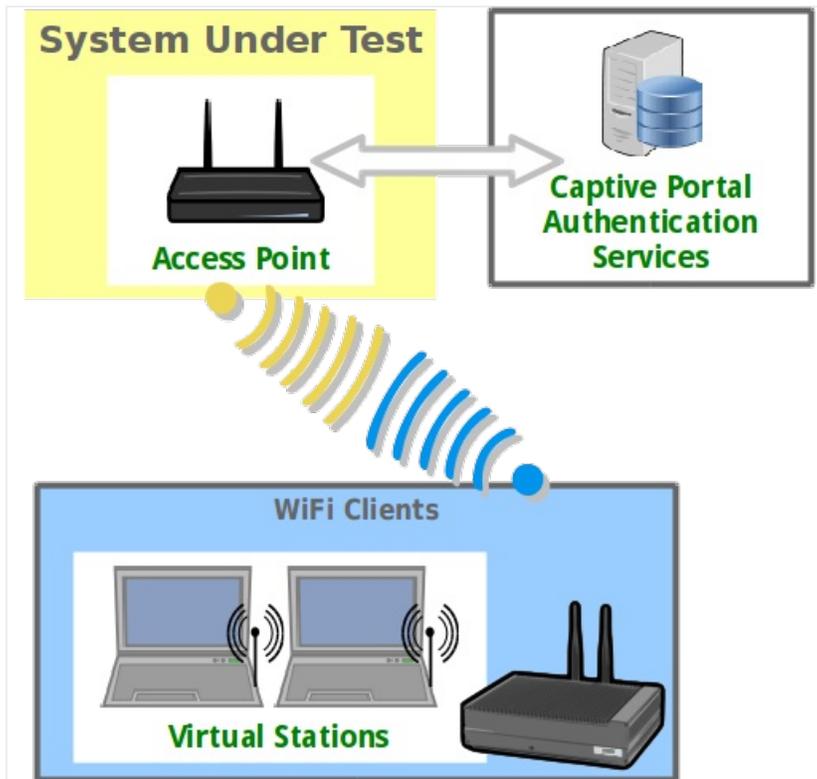


WiFi Captive Portal Login

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.



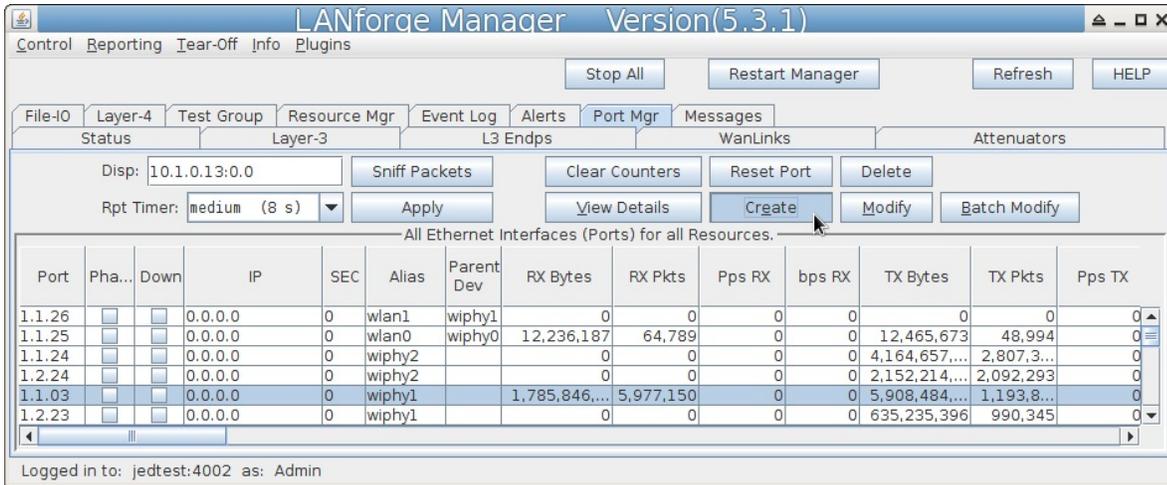
1. Prepare a portal login script (`lf_ifup_post`)
2. The `lf_ifup_post` script will be called after DHCP assignment for a station occurs. It can also be called before DHCP release. This script is called from the LANforge resource hosting the virtual station.
 - A. The script should be in directory `/home/lanforge/`.
 - 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:

