

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:

• 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 occuring 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 is 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*.

	Add or Domov	Table Columns		rofiles	Alerts	s Messages	War	nings Wifi	Messages	+	Wastinks	MalDi	(DTD
	Add of Remove		<u>~</u>	-	Lay	er 4-7		Armagedu	5m		WanLinks	VOIP/	RIP
4Way Time (us)	Activity	🖌 Alias	ANQP Time (us)	Down	1	Clear Counter		Reset Port	Dele	te			
AP	Beacon	🔄 bps RX	🔄 bps RX LL	VRF	î	Display		Cr <u>e</u> ate	Mod	ify	Batch Modify		
bps TX	🔲 bps TX LL	Bytes RX LL	🔲 Bytes TX LL	Interface	es (Po	rts) for all Reso	urces	.——					
Channel	Collisions	Connections	Crypt										
CX Ago	CX Time (us)	Device	DHCP (ms)	4	ΑP	IP		Mode	Signal		MAC		
Down I	Gateway IP	✓ IP	IPv6 Address	Not-Ass	ociate	ed 0.0.0.0		AUTO 20	0 dBm	00:0e:	Be: 56:bd: f0		
	Key/Phrase	I ogin-Fail	Login-0K	Not-Ass	ociate	ed 0.0.0.0		AUTO 20	0 dBm	00:0e:	Be:5a:6e:33		
			Login ok	Not-Ass	ociate	ed 0.0.0.0		AUTO 20	0 dBm	00:0e:	Be:32:12:cf		
Logout-Fail	Eugout-ok	MAC	Mask	Not-Ass	ociate	ad 0.0.0.0		AUTO 20	0 dBm	00:19: 00:0e:1	/U:be:Se:Ua Re:32:e6:cf		
Misc	Mode	MTU	No CX (us)	4 Not-Ass	ociate	d 0.0.0.0		AUTO 20	0 dBm	00:0e:	Be:32:e7:cf		
🔲 Noise	Parent Dev	🖌 Phantom Ø	Port	4 Not-Ass	ociate	ed 0.0.0.0		AUTO 20	0 dBm	00:0e:	Be:32:de:cf		
🗌 🔲 Port Type	Pps RX	Pps TX	QLEN	1 Not-Ass	ociate	ed 0.0.0.0		AUTO 20	0 dBm	00:19:	70:be:9e:0a		
Reset	Retry Failed	RX Bytes	RX CRC	1 Not-Ass	ociate	ed 0.0.0.0	10	AUTO 20	0 dBm	00:19:	70:be:d0:0a		
BX Drop	RX Errors	BX Fifo	BX Frame			0.0.0.0	12			0c:c4:	7a:86:69:19		
DYLength	DV Mice	DY Our				0.0.0.0		802.11abgr		00:0e:	Be:32:12:cf		
KX Length	MA MISS	RX OVER	E RAPKIS			0.0.0.0		802.11abgr		00:0e:	Be:5a:6e:33		
RX-Rate	SEC	🗹 Signal	SSID			0.0.0.0		802.11an-A		00:19:	70:be:5e:0a		
🔲 Status	Time-Stamp	TX Abort	TX Bytes			0.0.0.0		AUTO 20	0 dBm	00:0e:0	Reidcie0.cf		
TX Crr	TX Errors	TX Fifo	TX HB	4		0.0.0.0		AUTO 20	0 dBm	00:0e:	Be:3c:2e:cf		
TX Pkts	TX Wind	TX-Failed %	TX-Rate	4		0.0.0.0		AUTO 20	0 dBm	00:0e:	Be:2a:15:cf		
WiEi Potrios			_	4		0.0.0.0		AUTO 20	0 dBm	00:0e:	Be:53:46:cf		
- win internes													
	Coloct All	Analy	Concol										
	<u>Select All</u>	Арріу	Cancel										

- 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 autosize 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 ctl+alt + letter to do shortcuts. Circled below are some examples of hotkeys enabled.

