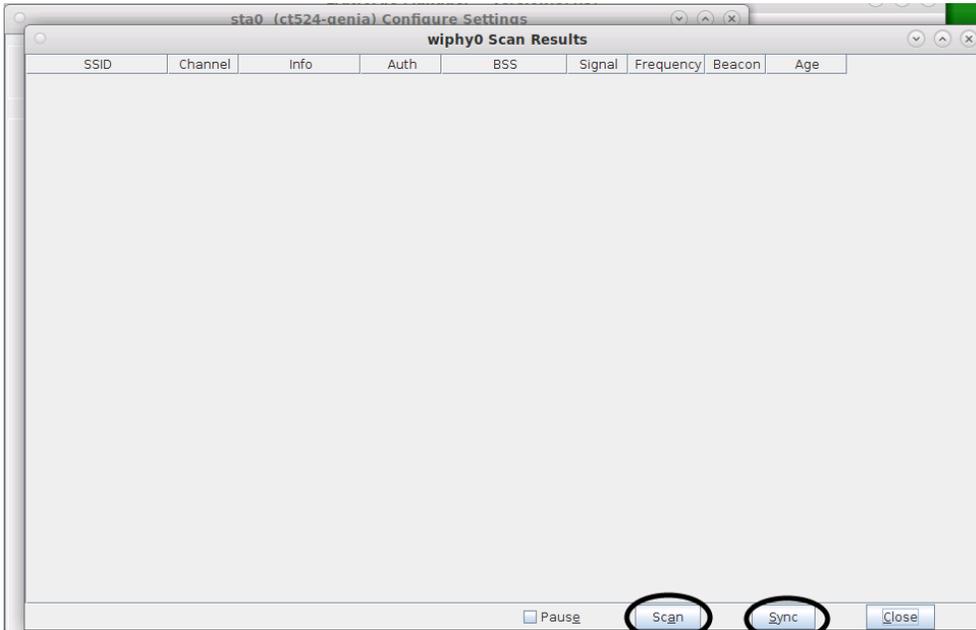
Often times, there may be an active network around, but the LANforge GUI does not have the network registered as "able to be connected to". To allow this network to be recognized, one must **scan** in the GUI object's settings to make sure that the object sees this network.

See below for an example:

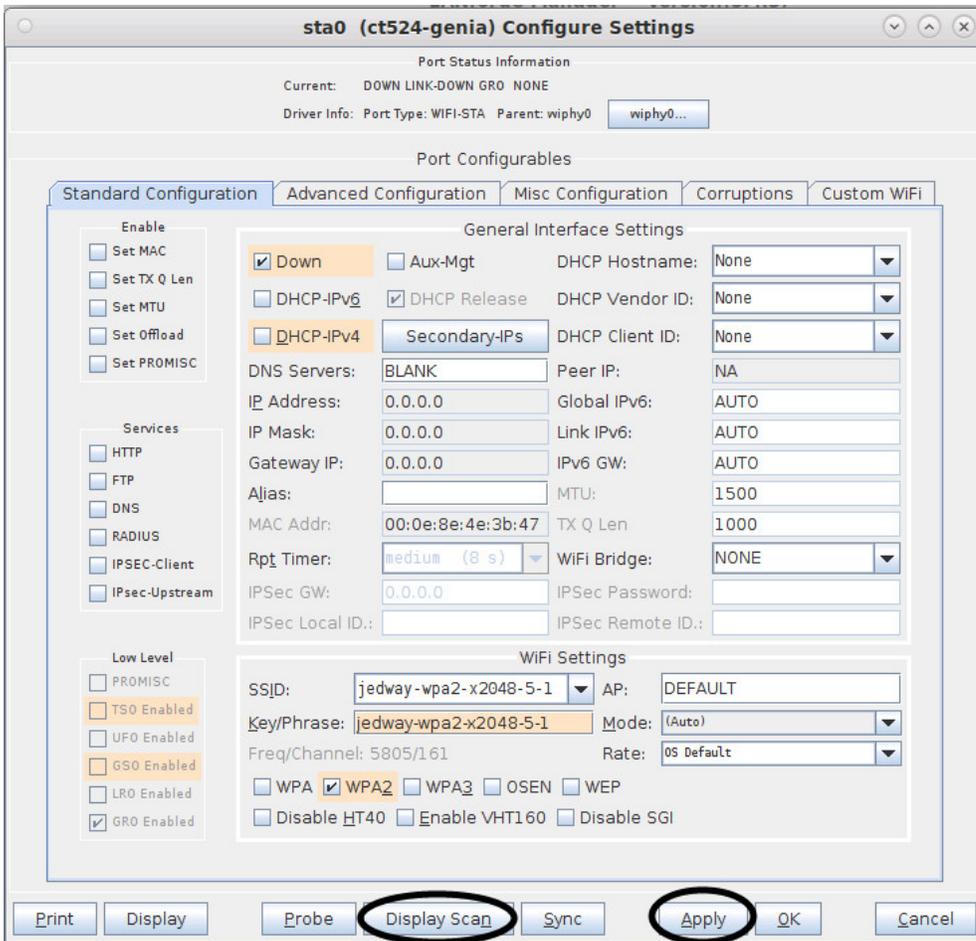
- Double-click or select *Modify* on a station in the Port Mgr to pop up *Configure Settings* window.