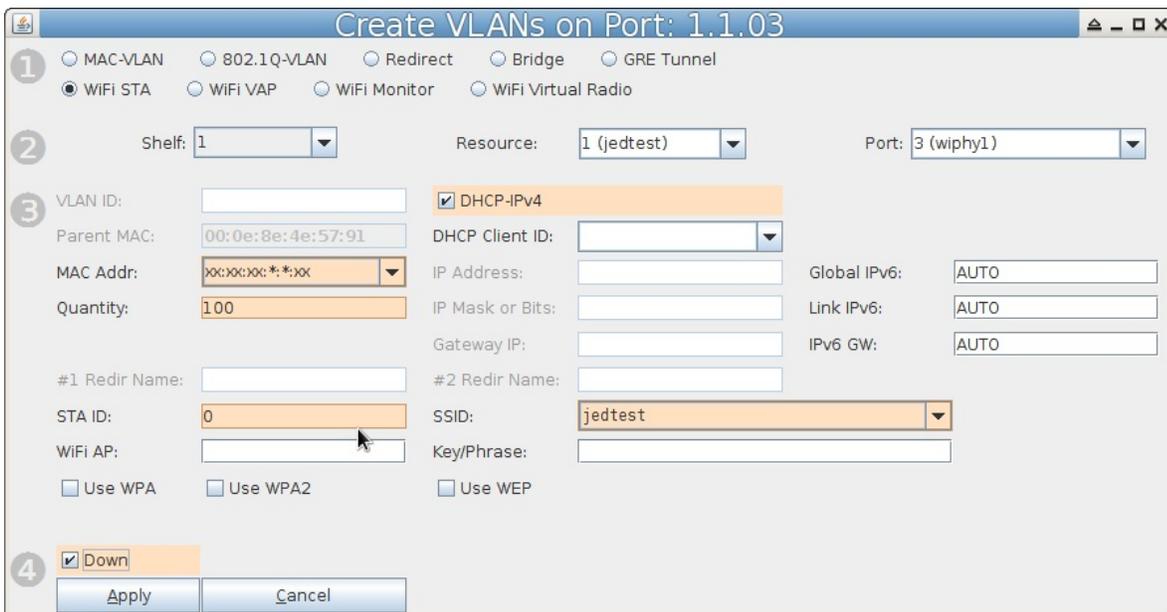
- A. **OK**
- B. **FAIL**
- C. **FAIL:reason**, this provides feedback on failure occurrence.

3. Create WiFi stations

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



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



- A. Select *WiFi STA*
- B. For MAC address, choose `xx:xx:xx:*:*: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:

LANforge Manager Version(5.3.1)

Control Reporting Tear-Off Info Plugins

Stop All Restart Manager Refresh HELP

Attenuators File-I/O Layer-4 Test Group Resource Mgr Event Log Alerts Port Mgr Messages

Status Layer-3 L3 Endps WanLinks

Disp: 10.1.0.13:0.0 Sniff Packets Clear Counters Reset Port Delete

Rpt Timer: medium (8 s) Apply View Details Create Modify Batch Modify

All Ethernet Interfaces (Ports) for all Resources.