	_				_	LANfor	ge Manager 🛝	/ersion(5.4.3)				
Control VoiP/R	Re TP E	por ndp	ting Wind <u>o</u> v	vs <u>I</u> nfo Generic	Tests Resourc	e Mgr DUT Profiles Traffic-P	Chamber ⊻iew rofiles Alerts	Messages	arnings Wifi-M	Restart lessages	Manager +	Refresh HELP
5	atu	5	P	ort Mgr		Layer-3 L3 Endps	Layer	4-/	Armageddor		WanLinks	V0IP/RTP
			Di	sp: 10.25	3.1.30:1	Sniff Packets	Down 1 0	lear Counters	Reset Port	Dele	te	
			Br	t Timer	nedium (8	s) V Apply		Display	Create	Mod	ify Batch Modify	
			1.04	n niner. [ieurum (o	зл ч дрру		Display	Cigate	MOG	Daterrinouny	
			1		1	All Ethernet	Interfaces (Ports) for all Resource	es.	1		
Port	ø	I	Parent Dev	Channel	Alias	SSID	AP	IP	Mode	Signal	MAC	
1.1.06	-	1	wiphy3	1	wlan3		Not-Associated	0.0.0.0	AUTO 20	0 dBm	00:0e:8e:56:bd:f0	
1.1.07		1	wiphy1	157	wlan1		Not-Associated	0.0.0.0	AUTO 20	0 dBm	00:0e:8e:5a:6e:33	
1.1.08		1	wiphy0	157	wlan0		Not-Associated	0.0.0.0	AUTO 20	0 dBm	00:0e:8e:32:12:cf	
1.1.09		1	wiphy2	0	wlan2		Not-Associated	0.0.0.0	AUTO 20	0 dBm	00:19:70:be:5e:0a	
1.1.10		1	wiphy0	157	sta0000	jedway-wpa2-x2048-4	Not-Associated	0.0.0.0	AUTO 20	0 dBm	00:0e:8e:32:e6:cf	
1.1.11		1	wiphy0	157	sta0001	jedway-wpa2-x2048-4-4	Not-Associated	0.0.0.0	AUTO 20	0 dBm	00:0e:8e:32:e7:cf	
1.1.12		1	wiphy0	157	sta0002	jedway-wpa2-x2048-4-4	Not-Associated	0.0.0.0	AUTO 20	0 dBm	00:0e:8e:32:de:cf	
1.1.16		1	wiphy2	0	sta2000	jedway-wpa2-x2048-4-1	Not-Associated	0.0.0.0	AUTO 20	0 dBm	00:19:70:be:9e:0a	
1.1.18		1	wiphy2	0	sta2002	jedway-wpa2-x2048-4-1	Not-Associated	0.0.0.0	AUTO 20	0 dBm	00:19:70:be:d0:0a	
1.1.00					eth0			192.168.92.12			0c:c4:7a:86:69:18	
1.1.01					ethl			0.0.0.0			0c:c4:7a:86:69:19	
1.1.02				0	wiphy0			0.0.0.0	802.11abgn		00:0e:8e:32:12:cf	
1.1.03				0	wiphy1			0.0.0.0	802.11abgn		00:0e:8e:5a:6e:33	
1.1.04				161	wiphy2			0.0.0.0	802.11an-AC		00:19:70:be:5e:0a	
1.1.05				0	wiphy3			0.0.0.0	802.11abgn		00:0e:8e:56:bd:f0	
1.1.13			wiphy0	157	stal234	jedway-wpa2-x2048-4		0.0.0.0	AUTO 20	0 dBm	00:0e:8e:4c:e0:cf	
1.1.14			wiphy0	157	stal235	jedway-wpa2-x2048-4		0.0.0.0	AUTO 20	0 dBm	00:0e:8e:3c:2e:cf	
1.1.15			wiphy0	157	stal236	jedway-wpa2-x2048-4		0.0.0.0	AUTO 20	0 dBm	00:0e:8e:2a:15:cf	
1.1.17			wiphy0	157	stal237	jedway-wpa2-x2048-4		0.0.0.0	AUTO 20	0 dBm	00:0e:8e:53:46:cf	
1.1.17			wipriyo	157	5(01257	Jedway-wpaz-x2040-		0.0.0.0	A010 20	U UBIII	00.02.02.33.40.01	

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.

	LAN	forge Mana	ger Ve	rsion(5.4	.3)				-	• 😣
<u>Control Reporting Windows Info Tes</u>	ts									
	Chamber <u>V</u> iew		<u>S</u> top Al		Restart	Manager		<u>R</u> efre	sh	HELP
File-IO Generic Resource Mgr DI	JT Profiles Trat	ffic-Profiles	Alerts	Message	s Warr	nings Wit	i-Messages	+		
Status Port Mgr Layer-3	L3 Endps	Layer 4-7	Arma	geddon	War	nLinks	VoIP/RTP	Vol	P/RTP EI	ndps
License Info	Curre	nt Users				Saved Te	st Configurati	ons		
Licenses expire in: 27 days.	* Admin from:10.253 Admin from:127.0.0.1	.1.30 1		Configura	ation:	DFLT		-	Loa	d
Chamber View Stop All Restart Manager Befresh H File-IO Generic Resource Mgr DUT Profiles Traffic-Profiles Alerts Messages Wanings Wifi-Messages + status VolP/RTP Logenseinfo License info License info Current Users Saved Test Configurations Configuration: DFLT Load Support expires in: 27 days. *Admin from:127.0.01 gnuserver from:127.0.01 Download DB Show Progress Delete Status Vieg: Ports by Resource Name: Save Realm 12 Manager/Resource Netsmith Netsmith			te							
Status Vie <u>w</u> : Ports by Resource 💌				Name: Sa						e
Realm 12 Logged in to: 192.168.92.12:4002 as: A	.dmin	Managu	er/Resource 1							