- II. However, the GUI isn't registering that as a proper network because selecting *Display Scan*, *Scan*, and *Sync* in the *Configure Settings* shows no networks are found and discovered in the GUI.



- III. Type in the desired SSID, Key/Phrase, and select the appropriate Security to be used (WPA/WPA2/WPA3... etc) located within the *WiFi Settings* panel (shown below). Select *Apply*. *Apply* will trigger the LANforge GUI to start searching for currently active SSIDs.



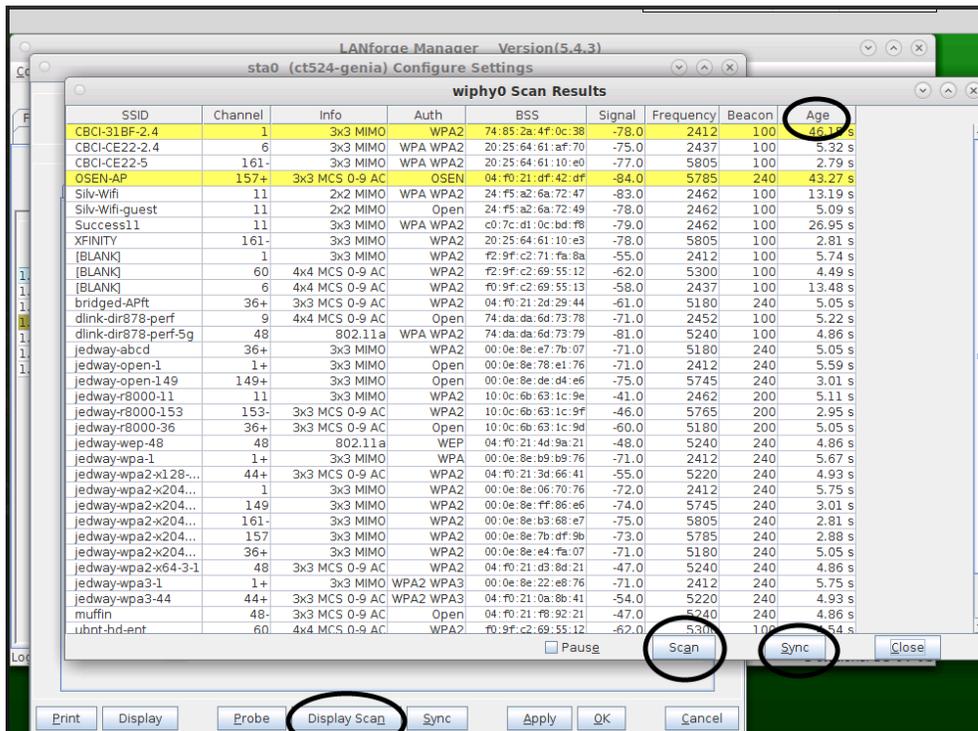
IV. Then, select *Display Scan* in the bottom bar, as highlighted in the picture above. Something similar to the Window in the picture below will pop up. Then click on *Scan* (circled below) and *Sync*. Now, the most recent active networks should be scanned and displayed in a similar window to below by the GUI. The example below indicates that the radio (*wiphy0*) has now found current, active networks. Also, the far right corner of the table displays the age of the networks, so if the *Age* is too old after the recent scanning, it might be time to restart the network or pick a new network.

