

# WiFi Captive Portal Login

**Goal**: Create many user sessions to a WiFi captive portal gateway. Airports, arenas and coffee shops often offer open WiFi service that is gated with a web sign-on form. This is called a captive portal. LANforge can run a custom login script on a virtual station to emulate sign-in on the captive portal web page. The following example will create one hundred stations and have them authenticate through a captive WiFi portal.





- 1. Prepare a portal login script (1f\_ifup\_post)
- 2. The **lf\_ifup\_post** script will be called after DHCP assignment for a station occurs. It can also be called before DHCP release. This script is called from the LANforge resource hosting the virtual station.
  - A. The script should be in directory /home/lanforge/.
  - B. LANforge will pass these arguments to the script
    - A. -i station device
    - B. --ip4 station ip address
    - C. --ip6 station ipv6 address
    - D. --dns station DNS address
    - E. --mgt pipe name for reporting results to LANforge
  - C. Custom parameters to the script can be provided.
  - D. The script can have another name.

- E. LANforge expects these return values:
  - A. **OK**
  - B. FAIL
  - C. FAIL:reason, this provides feedback on failure occurrance.

#### 3. Create WiFi stations

A. In the **Ports** tab, select *wiphy1* and click **Create** 

	.ANforge	Manag	er \	<i>l</i> ersior	า(5.3.1	1)			≙_ □ X	
<u>Control</u> <u>Reporting</u> <u>Tear-Off</u> <u>Info</u> <u>P</u>	lugins									
			Sto	p All	Restart	Manager		Refresh	HELP	
File-IO Layer-4 Test Group Re	source Mgr Ev	ent Log Ale	erts Po	rt Mgr Me	essages					
Status Laye	r-3	L3 Endp	s		WanLinks	6		Attenuators		
Disp: 10.1.0.13:0.0	Sniff Pac	kets	Clear	Counters	Reset F	ort	Delete			
Rpt Timer: medium (8 s)	<ul> <li>Apply</li> </ul>	y	⊻iew	Details	Cr <u>e</u> at	e	<u>M</u> odify <u>E</u>	atch Modify		
All Ethernet Interfaces (Ports) for all Resources.										
Port Pha Down IP	SEC Alias	Parent R Dev R	(Bytes	RX Pkts	Pps RX	bps RX	TX Bytes	TX Pkts	Pps TX	
1.1.26 0.0.0.0	0 wlan1	wiphyl	0	0	0	0	0	0	0 🔺	
1.1.25 0.0.0.0	0 wlan0	wiphy0 12	,236,187	64,789	0	0	12,465,673	48,994	0 =	
1.1.24 0.0.0.0	0 wiphy2		0	0	0	0	4,164,657,	2,807,3	0	
1.2.24 0.0.0.0	0 wiphy2		0	0	0	0	2,152,214,	2,092,293		
1.1.03 0.0.0.0	0 wiphy1	1,7	35,846,	5,977,150	0	0	5,908,484,	1,193,8	0	
1.2.23	0  wipny1		0	U	0	0	035,235,390	990,345		
Logged in to: jedtest:4002 as: Adm	in									

B. In the Create VLANS window, craft ten wifi stations:

4		Creat	e VLANs c	on Port: 1.1.03		<b>△</b> _ □ X
A	O MAC-VLAN	○ 802.1Q-VLAN ○ Red	lirect 🛛 🔾 Bridge	GRE Tunnel		
	🖲 WiFi STA 🛛 🤇	🔾 WiFi VAP 💦 🔾 WiFi Monit	or 🔷 🔾 🔾 🔾	al Radio		
2	Shelf:	1	Resource:	1 (jedtest)	Port: 3 (w	viphy1)
B	VLAN ID:		DHCP-IPv4			
	Parent MAC:	00:0e:8e:4e:57:91	DHCP Client ID:	<b>•</b>		
	MAC Addr:	xxxxxxxxx *:*:xxx 💌	IP Address:		Global IPv6:	AUTO
	Quantity:	100	IP Mask or Bits:		Link IPv6:	AUTO
			Gateway IP:		IPv6 GW:	AUTO
	#1 Redir Name:		#2 Redir Name:			
	STA ID:	0	SSID:	jedtest		·
	WiFi AP:	<u> </u>	Key/Phrase:			]
	Use WPA	Use WPA2	Use WEP			
A	✓ Down					
	<u>A</u> pply	<u>C</u> ancel				