Port	Pha...	Down	IP	SEC	Alias	Parent Dev	RX Bytes	RX Pkts	Pps RX	bps RX	TX Bytes	TX Pkts	Pps TX
1.2.05		<input type="checkbox"/>	10.26.0.39	0	eth1#9	eth1	482,838,35...	321,749...	0	0	402,205,20...	318,926...	0
1.1.02		<input checked="" type="checkbox"/>	0.0.0.0	0	sta0	wiphy1	0	0	0	0	0	0	0
1.1.04		<input checked="" type="checkbox"/>	0.0.0.0	0	sta1	wiphy1	195,826	1,085	0	0	187,120	976	0
1.1.13		<input checked="" type="checkbox"/>	0.0.0.0	0	sta10	wiphy1	52,622	305	0	0	6,394	35	0
1.1.14		<input checked="" type="checkbox"/>	0.0.0.0	0	sta11	wiphy1	52,106	301	0	0	6,332	34	0
1.1.15		<input checked="" type="checkbox"/>	0.0.0.0	0	sta12	wiphy1	51,836	302	0	0	6,208	32	0
1.1.16		<input checked="" type="checkbox"/>	0.0.0.0	0	sta13	wiphy1	51,814	301	0	0	6,756	36	0
1.1.17		<input checked="" type="checkbox"/>	0.0.0.0	0	sta14	wiphy1	52,148	302	0	0	6,942	39	0
1.1.18		<input checked="" type="checkbox"/>	0.0.0.0	0	sta15	wiphy1	51,722	299	0	0	7,180	38	0
1.1.19		<input checked="" type="checkbox"/>	0.0.0.0	0	sta16	wiphy1	51,380	298	0	0	6,880	38	0
1.1.20		<input checked="" type="checkbox"/>	0.0.0.0	0	sta17	wiphy1	51,470	299	0	0	6,818	37	0
1.1.21		<input checked="" type="checkbox"/>	0.0.0.0	0	sta18	wiphy1	52,058	301	0	0	6,208	32	0
1.1.22		<input checked="" type="checkbox"/>	0.0.0.0	0	sta19	wiphy1	52,238	303	0	0	6,880	38	0
1.1.05		<input checked="" type="checkbox"/>	0.0.0.0	0	sta2	wiphy1	52,142	301	0	0	6,332	34	0
1.1.06		<input checked="" type="checkbox"/>	0.0.0.0	0	sta3	wiphy1	51,540	300	0	0	6,694	35	0
1.1.07		<input checked="" type="checkbox"/>	0.0.0.0	0	sta4	wiphy1	51,722	299	0	0	5,784	30	0
1.1.08		<input checked="" type="checkbox"/>	0.0.0.0	0	sta5	wiphy1	51,380	298	0	0	6,508	32	0
1.1.09		<input checked="" type="checkbox"/>	0.0.0.0	0	sta6	wiphy1	51,722	299	0	0	7,118	37	0
1.1.10		<input checked="" type="checkbox"/>	0.0.0.0	0	sta7	wiphy1	51,540	300	0	0	6,270	33	0
1.1.11		<input checked="" type="checkbox"/>	0.0.0.0	0	sta8	wiphy1	52,260	304	0	0	6,332	34	0
1.1.12		<input checked="" type="checkbox"/>	0.0.0.0	0	sta9	wiphy1	51,752	300	0	0	6,332	34	0

Logged in to: jedtest:4002 as: Admin

4. Batch Modify Stations in order to update `lf_ifup_post` parameters

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

LANforge Manager Version(5.3.1)

Control Reporting Tear-Off Info Plugins

Stop All Restart Manager Refresh HELP

Attenuators File-I/O Layer-4 Test Group Resource Mgr Event Log Alerts Port Mgr Messages

Status Layer-3 L3 Endps WanLinks

Disp: 10.1.0.13:0.0 Sniff Packets Clear Counters Reset Port Delete

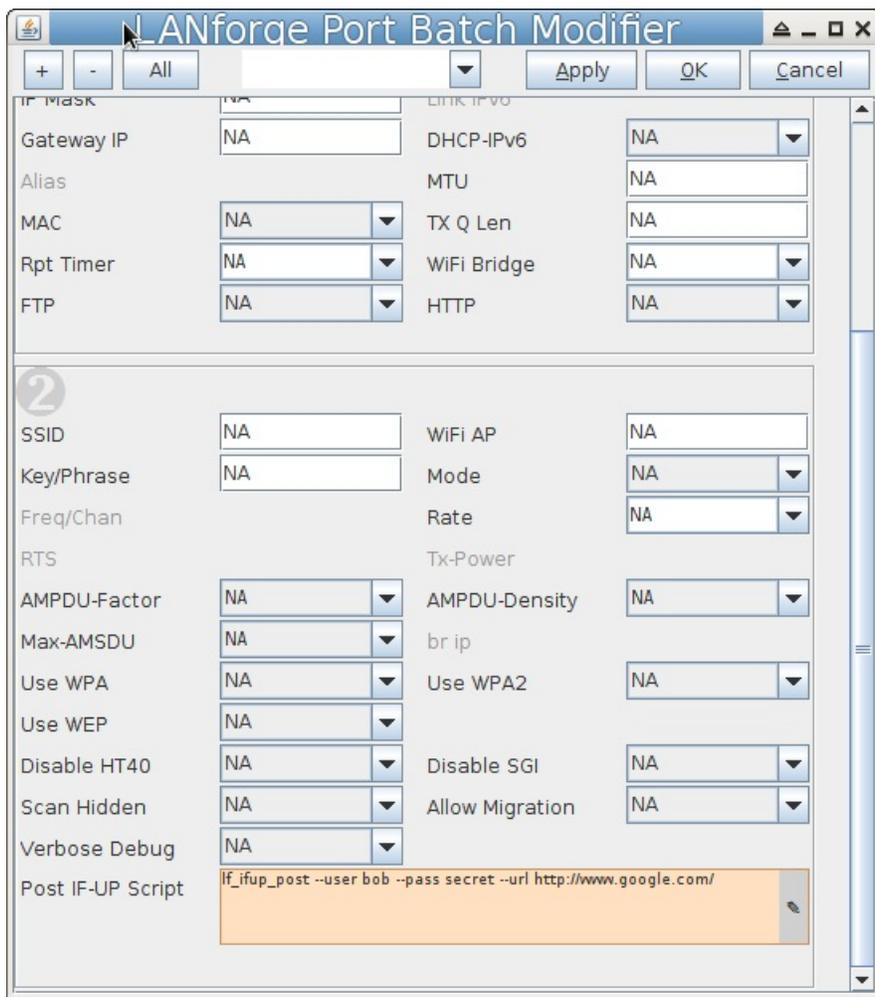
Rpt Timer: medium (8 s) Apply View Details Create Modify Batch Modify