Note: If there are no scan results, the radio is probably set to a specific channel. The radio channel configuration may need to be changed or the object must be created on a different radio.

The screenshot shows the LANforge Manager interface. A window titled "wiphy0 Scan Results" is open, displaying a table of scan results. The table has columns for SSID, Channel, Info, Auth, BSS, Signal, Frequency, Beacon, and Age. The "Age" column is circled in red. Below the table, there are buttons for "Pause", "Scan", and "Sync", with "Scan" and "Sync" also circled in red. At the bottom of the main window, there are buttons for "Print", "Display", "Probe", "Display Scan", "Sync", "Apply", "OK", and "Cancel", with "Display Scan" circled in red.

SSID	Channel	Info	Auth	BSS	Signal	Frequency	Beacon	Age
CBCI-31BF-2.4	1	3x3 MIMO	WPA2	74:85:2a:4f:0c:38	-78.0	2412	100	46.1 s
CBCI-CE22-2.4	6	3x3 MIMO	WPA WPA2	20:25:64:61:af:70	-75.0	2437	100	5.32 s
CBCI-CE22-5	161-	3x3 MIMO	WPA WPA2	20:25:64:61:10:e0	-77.0	5805	100	2.79 s
OSEN-AP	157+	3x3 MCS 0-9 AC	OSEN	04:f0:21:df:42:df	-84.0	5785	240	43.27 s
Silv-Wifi	11	2x2 MIMO	WPA WPA2	24:f5:a2:6a:72:47	-83.0	2462	100	13.19 s
Silv-Wifi-guest	11	2x2 MIMO	Open	24:f5:a2:6a:72:49	-78.0	2462	100	5.09 s
Success11	11	3x3 MIMO	WPA WPA2	c0:7c:d1:0c:bd:f8	-79.0	2462	100	26.95 s
XFINITY	161-	3x3 MIMO	WPA2	20:25:64:61:10:e3	-78.0	5805	100	2.81 s
[BLANK]	1	3x3 MIMO	WPA2	f2:9f:c2:71:fa:8a	-55.0	2412	100	5.74 s
[BLANK]	60	4x4 MCS 0-9 AC	WPA2	f2:9f:c2:69:55:12	-62.0	5300	100	4.49 s
[BLANK]	6	4x4 MCS 0-9 AC	WPA2	f0:9f:c2:69:55:13	-58.0	2437	100	13.48 s
bridged-APft	36+	3x3 MCS 0-9 AC	WPA2	04:f0:21:2d:29:44	-61.0	5180	240	5.05 s
dlink-dir878-perf	9	4x4 MCS 0-9 AC	Open	74:da:da:6d:73:78	-71.0	2452	100	5.22 s
dlink-dir878-perf-5g	48	802.11a	WPA WPA2	74:da:da:6d:73:79	-81.0	5240	100	4.86 s
jedway-abcd	36+	3x3 MIMO	WPA2	00:0e:8e:e7:7b:07	-71.0	5180	240	5.05 s
jedway-open-1	1+	3x3 MIMO	Open	00:0e:8e:78:e1:76	-71.0	2412	240	5.59 s
jedway-open-149	149+	3x3 MIMO	Open	00:0e:8e:de:d4:e6	-75.0	5745	240	3.01 s
jedway-r8000-11	11	3x3 MIMO	WPA2	10:0c:6b:63:1c:9e	-41.0	2462	200	5.11 s
jedway-r8000-153	153-	3x3 MCS 0-9 AC	WPA2	10:0c:6b:63:1c:9f	-46.0	5765	200	2.95 s
jedway-r8000-36	36+	3x3 MCS 0-9 AC	Open	10:0c:6b:63:1c:9d	-60.0	5180	200	5.05 s
jedway-wep-48	48	802.11a	WEP	04:f0:21:4d:9a:21	-48.0	5240	240	4.86 s
jedway-wpa-1	1+	3x3 MIMO	WPA	00:0e:8e:b9:b9:76	-71.0	2412	240	5.67 s
jedway-wpa-2-x128-...	44+	3x3 MCS 0-9 AC	WPA2	04:f0:21:3d:66:41	-55.0	5220	240	4.93 s
jedway-wpa-2-x204-...	1	3x3 MIMO	WPA2	00:0e:8e:06:70:76	-72.0	2412	240	5.75 s
jedway-wpa-2-x204-...	149	3x3 MIMO	WPA2	00:0e:8e:ff:86:e6	-74.0	5745	240	3.01 s
jedway-wpa-2-x204-...	161-	3x3 MIMO	WPA2	00:0e:8e:b3:68:e7	-75.0	5805	240	2.81 s
jedway-wpa-2-x204-...	157	3x3 MIMO	WPA2	00:0e:8e:7b:df:9b	-73.0	5785	240	2.88 s
jedway-wpa-2-x204-...	36+	3x3 MIMO	WPA2	00:0e:8e:e4:fa:07	-71.0	5180	240	5.05 s
jedway-wpa-2-x64-3-1	48	3x3 MCS 0-9 AC	WPA2	04:f0:21:d3:8d:21	-47.0	5240	240	4.86 s
jedway-wpa3-1	1+	3x3 MIMO	WPA2 WPA3	00:0e:8e:22:e8:76	-71.0	2412	240	5.75 s
jedway-wpa3-44	44+	3x3 MCS 0-9 AC	WPA2 WPA3	04:f0:21:0a:8b:41	-54.0	5220	240	4.93 s
muffin	48-	3x3 MCS 0-9 AC	Open	04:f0:21:f8:92:21	-47.0	5240	240	4.86 s
ubnt-hd-ent	60	4x4 MCS 0-9 AC	WPA2	f0:9f:c2:69:55:12	-62.0	5300	100	5.4 s