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

							L	ANF	orge Mana	ger	Vers	ion(5.	4.3)							
<u>C</u> ontrol	<u>R</u> e	por	ting Wind <u>o</u> v	vs <u>I</u> nfo	<u>T</u> ests															
						Chan	nber <u>V</u> ie	w		S	top All		Re	estar	t Manager			Refre	sh	HELP
FileJO	r G	ond	ric Resou	rce Mar		Pro	ofiles	Traf	fic-Profiles		arte / I	Messan		War		fi-Mose	2000	-		
Status		1	Port Mar	Laver-3		13.6	Indos	7	Laver 4-7		Armad	eddon		Wa	nlinks	VolP/	RTP		P/RTP En	idos
orara	- -	1	i orcingi [apo			-	, and g	cadom		1				7	.,	apo
Disp): []	0.2	253.1.30:1		Sni	ff Pac	kets		Down	1	Clear	Count	ers		Reset Port	D	ele <u>t</u> e			
Rpt	Tim	er:	medium (8	s) 🔻		Apply	/		VRF	î)isp <u>l</u> ay			Cr <u>e</u> ate	M	lo <u>d</u> ify	Bat	ch Modif	y
							—All Etl	hern	et Interface	s (P	orts) fo	r all Re	sourc	es						
Port	Ø	î	Parent Dev	Channel	A	lias			SSID				AP		IP		P.	1ode	Signal	
1.1.06		-	wiphy3	1	wlan	3						Not-As	socia	ated	0.0.0.0		AUTO	20	0 dBm	00:0e:8
1.1.07		1	wiphy1	157	wlan	1						Not-As	ssocia	ated	0.0.0.0		AUTO	20	0 dBm	00:0e:8
1.1.08		1	wiphy0	157	wlan	0						Not-As	socia	ated	0.0.0.0		AUTO	20	0 dBm	00:0e:8
1.1.09		1	wiphy2	0	wlant	2						Not-As	socia	ated	0.0.0.0		AUTO	20	0 dBm	00:19:7
1.1.10		1	wiphy0	157	sta0	000	jedwa	ay-wp	a2-x2adasd	asd	048-4-4	Not-As	socia	ated	0.0.0.0		AUTO	20	0 dBm	00:0e:8
1.1.11		1	wiphy0	157	sta0	001			jedway-wpa	2-x2	048-4-4	Not-As	socia	ated	0.0.0.0		AUTO	20	0 dBm	00:0e:8
1.1.12		<	wiphy0	157	sta0	002			jedway-wpa	2-x2	048-4-4	Not-As	ssocia	ated	0.0.0.0		AUTO	20	0 dBm	00:0e:8
1.1.16		1	wiphy2	0	sta2	000			jedway-wpa	2-x2	048-4-1	Not-As	ssocia	ated	0.0.0.0		AUTO	20	0 dBm	00:19:7
1.1.18		1	wiphy2	0	sta2	002			jedway-wpa	2-x2	048-4-1	Not-As	ssocia	ated	0.0.0.0		AUTO	20	0 dBm	00:19:7
1.1.00					eth0										192.168.9	2.12				0c:c4:7;
1.1.01					eth1										0.0.0.0					0c:c4:7;
1.1.02				0	wiphy	y0									0.0.0.0		802.1	labgn		00:0e:8
1.1.03				0	wiphy	yl									0.0.0.0		802.1	labgn		00:0e:8
1.1.04				161	wiphy	y2									0.0.0.0		802.1	lan-AC		00:19:7
1.1.05				0	wiphy	уЗ									0.0.0.0		802.1	labgn		00:0e:8
1.1.13			wiphy0	157	stal	234			jedway-wp	a2-)	x2048-4	4			0.0.0.0		AUTO	20	0 dBm	00:0e:8
1.1.14			wiphy0	157	stal	235			jedway-wp	a2-)	x2048-4	l			0.0.0.0		AUTO	20	0 dBm	00:0e:8
1.1.15			wiphy0	157	stal	236			jedway-wp	a2-)	x2048-4	l .			0.0.0.0		AUTO	20	0 dBm	00:0e:8
1.1.17			wiphy0	157	stal	237			jedway-wp	a2-)	x2048-4	l i			0.0.0.0		AUTO	20	0 dBm	00:0e:8
•																				•
Logged in	n to	: 1	92.168.92.12	2:4002 as	s: Adr	min		_		_			_	_			_	13 st	ations: 4	1910g

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.

<u>ک</u>	LA	Nforge Manage	r Version(5.2.1	3)			+ □ ×
<u>Control</u> <u>Reporting</u> <u>Tear-Off</u> Info	<u>P</u> lugins						
			Stop Al	R	estart Manager	R	efresh HELP
Attenuators File-IO Layer-4 Status	Test Mgr Test Group Layer-3	Resource Mgr E	Event Log Alerts L3 End	Port Mgr	Messages	WanLin	ks
Rpt Timer: fast	(1 s) 🔻 Go Test Ma	nager all	▼ Select	All Star	t Stop	Quiesce Cl	ear
View 0 - 200		Go		Display	Cr <u>e</u> ate <u>M</u> oo	dify Delete	
		-Cross Connects fo	r Selected Test Mar	nager			
Name Type State	Pkt Rx A \rightarrow B Pkt Rx A \leftarrow B	Rate A → B	Rate A ← B	Rx Drop % A	Rx Drop % B Dr	op Pkts A Drop Pk	ts 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	
xcdx-8 LF/UDP Run	17,718 17,044	9,997,947	9,997,516	0	0	0	
1							•
Logged in to: 192.168.100.26:400	02 as: Admin						

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)				_ 🗆 X
<u>C</u> ontrol <u>R</u> e	porting <u>T</u> ear-Off	Help								
					Stop All	R	estart Manager		Refrest	ו HELP
Layer-4 Status	Generic Test Mgi Layer-3 L3 Ei	Resource	Mgr Serial IP/RTP V	Spans PPF oIP/RTP End	P-Links Ev ps Arm	ent Log 🛛 Al ageddon	lerts Port Mg WanLinks	r Messag Collisior	es I-Domains	File-10
Rpt Timer	fast (1 s)	▼ Go Tes	t Manager all	-		Select All	Start	Stop Q	uiesce	Clear
View	0 - 200		▼ Go		Dis	splay C	reate Mod	ify Bat	ch Modify	Delete
			Layer-	4 Endpoints	for Selected	Test Manag	er			
Name	EID Type	Status	Total-URLs	URLs/s	Bytes-RD	Bytes-WR	Tx Rate T	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 t	0: 192.168.100.138	:4002 as: A	dmin							