All Ethernet Interfaces (Ports) for all Resources.

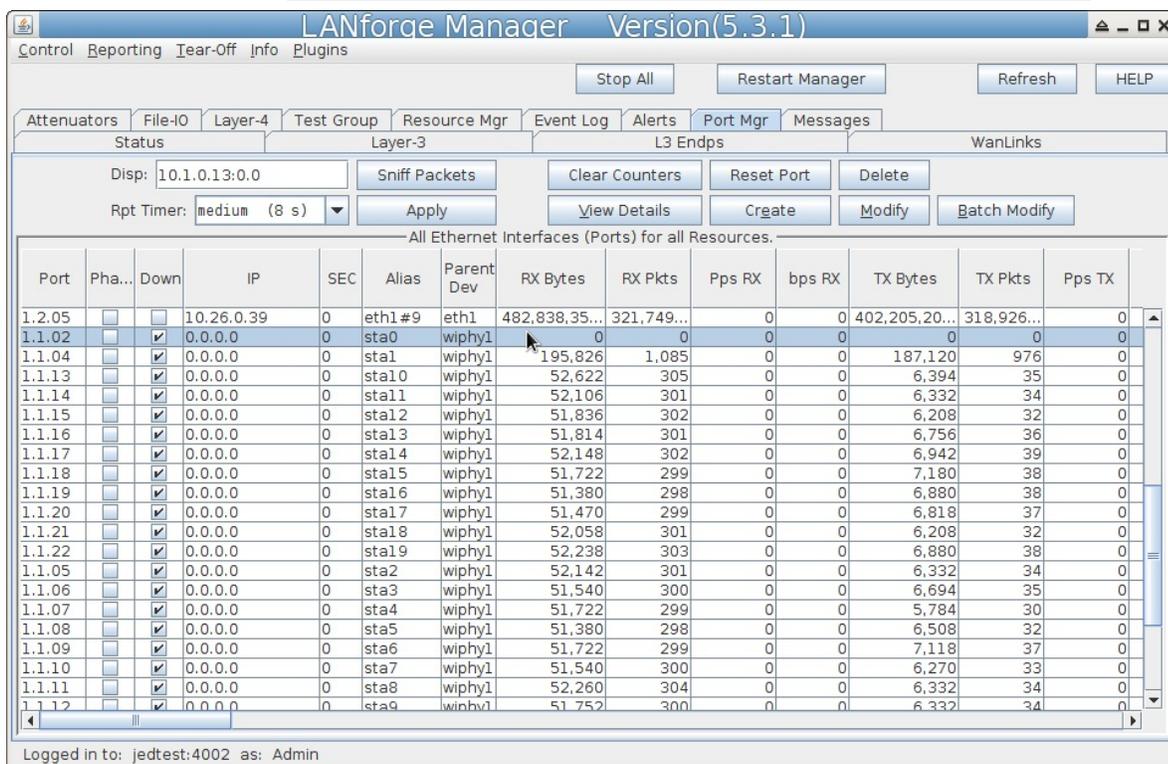
Port	Pha...	Down	IP	SEC	Alias	Parent Dev	RX Bytes	RX Pkts	Pps RX	bps RX	TX Bytes	TX Pkts	Pps TX
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1.1.02		<input checked="" type="checkbox"/>	0.0.0.0	0	sta0	wiphy1	0	0	0	0	0	0	0
1.1.04		<input checked="" type="checkbox"/>	0.0.0.0	0	sta1	wiphy1	195,826	1,085	0	0	187,120	976	0
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1.1.18		<input checked="" type="checkbox"/>	0.0.0.0	0	sta15	wiphy1	51,722	299	0	0	7,180	38	0
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1.1.09		<input checked="" type="checkbox"/>	0.0.0.0	0	sta6	wiphy1	51,722	299	0	0	7,118	37	0
1.1.10		<input checked="" type="checkbox"/>	0.0.0.0	0	sta7	wiphy1	51,540	300	0	0	6,270	33	0
1.1.11		<input checked="" type="checkbox"/>	0.0.0.0	0	sta8	wiphy1	52,260	304	0	0	6,332	34	0
1.1.12		<input checked="" type="checkbox"/>	0.0.0.0	0	sta9	wiphy1	51,752	300	0	0	6,332	34	0