V. . Now, close the two windows opened previously by selecting *Close*. Go back to the *Port Mgr* tab and the desired object to be connected should be connected to that SSID. In *Wifi-Messages*, there should have also been a message saying that sta0 and wiphy0 are scanning for network SSIDs. This is another indication of the LANforge scanning software retrieving local SSIDs. LANforge now concludes that it can connect to the SSID by acquiring an *AP* and *IP* in the *Port Mgr* (see circled below).



For more information see [Station Creation : Step 1](#)

For more information see [Scripting a Station in the GUI](#)

5. **MAC-VLAN Creation:**

Creating a MAC-VLAN on the LANforge-GUI is done in the *Port Mgr*.

Please visit **Step 3** of the following cookbook on how to create a MAC-VLAN from the GUI. The following link will inform how to program the GUI to create a MAC-VLAN

For more information see [Creating a MAC-VLAN in the GUI\(Step 3\)](#)

For more information see [Scripting a MAC-VLAN in the GUI](#)

6. **Bridge Creation:**

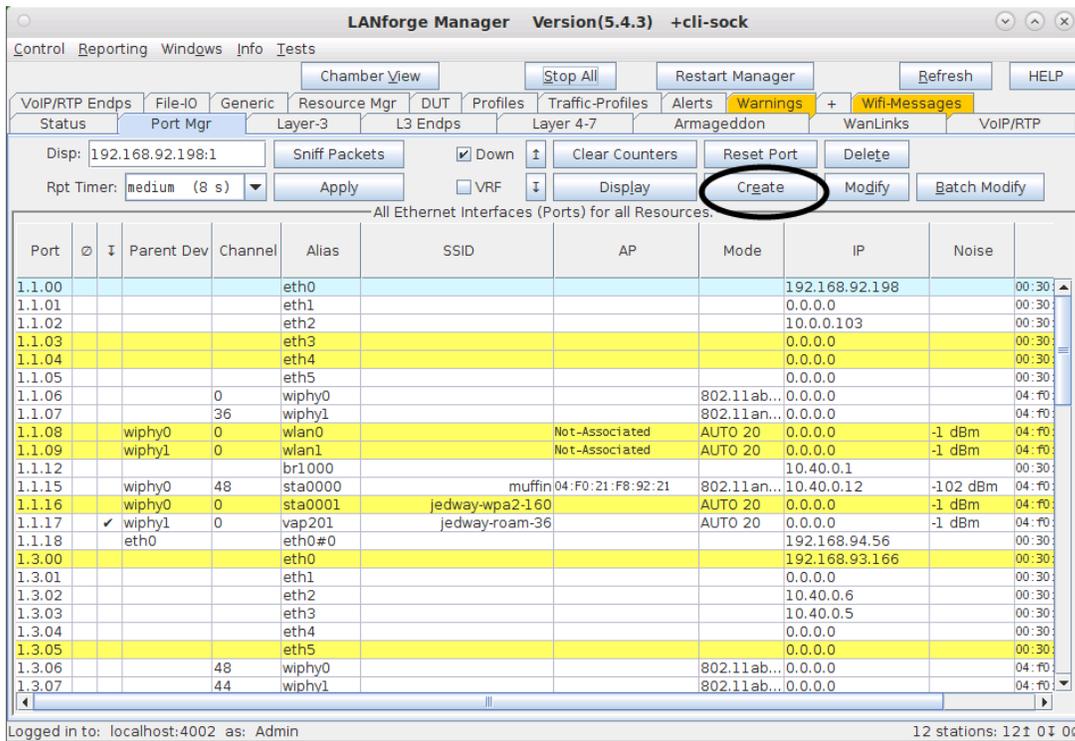
Creating a Bridge on the LANforge-GUI is done in the *Port Mgr*.