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*

				LANforg	e Manager	Version(5.	2.4)				_ 🗆 X
<u>Control</u> <u>R</u> e	porting <u>T</u>	ear-Off I	lelp								
						Stop All	Re	estart Manage	er	Refres	n HELP
Layer-4	Generic	Test Mgr	Resource	Mgr Serial	Spans PPI	P-Links Ev	ent Log 🛛 Al	erts Port N	lgr Messag	jes	
Status	Layer-3	L3 En	aps vo		VOIP/RIP End	ps Arm	nageddon	WanLinks	Collisio	n-Domains	File-IO
Rpt Timer:	fast	(1 s)	▼ Go Tes	t Manager all	-		Select All	Start	Stop (Quiesce	Clear
View	0 - 200			▼ Go		Dis	splay Cr	eate Mo	dify Bat	tch Modify	Delete
				Layer	-4 Endpoints	s for Selected	Test Manage	.r			
Name	EID	Type	Status	Total-URLs	URLs/s	Bytes-RD	B∨tes-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 t	to: 192.16	8.100.138:	4002 as: A	dmin							

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 <u>any</u> 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.

LANforge Manager Version(5.4.3)	
Control Reporting Windows Info Tests	
Chamber View Stop All Restart Manager Refresh	HELP
Generic Resource Mgr DUT Profiles Traffic-Profiles Alerts Messages Warnings + Wifi-Messages	
Status / Port Mgr / Layer-3 / L3 Endps / Layer 4-7 / Armageddon / WanLinks / VolP/RTP / VolP/RTP Endps / I	File-IO
Save Clear Text	
Welcome to the LANforge GUI Manager. This page will contain miscellaneous information from the server.	^
Tue Dec 29 15:33:02 PST 2020: Welcome to LANforge. Enter 'help' for more information.	
Tue Dec 29 1533302 PST 2020: Tue Dec 29 1533302 PST 2020:	
Version: 5.4.3 Compiled on: Wed Dec 2 11:01:16 PST 2020 Bx: greened Do machine: Linux: vf2464 410 17:100 fc24 x86 64 x86 64	
Platform: Linux 64-bit	
Licenses: Shelves: 2 Cards: 10 Ports: 10000 Active Ports: 64000 Fire-CX: 64000	
WanLinks: 66000 WI-2m; 66000 WI-45m; 6600 WL-0EM100: 0 WI-155m; 6600 WI-1g; 60 WI-10g; 16 WanParts: 6400 Grmanddor; 6600 SecondaryLeys: 64000	
80211AC-Radios: 64000 TR-398: 0	
I ANforme Licenses expire in 32 days	
Current use: Ports: 1 IPs: 0 Fire-CX: 0 Armageddon: 0 V0IP: 0	
WL-2m: 0 WL-45m: 0 WL-0EM: 0 WL-155m: 0 WL-1G: 0 WL-10G: 0	
WanPaths: 0 80211ACKadios: 0	
The Dec 29 15:3:02 PST 2020:	
Tue Dec 29 15:33:02 PST 2020: >>RSLT: 252 Cmd: 'show_clients'	
Tue Dec 29 15:33:02 PST 2020: >>RSLT: 192 Cmd: Who'	
Tue Dec 29 15:33:02 PST 2020: >> RSLT: 3549 Cmd: 'show_dbs'	
Tue Dec 29 15:33:02 PS1 2020: >>NSLI: 0 Cmd: 'bowy or 'bl'''''''''''''''''''''''''''''''''''	
Tue Dec 29 15:33:02 PST 2020: >>RSLT: 0 Cmd: 'show vrcx' ALL'ALL'	
Tue Dec 29 15:33:02 PST 2020: >>RSLT: 252 Cmd: 'show_clients'	
Tue Dec 29 15:33:02 PST 2020: >>RSLT: 192 Cmd: Who'	
Tue Dec 29 15:33:02 PST 2020: >>RSLT: 0 Cmd: 'show_alerts'	
Tue Dec 29 15:33:02 PS1 2020: New Setting: ISBNET: 1	
Tue Dec 29 15:33:02 PS1 2020: Push All Risk flag set to: 0	
Tue Dec 29 15:37:57 PST 2020: Adding new endpoint.	
Tue Dec 29 15:37:57 PST 2020: Setting Rate: VTsta0000-0-A min: 256000 max: 0	
Tue Dec 29 15:37:57 PST 2020: Setting Payload Size: Shelf: 1 Card: 1 Port: 65535 Endpoint: 142 Type: LANFORGE_UDP min: -1 max: 0 Checksum: NA	
Tue Dec 29 15:37:57 PST 2020: Endpoint values have been set.	
Tue Dec 25 15.57.57 F51 2020, Adding new Englopint.	-
Input:	
L Logged in to: localhost:4002 as: Admin	

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:

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

C LANforge Mana	ger Version(5.4.3)	+cli-sock		\odot \otimes \otimes
<u>Control</u> <u>Reporting</u> Windows <u>Info</u> <u>Tests</u>				
Chamber ⊻iew	<u>S</u> top All	Restart Manager	B	efresh HELP
File-IO Generic Test Group Resource Mgr VAP Stations	DUT Profiles Aler	ts Warnings +	Wifi-Messages	
Status Port Mgr Layer-3 L3 Endps Layer	4-7 Armageddon	WanLinks A	Attenuators	RF-Generator
Disp: 192.168.92.14:1 Sniff Packets	Down 1 Clear Count	ers Reset Port	Delete	
Rpt Timer: medium (8 s) 🔻 Apply	VRF I Display	Cr <u>e</u> ate	Mo <u>d</u> ify	Batch Modify

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.

	sta	0 (ct524-geni	a) Configu	re Settinas		(*) (*	(\mathbf{x})			
			w	iphy0 Scan Resu	lts				\odot (∧ ×
SSID	Channel	Info	Auth	BSS	Signal	Frequency	Beacon	Age		
				🗌 Pau	s <u>e</u>	Sc <u>a</u> n		<u>S</u> ync	<u>C</u> lose	

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 currentlyactive SSIDs.