- A. Select WiFi STA
- B. For MAC address, choose xx:xx:x:\*:\*:xx
- C. Select DHCP-IPv4
- D. Enter Quantity 100
- E. Specify **0** for *STA ID*
- F. The example *SSID* for this cookbook is jedtest
- G. Select the Down option. This postpones the stations making a DHCP request until they are explicitly admin up.
- H. ...and then click Apply

C. You will see ten station created:

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							5	top All	Resta	irt Manag	er	Refresh		ELP
Attenu	ators	File-I	D Laver-4 1	est Gro		ource Mo	ar Event Loo	Alerts	Port Mar	Messag	es			
	Sta	atus			Laver-3		, , , , , , , , , , , , , , , , , , ,	L3 En	dps	ľ		WanLinks		
	Die								1					
	DIS	p: 10.	1.0.13:0.0		Sniff Pa	ckets	Clear	Counters	Reset	Port	Delete			
	Rpt	Timer	: medium (8 s	) 🔽	Арр	ly	View	v Details	Crea	te	Modify	Batch Modify		
						- Thernet	Interfaces (Pr	orts) for all B	Resources					
Port	Pha	Down	IP	SEC	Alias	Parent Dev	RX Bytes	RX Pkts	Pps RX	bps RX	TX Bytes	TX Pkts	Pps TX	
.2.05			10.20.0.33	U	CUI1#3	enni	402,000,00	JZ1,749	v	v	402,203,20	JI0, 320	U	
.1.02		~	0.0.0.0	0	sta0	wiphy1	0	0	0	0	0	0	0	_
1.04			0.0.0.0	0	stal	wiphyl	195,826	1,085	0	0	187,120	976	0	_
1.13		~	0.0.0.0	0	stalu	wiphyl	52,622	305	0	0	6,394	35	0	_
1.14			0.0.0.0	0	stall	wiphyi	52,106	301	0	0	6,332	34	0	_
1.15		v	0.0.0.0	0	stal2	wiphyl	51 01/	201	0	0	6 756	26	0	-
1.17		-	0.0.0.0	0	stal J	wiphyl	521/9	302	0	0	6 9/2	30	0	_
1 1 8		~	0.0.0.0	0	stal 5	wiphy1	51 722	299	0	0	7 1 80	38	0	-
1.19		~	0.0.0.0	0	stal 6	wiphy1	51,380	298	0	0	6.880	38	0	-
1.20		V	0.0.0.0	0	stal7	wiphv1	51,470	299	0	0	6.818	37	0	_
1.21		~	0.0.0.0	0	stal8	wiphv1	52.058	301	0	0	6,208	32	0	-
1.22		~	0.0.0.0	0	stal9	wiphy1	52,238	303	0	0	6,880	38	0	_
1.05		~	0.0.0.0	0	sta2	wiphy1	52,142	301	0	0	6,332	34	0	
1.06		V	0.0.0.0	0	sta3	wiphy1	51,540	300	0	0	6,694	35	0	
1.07		V	0.0.0.0	0	sta4	wiphy1	51,722	299	0	0	5,784	30	0	
1.08		~	0.0.0.0	0	sta5	wiphyl	51,380	298	0	0	6,508	32	0	
1.09		~	0.0.0.0	0	sta6	wiphyl	51,722	299	0	0	7,118	37	0	_
1.10		~	0.0.0.0	0	sta7	wiphy1	51,540	300	0	0	6,270	33	0	_
1.11		V	0.0.0.0	0	sta8	wiphy1	52,260	304	0	0	6,332	34	0	_
.1.12		V	0.0.0.0	0	sta9	wiphyl	51,752	300	0	0	6,332	34	0	_
1													1	Þ.