Please visit **Step 2** of the following cookbook on how to create a Bridge in *Netsmith*.

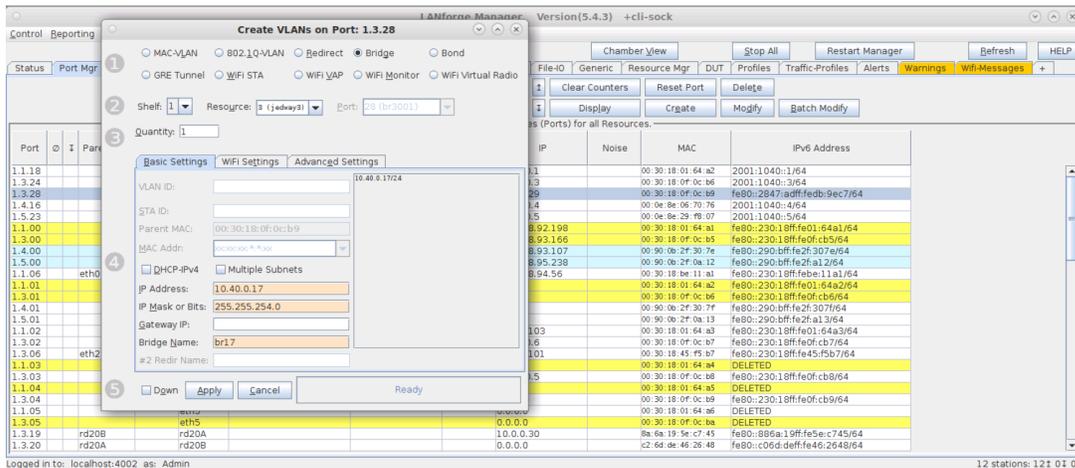
For more information see [Creating a Bridge in Netsmith \(Step 2\)](#)

A. Create a bridge in *Port Mgr*:

A. Click on the *Port Mgr* tab and Create in the top right corner.



B. After a new window pops up, Select *Bridge* in Step 1 of the new window. In Step 2, select the *Shelf* and *Resource* the bridge should use (from the drop down menus in each slot). Step 3, select the *Quantity* of the bridges to be created. In Step 4, under the *Basic Settings* tab, check the box if the bridge should be enabling *DHCP-IPv4*. If *DHCP-IPv4* isn't enabled, give the bridge an *IP Address* and *IP Mask*. Lastly, give the bridge a name. Click *Apply* and *Cancel*. The bridge is now in the *Port Mgr*.



B. Adding a port to an existing bridge in *Port Mgr*:

LANforge Manager Version(5.4.3)

Control Reporting Windows Info Tests

Chamber View Stop All Restart Manager Refresh HELP

RF-Generator File-I/O Generic Test Group Resource Mgr vAP Stations DUT Profiles Alerts Warnings +

Status Port Mgr Layer-3 L3 Endps Layer 4-7 Armageddon WanLinks Attenuators

Disp: 192.168.92.14:1 Sniff Packets Down Clear Counters Reset Port Delete

Rpt Timer: medium (8 s) Apply VRF Display Create Modify Batch Modify

All Ethernet Interfaces (Ports) for all Resources.