	Current: D(Port Status Informat OWN LINK-DOWN GRO NONE	lion	
	Driver Info: Po	ort Type: WIFI-STA Parent:	wiphy0 wiphy0	
		Dest Coeffermel		
		Port Conligurab	ies	
itandard Configurat	Ion Advanced	Configuration Misc	Configuration	Corruptions Custom Wi
Enable		General In	terface Settings	
Set TX 0 Len	Down	Aux-Mgt	DHCP Hostname:	None
Set MTU	DHCP-IPv <u>6</u>	DHCP Release	DHCP Vendor ID:	None 💌
Set Offload	DHCP-IPv4	Secondary-IPs	DHCP Client ID:	None
Set PROMISC	DNS Servers:	BLANK	Peer IP:	NA
	IP Address:	0.0.0.0	Global IPv6:	AUTO
Services	IP Mask:	0.0.0.0	Link IPv6:	AUTO
НТТР	Gateway IP:	0.0.0.0	IPv6 GW:	AUTO
FTP	Alias:		MTU:	1500
DNS	MAC Addr:	00:0e:8e:4e:3b:47	TX Q Len	1000
RADIUS	Rpt Timer:	medium (8 s) 💌	WiFi Bridge:	NONE
IPsec-Upstream	IPSec GW:	0.0.0.0	IPSec Password:	
	IPSec Local ID.:		IPSec Remote ID.	
Low Level		WiF	i Settinas	
PROMISC	SSID: ie	dway-wpa2-x2048-5-1	L AP: DEF.	AULT
TS0 Enabled	Key/Phrase:	1way.wpa2.v2048.5.1	Mode: (Auto	
UFO Enabled	Freq/Channel: 5	3805/1.61	Bate: 05 De	fault 💌
GS0 Enabled				
LRO Enabled				
GRO Enabled	Disable H14		Disable 50	

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.

	sta0	(ct524-genia)	Configure	Settings		\odot	×		
			wij	phy0 Scan Resu	lts				
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	46.15 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 MIM0	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 MIM0	WPA WPA2	24:f5:a2:6a:72:47	-83.0	2462	100	13.19 s	
Silv-Wifi-guest	11	2x2 MIM0	Open	24:f5:a2:6a:72:49	-78.0	2462	100	5.09 s	
Success11	11	3x3 MIM0	WPA WPA2	c0:7c:d1:0c:bd:f8	-79.0	2462	100	26.95 s	
(FINITY	161-	3x3 MIMO	WPA2	20:25:64:61:10:e3	-78.0	5805	100	2.81 s	
BLANK]	1	3x3 MIM0	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	
oridged-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	
edway-abcd	36+	3x3 MIM0	WPA2	00:0e:8e:e7:7b:07	-71.0	5180	240	5.05 s	
edway-open-1	1+	3x3 MIMO	Open	00:0e:8e:78:e1:76	-71.0	2412	240	5.59 s	
edway-open-149	149+	3x3 MIM0	Open	00:0e:8e:de:d4:e6	-75.0	5745	240	3.01 s	
edway-r8000-11	11	3x3 MIMO	WPA2	10:0c:6b:63:1c:9e	-41.0	2462	200	5.11 s	
edway-r8000-153	153-	3x3 MCS 0-9 AC	WPA2	10:0c:6b:63:1c:9f	-46.0	5765	200	2.95 s	
edway-r8000-36	36+	3x3 MCS 0-9 AC	Open	10:0c:6b:63:1c:9d	-60.0	5180	200	5.05 s	
edway-wep-48	48	802.11a	WEP	04:f0:21:4d:9a:21	-48.0	5240	240	4.86 s	
edway-wpa-1	1+	3x3 MIMO	WPA	00:0e:8e:b9:b9:76	-71.0	2412	240	5.67 s	
edway-wpa2-x128	44+	3x3 MCS 0-9 AC	WPA2	04:f0:21:3d:66:41	-55.0	5220	240	4.93 s	
edway-wpa2-x204	1	3x3 MIMO	WPA2	00:0e:8e:06:70:76	-72.0	2412	240	5.75 s	
edway-wpa2-x204	149	3x3 MIM0	WPA2	00:0e:8e:ff:86:e6	-74.0	5745	240	3.01 s	
edway-wpa2-x204	161-	3x3 MIMO	WPA2	00:0e:8e:b3:68:e7	-75.0	5805	240	2.81 s	
edway-wpa2-x204	157	3x3 MIM0	WPA2	00:0e:8e:7b:df:9b	-73.0	5785	240	2.88 s	
edway-wpa2-x204	36+	3x3 MIMO	WPA2	00:0e:8e:e4:fa:07	-71.0	5180	240	5.05 s	
edway-wpa2-x64-3-1	48	3x3 MCS 0-9 AC	WPA2	04:f0:21:d3:8d:21	-47.0	5240	240	4.86 s	
edway-wpa3-1	1+	3x3 MIM0	WPA2 WPA3	00:0e:8e:22:e8:76	-71.0	2412	240	5.75 s	
edway-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	530	100	54 s	
				Paus	e	Sc <u>a</u> n) <u> </u>	ync 🚺	Clo