## 4. Batch Modify Stations in order to update 1f\_ifup\_post parameters

A. Highlight stations and click **Batch Modify** 

<u></u>	LANforge Manager Version(5.3.1) ▲-□×														
<u>C</u> ontrol	<u>R</u> epor	ting	<u>T</u> ear-Off <u>I</u> nfo <u>P</u> lu	ugins											
								S	top All	Resta	rt Manag	er	Refresh	n HE	ELP
											-				
Attenua	ators	File-	10 Layer-4 Te	st Gro	up 🛛 Reso	ource Mo	gr Even	nt Log	Alerts	Port Mgr	Messag	es			
<u> </u>	St	atus	ľ		Layer-3		ſ		L3 En	ndps			WanLinks		
	Disp: 10.1.0.13:0.0 Sniff Packets Clear Counters Reset Port Delete														
	Rp	t Time	r: medium (8 s)	-	App	lv	i E	Viev	v Details	Crea	te	Modify	Batch Modify		
						thorpot			rte) for all [			<u></u>			
		-	1	1	All	l		35 (FU	lts/iorair	vesources.			I I		_
Port	Pha	Dowr	n IP	SEC	Alias	Parent Dev	RX Byt	es	RX Pkts	Pps RX	bps RX	TX Bytes	TX Pkts	Pps TX	
1.2.05			10.26.0.39	0	eth1#9	ethl	482,838,	35	321,749	0	0	402,205,20	318,926	0	
1.1.02		~	0.0.0.0	0	sta0	wiphy1		0	0	0	0	0	0	0	
1.1.04		1	0.0.0.0	0	stal	wiphy1	195	6,826	1,085	0	0	187,120	976	0	
1.1.13		~	0.0.0.0	0	stal0	wiphyl	52	2,622	305	0	0	6,394	35	0	
1.1.14		~	0.0.0.0	0	stall	wiphyl	52	2,106	301	0	0	6,332	34	0	
1.1.15		~	0.0.0.0	0	stal2	wiphyl	51	,836	302	0	0	6,208	32	0	
1.1.16		~	0.0.0.0	0	stal3	wiphyl	51	,814	301	0	0	6,756	36	0	
1.1.17		~	0.0.0.0	0	stal4	wiphyl	52	2,148	302	0	0	6,942	39	0	
1.1.18		~	0.0.0.0	0	stal5	wiphyl	51	.,722	299	0	0	7,180	38	0	
1.1.19		~	0.0.0.0	0	stal6	wiphyl	51	,380	298	0	0	6,880	38	0	
1.1.20		~	0.0.0.0	0	stal7	wiphyl	51	.,470	299	0	0	6,818	37	0	
1.1.21		~	0.0.0.0	0	stal8	wiphyl	52	2,058	301	0	0	6,208	32	0	
1.1.22		~	0.0.0.0	0	stal9	wiphyl	52	2,238	303	0	0	6,880	38	0	
1.1.05		~	0.0.0.0	0	sta2	wiphyl	52	2,142	301	0	0	6,332	34	0	
1.1.06			0.0.0.0	0	sta3	wiphy1	51	,540	300	0	0	6,694	35	0	
1.1.07		~	0.0.0.0	0	sta4	wiphyl	51	.,722	299	0	0	5,784	30	0	
1.1.08		~	0.0.0.0	0	sta5	wiphyl	51	.,380	298	0	0	6,508	32	0	
1.1.09		~	0.0.0.0	0	sta6	wiphyl	51	,722	299	0	0	7,118	37	0	
1.1.10		~	0.0.0.0	0	sta7	wiphyl	51	,540	300	0	0	6,270	33	0	
1.1.11			0.0.0.0	0	sta8	wiphyl	52	2,260	304	0	0	6,332	34	0	
4 12			0000	10	Ista9	Winhv1	51	752	300	0	0	6 332	34		
			I	_				_							-
Logged	in to:	indtog	st-4002 as Admir	•											

Logged in to: jedtest:4002 as: Admin

B. In the *Batch Modify* screen, click the + button and expand to Group 2.

		DHCP-IPv6 MTU TX Q Len WiFi Bridge HTTP WiFi AP Mode Rate	NA NA NA NA NA NA NA		
		DHCP-IPv6 MTU TX Q Len WiFi Bridge HTTP WiFi AP Mode Rate	NA NA NA NA NA NA NA		-
		MTU TX Q Len WiFi Bridge HTTP WiFi AP Mode Rate	NA NA NA NA NA NA		
		TX Q Len WiFi Bridge HTTP WiFi AP Mode Rate	NA NA NA NA NA		
		WiFi Bridge HTTP WiFi AP Mode Rate	NA NA NA NA		
		HTTP WiFi AP Mode Rate	NA NA NA		
		WiFi AP Mode Rate	NA NA NA		
		WiFi AP Mode Rate	NA NA	<b>•</b>	
		WiFi AP Mode Rate	NA NA	<b>•</b>	
		Mode Rate	NA NA	•	
		Rate	NA	-	
		Tx-Power			
	-	AMPDU-Density	NA	•	
	-	br ip			
	-	Use WPA2	NA	-	
	-				
	-	Disable SGI	NA	-	
	-	Allow Migration	NA	-	
	-				
up_postuser bo	obp	ass secreturl http://ww	w.google.com/	0	
	p_postuser b	p_postuser bobp	Use WPA2      Disable SGI     Allow Migration     P_postuser bobpass secreturl http://ww	Use WPA2 Us	Use WPA2 INA  Use WPA2 INA Use