Logged in to: jedtest:4002 as: Admin

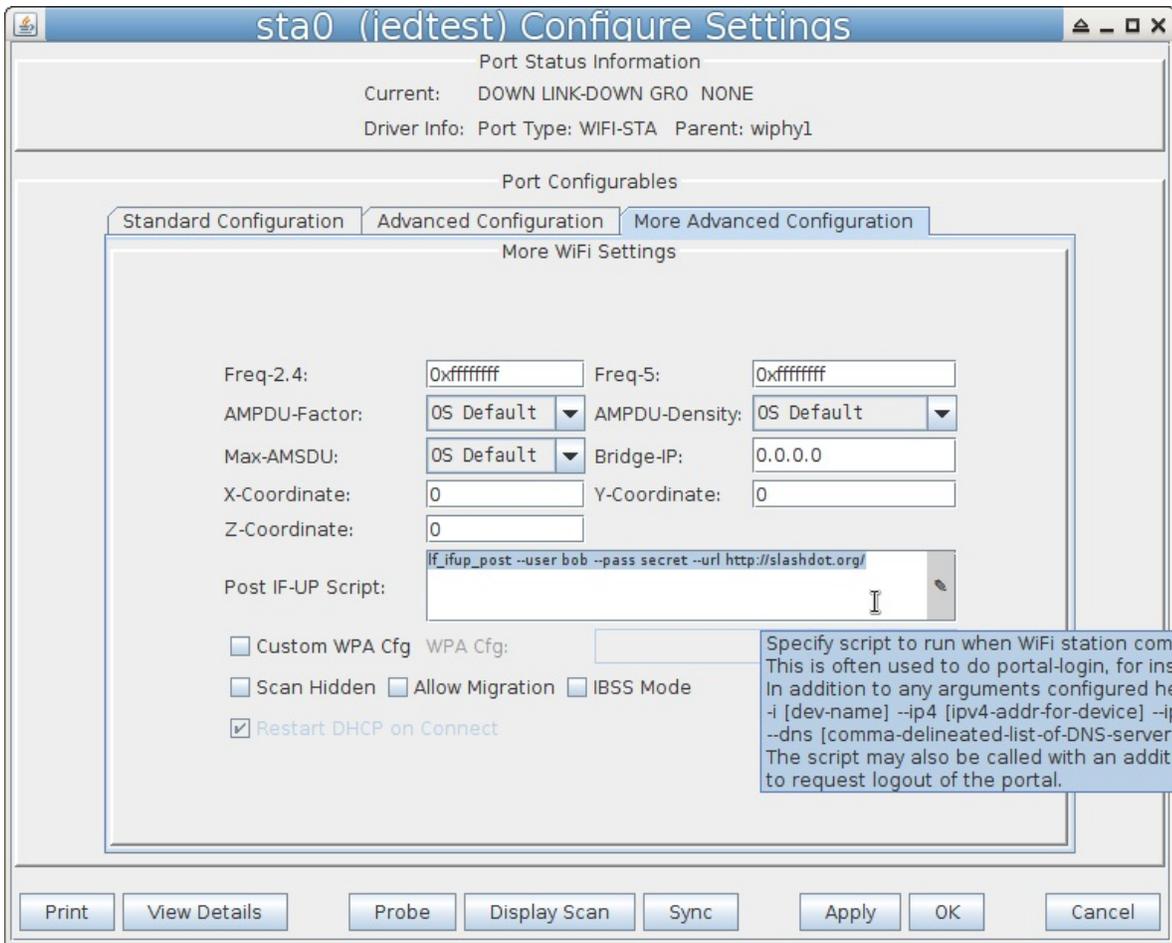
B. In the *Batch Modify* screen, click the + button and expand to Group 2.