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).

	sta0	(ct524-genia)	Configure	Settings		\sim \sim	(\mathbf{x})		
0			wij	phy0 Scan Resu	lts	0.0		-	(
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	46.15 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 MIM0	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 MIM0	WPA WPA2	24:f5:a2:6a:72:47	-83.0	2462	100	13.19 s	
Silv-Wifi-quest	11	2x2 MIMO	Open	24:f5:a2:6a:72:49	-78.0	2462	100	5.09 s	
Success11	11	3x3 MIM0	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	
IBLANKI	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-5a	48	802.11a	WPA WPA2	74:da:da:6d:73:79	-81.0	5240	100	4.86 s	
iedwav-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	
iedwav-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	
iedway-r8000-153	153-	3x3 MCS 0-9 AC	WPA2	10:0c:6b:63:1c:9f	-46.0	5765	200	2.95 s	
iedway-r8000-36	36+	3x3 MCS 0-9 AC	Open	10:0c:6b:63:1c:9d	-60.0	5180	200	5.05 s	
iedway-wep-48	48	802.11a	WEP	04:f0:21:4d:9a:21	-48.0	5240	240	4.86 s	
iedway-wpa-1	1+	3x3 MIMO	WPA	00:0e:8e:b9:b9:76	-71.0	2412	240	5.67 s	
iedwav-wpa2-x128	44+	3x3 MCS 0-9 AC	WPA2	04:f0:21:3d:66:41	-55.0	5220	240	4.93 s	
jedway-wpa2-x204	1	3x3 MIMO	WPA2	00:0e:8e:06:70:76	-72.0	2412	240	5.75 s	
iedway-wpa2-x204	149	3x3 MIMO	WPA2	00:0e:8e:ff:86:e6	-74.0	5745	240	3.01 s	
jedway-wpa2-x204	161-	3x3 MIMO	WPA2	00:0e:8e:b3:68:e7	-75.0	5805	240	2.81 s	
iedway-wpa2-x204	157	3x3 MIMO	WPA2	00:0e:8e:7b:df:9b	-73.0	5785	240	2.88 s	
jedway-wpa2-x204	36+	3x3 MIMO	WPA2	00:0e:8e:e4:fa:07	-71.0	5180	240	5.05 s	
iedway-wpa2-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	
iedway-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	530	1.00	54 s	
				Paus	e	Scan		/nc	Clos
_					-				

For more information see Station Creation : Step 1

For more information see Scripting a Station in the GUI (Step 3)

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.

0					L	ANforge Manager	Ve	rsion(5.4.3)	+cli	-sock			6	$\sim \propto$
<u>C</u> ontrol	<u>R</u> e	por	ting Wind <u>o</u> v	vs <u>I</u> nfo	<u>T</u> ests									
					Cham	ber View	S	top All	Res	tart Manag	er		Refresh	HELP
		ndr	File IO	Gonoria	Posouro	o Mar DUT Profiles	57	Troffic Profiles	Alor	to Wornin		Wifi Mon	-	
Stati		Tup	Port Mar	. Generic	Lavor-2		1.22	vor 4-7	Arm	agoddon		(apt inke	Vol	
Jian	10		i orc mgi		Layer-5		Lay	yei 4-7	Ann	ageudon		antinks	100	/1311
Disp):]	92.	168.92.198:	1	Sniff Pack	cets 🗹 Down	1	Clear Counter	s	Reset Po	ort D	ele <u>t</u> e		
Rpt	Tim	er:	medium (8	s) 🔻	Apply	VRF	I	Disp <u>l</u> ay		Cr <u>e</u> ate		lo <u>d</u> ify	Batch Mod	dify
						All Ethernet Interface	s (P	orts) for all Reso	urce	S.				
Port	Ø	I	Parent Dev	Channel	Alias	SSID		AP		Mode		IP	Noise	
1 1 00					otb0						1021690	2 1 0 0		00:301.4
1.1.01					eth1						0.0.0.0	92.190		00:30
1.1.02					eth2						10.0.0.10	3		00:30:
1.1.03					eth3						0.0.0.0			00:30:
1.1.04					eth4						0.0.0.0			00:30:
1.1.05					eth5						0.0.0.0			00:30:
1.1.06				0	wiphy0					802.11ab	0.0.0.0			04:f0:
1.1.07				36	wiphy1					802.11an	0.0.0.0			04:f0:
1.1.08			wiphy0	0	wlan0			Not-Associated		AUTO 20	0.0.0.0		-1 dBm	04:f0:
1.1.09			wiphy1	0	wlan1			Not-Associated		AUTO 20	0.0.0.0		-1 dBm	04:f0:
1.1.12					br1000						10.40.0.1			00:30:
1.1.15			wiphy0	48	sta0000	m	uffin	04:F0:21:F8:92:21		802.11an	10.40.0.1	2	-102 dBm	04:f0:
1.1.16			wiphy0	0	sta0001	jedway-wpa2-	160			AUTO 20	0.0.0.0		-1 dBm	04:f0:
1.1.17		1	wiphy1	0	vap201	jedway-roan	n-36			AUTO 20	0.0.0.0		-1 dBm	04:f0:
1.1.18			eth0		eth0#0						192.168.9	94.56		00:30:
1.3.00					eth0						192.168.9	93.166		00:30:
1.3.01					ethl						0.0.0.0			00:30:
1.3.02					eth2						10.40.0.6			00:30:
1.3.03					eth3						10.40.0.5			00:30:
1.3.04					eth4						0.0.0.0			00:30:
1.3.05					eth5						0.0.0.0			00:30:
1.3.06				48	wiphy0					802.11ab	0.0.0.0			04:f0:
1.3.07				44	wiphy1					802.11ab	0.0.0.0			04:f0
	_	_					_							
Logged ir	n to	: lo	calhost:4002	2 as: Adr	min							1	2 stations: 1	l210∓0¢