Port	Phantom	Down	IP	Alias	Parent Dev	AP	Channel	Mode	SSID	MAC
1.1.0			192.168....	eth0						0c:c4:7a:...
1.1.1			10.40.11....	eth1						0c:c4:7a:...
1.1.10			0.0.0.0	wiphy3			0	802.11an...		00:19:70:...
1.1.2			10.40.9.1...	sta0	wiphy0	00:0E:8E:...	157	802.11an...	jedway-w...	00:0e:8e:...
1.1.3			0.0.0.0	wiphy0			0	802.11ab...		00:0e:8e:...
1.1.4			10.40.0.17	br17						a6:50:b2:...
1.1.6			0.0.0.0	wiphy1			0	802.11ab...		00:0e:8e:...
1.1.8			0.0.0.0	wiphy2			0	802.11ab...		04:f0:21:...

Logged in to: localhost:4002 as: Admin 1 stations: 1 1 0 0 0

A. To add a port, double click on the bridge you created or click once on the bridge in *Port Mgr* and select *Modify*. A window *Configure Settings* should pop up. At the bottom of the window, there is a small section that allows addition of ports.

br17 (ct524-geia) Configure Settings

Port Status Information
Current: LINK-DOWN PROBE-ERROR TSO GSO GRO
Driver Info: Port Type: Bridge Driver: bridge(2.3) Bus: N/A

Port Configurables

General Interface Settings

Down Aux-Mgt Spanning-Tree

DHCP-IPv6 DHCP Release DHCP Hostname: None
DHCP Vendor ID: None

DHCP-IPv4 DHCP Client ID: None

DNS Servers: BLANK Peer IP: NA

IP Address: 10.40.0.17 Global IPv6: AUTO

IP Mask: 255.255.254.0 Link IPv6: AUTO

Gateway IP: 0.0.0.0 IPv6 GW: AUTO

Alias: MTU: 1500

MAC Addr: 00:00:00:00:00:00 TX Q Len: 1000

Rpt Timer: medium (8 s) WiFi Bridge: NONE

IPSec GW: 0.0.0.0 IPSec Password:

IPSec Local ID.: IPSec Remote ID.:

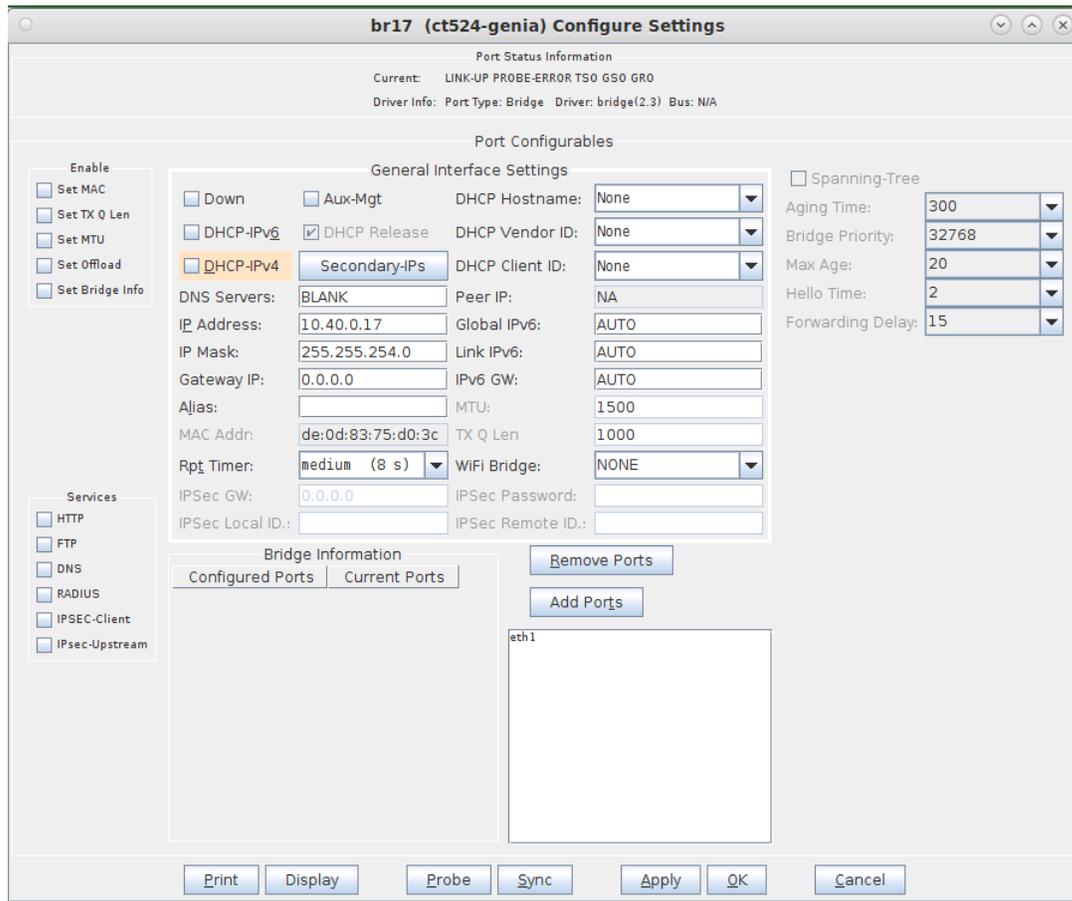
Services

HTTP
 FTP
 DNS
 RADIUS
 IPSEC-Client
 IPsec-Upstream

Bridge Information

Configured Ports Current Ports

- B. In the text box under the *Add Ports* button (circled below), type in the port name (ex: vap123, eth1, sta000) intended to be added to the bridge. In this example, *eth1* to be added to *br17*.



- C. Select *Add Ports* (circled). This button will now categorize *eth1* as a *Configured Port*. Then, select *Apply* and *Sync* to now see *eth1* also be listed under *Current Ports*. Lastly, click *OK* to close the window. If the port inputted into the text box does not move to the *Current Ports* category after selecting *Sync*, this may mean that the port is already in a configuration that prevents it from being in a bridge (i.e. it may already be in a bridge...etc). To learn how to script a bridge in the GUI, please visit the link below.

For more information see [Scripting the GUI to create a Bridge](#)

7. Virtual Creation (VAP):

Please visit **Step 1** of the following cookbook to learn how to create a Virtual AP in the GUI. For more information see [Scripting the GUI to create a bridge](#)

8. Monitor Creation:

Please visit **Step 1** of the following cookbook to learn how to create a Monitor in the GUI. For more information see [Scripting the GUI to create a Monitor](#)

9. Layer 3 Creation:

Layer-3 Cross-Connects represent a stream of data flowing through the system under test. A Cross-Connect (CX) is composed of two Endpoints, each of which is associated with a particular Port (physical or virtual interface). The *Layer-3* tab displays connections 0-200 by default.

Separated below are important sections to getting to know the *Layer 3* tab:

For more information see [How to Create and Modify Cross-Connects & Cross-Connect Information](#)

For more information see [Interpreting the Layer-3 Endps tab: Layer-3 Cross Connect Endpoints & Batch-Creating Cross-Connects](#)

For more information see [Scripting a Layer-3 Cross Connect](#)

10. **Layer 4-7 Traffic Generation:**

The Layer 4-7 traffic is supposed to emulate curl commands. Endpoints can be created with the following protocols: HTTP, HTTPS, FTP, FTPS, TFTP, SCP and SFTP. These are stateful protocols that will communicate properly with third-party servers. FTP, FTPS, TFTP, SCP and SFTP can upload and download, and the other protocols are only for downloading. The Layer 4-7 tab is used to manage Layer 4-7 endpoints.

Separated below are important sections to getting to know the Layer 4-7 tab:

For more information see [Creating and Modifying Layer 4-7 Endpoints](#), [L4 Endpoint Information](#), [Batch-Create Layer 4-7 Endpoints](#)

For more information see [Layer 4-7 Endpoint Display](#)

For more information see [Setting up a Simple HTTP Get/Download in the GUI](#)

For more information see [Scripting the GUI to create Layer 4-7 traffic](#)

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