C. Edit the IF POST field. Enter the file name and any extra arguments that the script will want for this port. Example: 1f\_ifup\_post --user bob --pass secret --ur1 http://slashdot.org/

4	▲ LANforge Manager Version(5.3.1)													
<u>C</u> ontrol	<u>R</u> epor	ting 🔅	<u>T</u> ear-Off <u>I</u> r	nfo <u>P</u> lugins										
	Stop All Restart Manager Refresh HELP													
Attonus	Attenuators / File-ID / Laver-A / Tast Group / Resource Mar / Event Log / Alerts / Port Mar / Messages													
Attenua	Attendators Finero Layer-4, rest droup resource mgr zvenic by Atens Forting Messages													
	51	atus			Layer-5			L3 EI	lups			wantinks		
	Dis	sp: 10	.1.0.13:0.0		Sniff Pa	ckets	Cle	ar Counters	Reset	Port	Delete			
	Rp	t Time	r: medium	(8 s) 🔻	Арр	oly	⊻i	ew Details	Crea	te	Modify	Batch Modify		
					AII	Ethernet	Interfaces (I	Ports) for all I	Resources.					
Port	Pha	Dowr	IP	SE	C Alias	Parent Dev	RX Bytes	RX Pkts	Pps RX	bps RX	TX Bytes	TX Pkts	Pps TX	
1.2.05			10.26.0.3	9 0	eth1#9	eth1	482.838.35.	321.749	0	0	402.205.20	318.926	0	
1.1.02		~	0.0.0.0	0	sta0	wiphv1		0 0	0	0	0	0	0	
1.1.04		~	0.0.0.0	0	stal	wiphy1	\$195,82	6 1,085	0	0	187,120	976	0	
1.1.13		~	0.0.0.0	0	sta10	wiphy1	52,62	2 305	0	0	6,394	35	0	-
1.1.14		~	0.0.0.0	0	stall	wiphy1	52,10	6 301	0	0	6,332	34	0	
1.1.15		~	0.0.0.0	0	stal2	wiphy1	51,83	6 302	0	0	6,208	32	0	
1.1.16		V	0.0.0.0	0	stal3	wiphy1	51,81	4 301	0	0	6,756	36	0	
1.1.17		V	0.0.0.0	0	stal4	wiphy1	52,14	8 302	0	0	6,942	39	0	
1.1.18		V	0.0.0.0	0	sta15	wiphy1	51,72	2 299	0	0	7,180	38	0	
1.1.19		V	0.0.0.0	0	stal6	wiphy1	51,38	0 298	0	0	6,880	38	0	
1.1.20		V	0.0.0.0	0	stal7	wiphyl	51,47	0 299	0	0	6,818	37	0	
1.1.21		V	0.0.0.0	0	stal8	wiphyl	52,05	8 301	0	0	6,208	32	0	
1.1.22		V	0.0.0.0	0	sta19	wiphy1	52,23	8 303	0	0	6,880	38	0	_ =
1.1.05		V	0.0.0.0	0	sta2	wiphy1	52,14	2 301	0	0	6,332	34	0	
1.1.06		V	0.0.0.0	0	sta3	wiphy1	51,54	0 300	0	0	6,694	35	0	
1.1.07		V	0.0.0.0	0	sta4	wiphyl	51,72	2 299	0	0	5,784	30	0	
1.1.08		~	0.0.0.0	0	sta5	wiphy1	51,38	0 298	0	0	6,508	32	0	
1.1.09		V	0.0.0.0	0	sta6	wiphy1	51,72	2 299	0	0	7,118	37	0	
1.1.10		~	0.0.0.0	0	sta7	wiphy1	51,54	0 300	0	0	6,270	33	0	
1.1.11		~	0.0.0.0	0	sta8	wiphy1	52,26	0 304	0	0	6,332	34	0	
1112			0000	0	Ista9	winhv1	51.75	2 300	0	0	6 332	34	0	
		111												-
Logged	in to:	jedtes	t:4002 as	: Admin										

D. Click the **Apply** button to apply the changes. Do not close the window yet.

E. To check the value of each port's **IF/UP Post** you can use the *Ports* tab. In the port *Configure Settings* window, in the **More Advanced Tab** you can find the IF/UP script value.