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*.

0	-	LANforge Manage	Version(5.4.3) +cli-sock		(\mathbf{x})
Control Reportin	ng	Create VLANs on Port: 1.3.28 📀 🔊 😒				
		○ MAC-VLAN ○ 802.1Q-VLAN ○ <u>R</u> edirect ⑧ Bridge ○ Bond		Chamber ⊻iew	Stop All Restart Manager	<u>R</u> efresh HELP
Status Port N	1gr 🕛	O GRE Tuppel O WEI STA O WEI VAR O WEI Monitor O WEI Virtual Radio	File-IO G	Seneric Resource Mgr DU	T Profiles Traffic-Profiles Alerts Wa	rnings Wifi-Messages +
			1 Clear	Counters Reset Port	Delete	
	6	Shalf 1 - Paraurra a (intera) - Parts 28 (hr2001)		Venter Country	Mardife Databased ife	
	9		+ 0	- Il December 201	Mogily	
	6	Quantity: 1	es (Ports) for	r all Resources.		
Port Ø I I	Pare		IP	Noise MAC	IPv6 Address	
		Basic Settings WiFi Settings Advanced Settings				_
1.1.18	_	10.40.0.17/24	0.1	00:30:18:01:64:a2	2001:1040::1/64	<u>^</u>
1.3.24		VLAN ID:	1.3	00:30:18:07:00:06	2001:1040::3/64 fo:202847.odff.fodb.0oc7/64	
1.5.20			2.5	00:00:80:05:70:76	2001-1040-4/64	
1.5.23	-	STA ID:	15	00:0e:8e:29:f8:07	2001:1040::5/64	_
1.1.00		Parent MAC: 00:30:18:0f:0c:b9	8,92,198	00:30:18:01:64:a1	fe80::230:18ff:fe01:64a1/64	
1.3.00			8.93.166	00:30:18:0f:0c:b5	fe80::230:18ff:fe0f:cb5/64	
1.4.00		MAC Addr: vociocite #: #:xx	8.93.107	00:90:0b:2f:30:7e	fe80::290:bff:fe2f:307e/64	
1.5.00	4	DHCB IDv4 Multiple Subgets	8.95.238	00:90:0b:2f:0a:12	fe80::290:bff:fe2f:a12/64	H
1.1.06 e	th0		8.94.56	00:30:18:be:11:a1	fe80::230:18ff:febe:11a1/64	
1.1.01		IP Address: 10.40.0.17		00:30:18:01:64:a2	fe80::230:18ff:fe01:64a2/64	
1.3.01		ID Mask or Dite. DEE DEE DE 4.0		00:30:18:07:00:66	fe80::230:18ff:fe0f:cb6/64	
1.4.01	-	1 Mask of bits. 255.254.0		00:90:00:21:30:71	fe90;:290;bff;fe2f;e3071/64	
1.5.01	-	Gateway IP:	103	00:30:00.21:04:13	fe80::230:18ff:fe01:64a3/64	
1.3.02		Bridge Name: br17	1.6	00:30:18:0f:0c:b7	fe80::230:18ff:fe0f:cb7/64	
1.3.06 e	th2		101	00:30:18:45:f5:b7	fe80::230:18ff:fe45:f5b7/64	
1.1.03		#2 Redir Name:		00:30:18:01:64:a4	DELETED	
1.3.03		· · · · · · · · · · · · · · · · · · ·).5	00:30:18:0f:0c:b8	fe80::230:18ff:fe0f:cb8/64	
1.1.04	5	Down Apply Cancel Ready		00:30:18:01:64:a5	DELETED	
1.3.04	-			00:30:18:0f:0c:b9	fe80::230:18ff:fe0f:cb9/64	
1.1.05		0.0.0	0	00:30:18:01:64:a6	DELETED	
1.3.05	10.00	eth5 0.0.0	0	00:30:18:0f:0c:ba	DELETED	
1.3.19 n	120A	rd20A 10.0.	0.30	sa:6a:19:5e:c7:45	Te80::8868:1907:Te5e:C745/64	
1.3.20	320A	P0208 0.0.0	.0	C2:00:00:40:20:40	Te80::c00d:deff:fe40:2048/04	•
Logged in to: loc	alhost:400	12 as: Admin				12 stations: 121 01 00