C. Edit the IF POST field. Enter the file name and any extra arguments that the script will want for this port. Example: `lf_ifup_post --user bob --pass secret --url http://slashdot.org/`

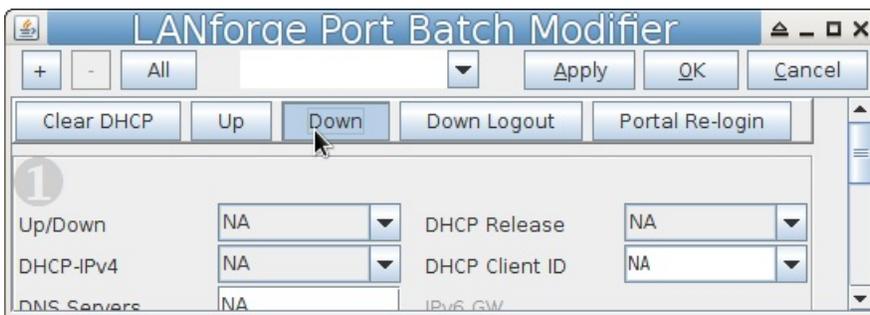


- D. Click the **Apply** button to apply the changes. Do not close the window yet.
- E. To check the value of each port's **IF/UP Post** you can use the *Ports* tab. In the port *Configure Settings* window, in the **More Advanced Tab** you can find the IF/UP script value.



- 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 setting **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 **Down**



B. click **Clear DHCP**



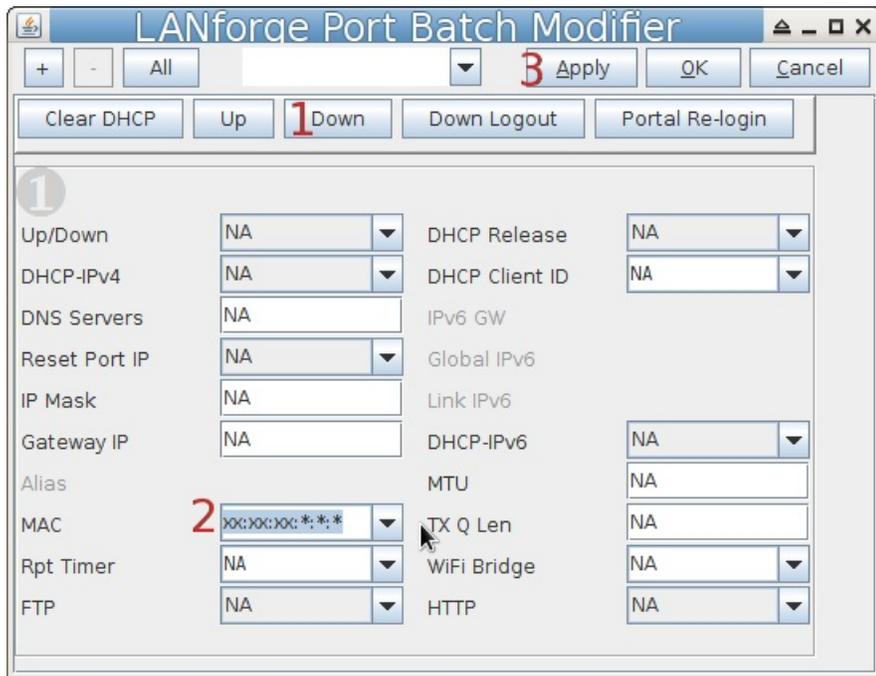
C. click **Up**



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**



- A. Click **Down**
- B. Set *MAC Addr* to `xx:xx:xx:*:*` randomize the mac address
- C. Click **Apply**
- D. Click **Up**

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