🙆 sta0 (iec	ltest) Co	n	fiqure Se	ttings		≙ _	o x
	Port Stat	us	Information				1
Curre	nt: DOWN LI	NK-[	DOWN GRO NONE	E			
Driver	Info: Port Type	∋: <b>\</b>	VIFI-STA Parent:	wiphyl			
	Port C	onf	igurables				
Standard Configuration Adva	anced Configura	atio	n More Advand	ed Configuration			
	More \	NiFi	i Settings		1		
Freq-2.4:	0xfffffff		Freq-5:	0xfffffff	j		
AMPDU-Factor:	OS Default	•	AMPDU-Density:	OS Default 🗸 🗸			
Max-AMSDU:	OS Default	•	Bridge-IP:	0.0.0.0	]		
X-Coordinate:	0		Y-Coordinate:	0	]		
Z-Coordinate:	0						
Post IF-UP Script:	lf_ifup_postuser	bob	pass secreturl http	o://slashdot.org/			
🗌 Custom WPA Cfg	WPA Cfg:			Specify script to run	when WiFi s	tation	o com
Scan Hidden	Allow Migration		IBSS Mode	This is often used to In addition to any ar	o do portal-lo rouments co	gin, f nfigur	or ins ed he
Restart DHCP on	Connect			-i [dev-name]ip4 [i dns [comma-deline The script may also	ipv4-addr-for ated-list-of-[	-devic DNS-s	erver: erver:
				to request logout of	f the portal.		addici
Print View Details Prob	e Display	Sca	an Sync	Apply Ok	<	Cance	el

- 5. Testing a station. We will toggle it up and down and look at the logs to find problems.
  - A. Highlight one of your stations in the Ports tab.
  - B. Set the *Report Time* to 1s and click Apply
  - C. In the *Batch Modify* window, click the **Up** button. This is the same as settting **Up/Down** to **UP** and clicking **Apply**
  - D. Watch the *Wireless Messages* and *LANforge Messages* windows for error messages. The *Ports* tab will update the station status.
- 6. Use the Batch Modify window to Force DHCP Renewal
  - A. Click  $\ensuremath{\text{Down}}$

🙆 LAN	forge Port	<b>Batch Modi</b>	fier ▲ _ ¤ ×
+ - All		▼ Apply	<u>O</u> K <u>C</u> ancel
Clear DHCP	Up Down	Down Logout	Portal Re-login
0	X.		
Up/Down	NA 💌	DHCP Release	NA
DHCP-IPv4	NA	DHCP Client ID	NA
DNS Servers	NA	IPv6_GW	<b>•</b>

#### B. click Clear DHCP

🙆 LAN	forge Port	Batch Modi	fier 💁 –	ПX
+ - All		▼ Apply	<u>O</u> K <u>C</u> and	el
Clear DHCP	Up Down	Down Logout	Portal Re-login	<b>^</b>
1				=
Up/Down	NA 🔻	DHCP Release	NA 👻	
DHCP-IPv4	NA 🔽	DHCP Client ID	NA 👻	
DNS Servers	NA	IPv6_GW		-

C. click **Up** 

🙆 LAN	forge Port	Batch Modi	fier	≙_ □ X
+ - All		▼ Apply	<u>0</u> K	<u>C</u> ancel
Clear DHCP	Up Down	Down Logout	Portal Re-login	
1	<i>N</i>			
Up/Down	NA 🔽	DHCP Release	NA	-
DHCP-IPv4	NA 👻	DHCP Client ID	NA	-
DNS Seniers	NA	IPV6.GW		

#### 7. Use the *Batch Modify* window to **Re-Login to Portal**

### A. Click Portal Re-Login

- B. If you wanted to change other parameters:
- C. Click Down Logout
- D. Set Up/Down to **Down**
- E. Change another station parameters and then click Apply
- F. Click **Up**
- 8. Use the Batch Modify window to Change station MAC addresses

🙆 LAN'	forge Port	Batch Modi	fier 🦉	≜_ □ X
+ - All		→ <u>B</u> Apply	<u>0</u> K	<u>C</u> ancel
Clear DHCP	Up <b>1</b> Down	Down Logout	Portal Re-login	
1				
Up/Down	NA 💌	DHCP Release	NA	-
DHCP-IPv4	NA 🗸	DHCP Client ID	NA	-
DNS Servers	NA	IPv6 GW		
Reset Port IP	NA 🔻	Global IPv6		
IP Mask	NA	Link IPv6		
Gateway IP	NA	DHCP-IPv6	NA	-
Alias		MTU	NA	
мас 2	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	TX Q Len	NA	
Rpt Timer	NA 👻	WiFi Bridge	NA	-
FTP	NA	HTTP	NA	-

- A. Click Down
- B. Set MAC Addr to xx:xx:\*:\*:\* randomize the mac address

- C. Click Apply
- D. Click **Up**

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