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

0				LANfo	orge Mana	ger	Vers	ion(5	.4.3))							•) ×
<u>Control</u> <u>R</u> e	porting Win	d <u>o</u> ws <u>I</u> nfo	<u>T</u> ests															
			Chan	nber <u>∨</u> iew		<u>S</u>	top All		Re	st	art Manage	er			Re	efresh	Н	ELP
RF-Generat	tor File-IO	Generic	Test Grou	p Resour	ce Mgr VA	P Sta	ations	DUT	Pro	ofile	es Alerts	s Wa	arning	s	+			
Status	Port N	4gr	Layer-3	L3 End	os L	ayer	4-7	1	Ármaç	ge	ddon	W	anLin	ks	T.	Attenu	ators	
Disp: 1	92.168.92.1	4:1	Sniff Pac	kets	🖌 Down	1	Clear	Count	ers		Reset Po	ort	Del	e <u>t</u> e				
Rpt Tim	er: medium	(8 s) 🔻	Apply	/	VRF	î	D	isp <u>l</u> ay			Cr <u>e</u> ate		Mo	dify		<u>B</u> atch Mo	dify	
				All Ether	net Interface	s (P	orts) for	all Res	sourc	es								
Port	Phantom Ø	Down I	IP	Alias	Parent Dev	,	AP	Char	nnel		Mode	SS	ID		MAC			
1.1.0			192.168	eth0										0c:c	4:7a:			
1.1.1			10.40.11	ethl										0c:c	4:7a:			
1.1.10			0.0.0.0	wiphy3				0		8	02.11an			00:1	9:70:			
1.1.2			10.40.9.1	sta0	wiphy0	00:00	E:8E:	157		8	02.11an	jedwa	y-w	00:00	e:8e:			
1.1.3			0.0.0.0	wiphy0				0		8	02.11ab			00:00	e:8e:			
1.1.4			10.40.0.17	br17				-						a6:5	50:bZ:.			
1.1.6			0.0.0.0	wiphy1				0		8	02.11ab			00:00	e:8e:			
1.1.8			0.0.0.0	wiphy2				0		8	02.11ab			04:1	0:21:			
Logged in to:	: localhost:4	1002 as: A	dmin													1 station	s: 11	01.00

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.

0		br17 (c	t524-genia) Con	figure Settings		\odot				
		Current: Driver Info:	Port Status Informa LINK-DOWN PROBE-ERROP Port Type: Bridge Driver	tion 1750 GS0 GR0 7: bridge(2.3) Bus: N/A						
			Port Configurat	oles						
Enable										
Set MAC	Down	Aux-Mgt	Aging Time	300	-					
Set TX Q Len	DHCP-IPv6	☑ DHCP Release	DHCP Vendor ID:	None	Bridge Priority:	32768				
Set Offload	DHCP-IPv4	Secondary-IPs	DHCP Client ID:	None	Max Age:	20	-			
Set Bridge Info	DNS Servers:	BLANK	Peer IP:	NA	Hello Time:	2	-			
	IP Address:	10.40.0.17	Global IPv6:	AUTO	Forwarding Delay:	15	-			
	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						
	Rp <u>t</u> Timer:	medium (8 s) 🔻	WiFi Bridge:	NONE						
Services	IPSec GW:		IPSec Password:							
НТТР	IPSec Local ID.:		IPSec Remote ID.:							
FTP	Bridge Information Remove Ports									
RADIUS	Configured Po	orts Current Ports								
IPSEC-Client			Add F	Ports						
IPsec-Upstream										
]					
3	Print C	Display <u>P</u> r	obe <u>S</u> ync	<u>A</u> pply <u>O</u> K	<u>C</u> ancel					

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*.

0		br17 (ct	t524-genia) Con	figure Settings		\odot	\odot \times				
		Current: Driver Info:	Port Status Informa LINK-UP PROBE-ERROR TS Port Type: Bridge Driver	tion 0 GS0 GR0 : bridge(2.3) Bus: N/A							
			Port Configurat	les							
Enable		General In									
Set MAC	Down	Aux-Mgt	DHCP Hostname:	None 💌	Aging Time	300					
Set TX Q Len	DHCP-IPv6	DHCP Release	DHCP Vendor ID:	None 👻	Bridge Priority:	32768	•				
Set Offload	DHCP-IPv4	Secondary-IPs	DHCP Client ID:	None	Max Age:	20					
Set Bridge Info	DNS Servers:	BLANK	Peer IP:	NA	Hello Time:	2	-				
	IP Address:	10.40.0.17	Global IPv6:	AUTO	Forwarding Delay:	15	-				
	IP Mask:	255.255.254.0	Link IPv6:	AUTO							
	Gateway IP:	0.0.0.0	IPv6 GW:	AUTO							
	Alias:		MTU:	1500							
	MAC Addr:	de:0d:83:75:d0:3c	TX Q Len	1000							
	Rp <u>t</u> Timer:	medium (8 s) 🔻	WiFi Bridge:	NONE							
Services	IPSec GW:		IPSec Password:								
HTTP	IPSec Local ID.:		IPSec Remote ID.:								
FTP	Bridge Information Remove Ports										
	Configured Po	rts Current Ports									
IPSEC-Client			Add F	°or <u>t</u> s							
IPsec-Upstream			eth l								
	Print D)isplay <u>P</u> ro	obe <u>S</u> ync	Apply <u>O</u> K	Cancel						

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 (Step 6)

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 VAP (Step 7)

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 <u>Scripting the GUI to create a Monitor</u>

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 (Step 8)

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 (Step 9) Candela Technologies, Inc., 2417 Main Street, Suite 201, Ferndale, WA 98248, USA www.candelatech.com / sales@candelatech.com / +1.360.380.1618