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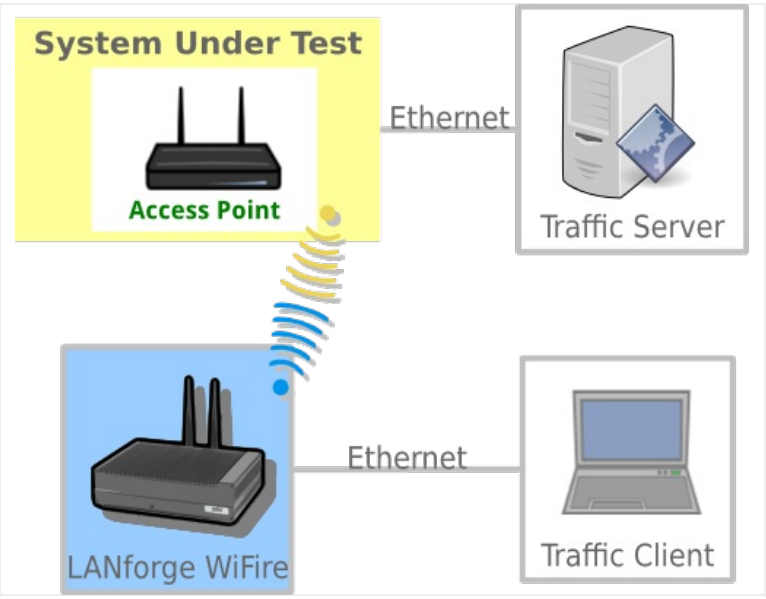
Generate WiFi Traffic from an External Connection

Goal: Create a bridged WiFi station that redirects traffic from an ethernet port.

It is possible to use a system on a wired LAN to generate traffic through a LANforge virtual WiFi station. This example will show a Windows PC driving traffic across a LANforge CT520 STA to the associated AP. This is a useful scenario for driving custom traffic between traffic testing software endpoints distinct from the LANforge system. A virtualized Windows PC will work with this scenario.



The primary technique in this cookbook uses a technique where the MAC address of the WiFi STA is spoofing the address of the Windows PC. It is also possible to use this technique with IPv4 addresses and not MAC addresses. However, using MAC addresses will allow IPv6 traffic to work.

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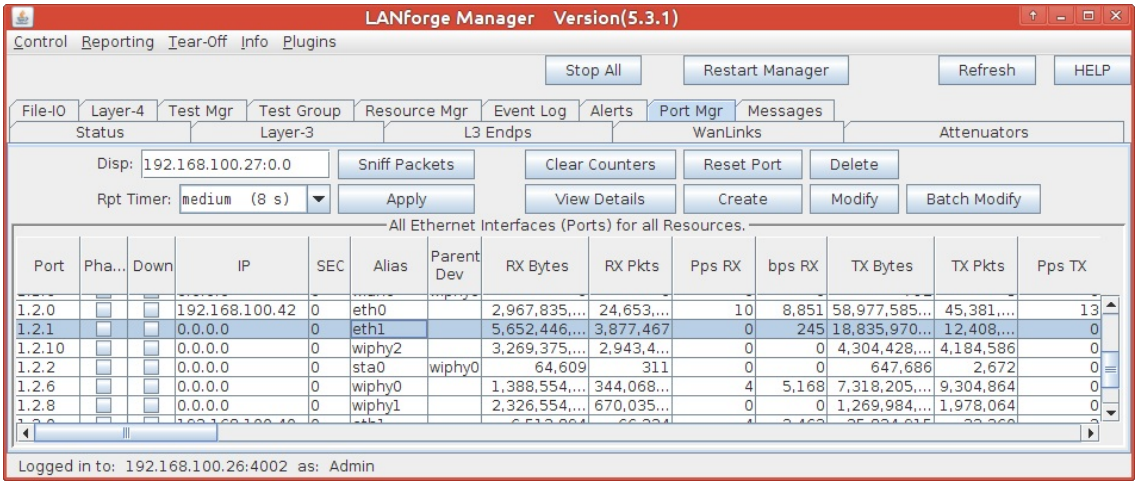
1. Find the MAC Address of the Windows PC.
   A. We will use MAC address `08:00:27:c4:4e:4f`. This will be used when you configure the WiFi STA on the LANforge machine.
   B. Please set the IP address of the interface if it is not yet set.

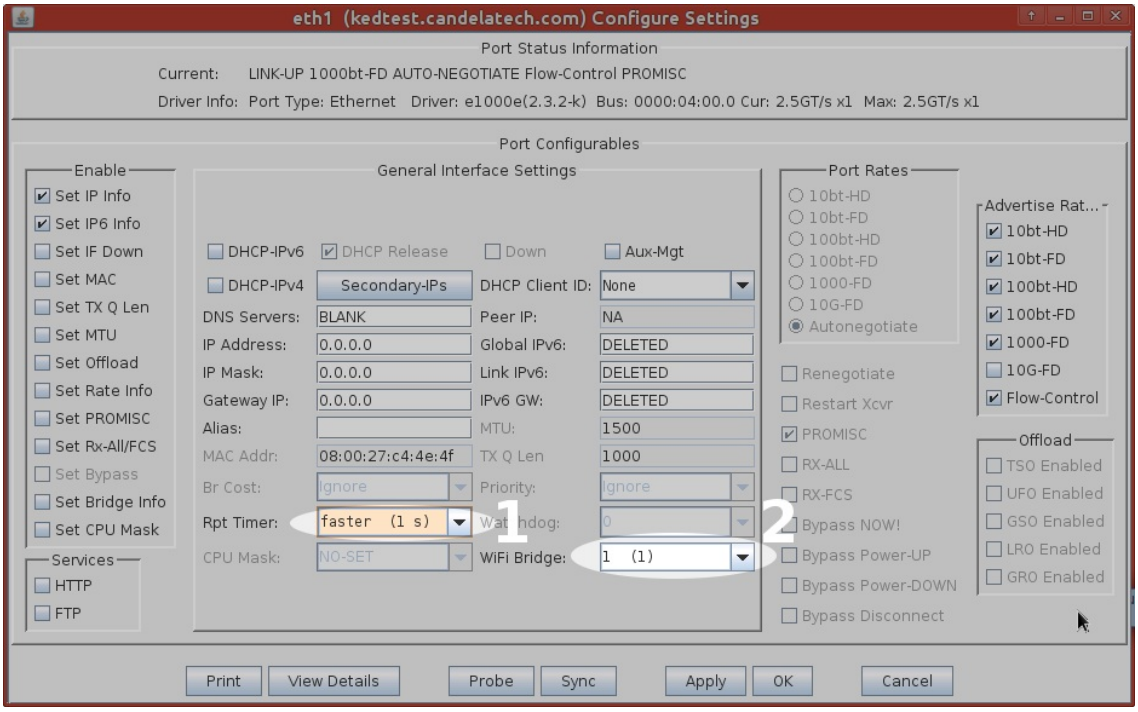
   For more information see Windows IP Addresses

2. Configure your LANforge Wireless Station. We will be configuring the MAC addresses of a station to be the MAC address of the Windows PC we just found.

A. In the Ports tab, double-click on the ethernet port on the same switch as the Windows PC (eth1 in this example).



B. Configure the port MAC address and WiFi-Bridge settings to be:



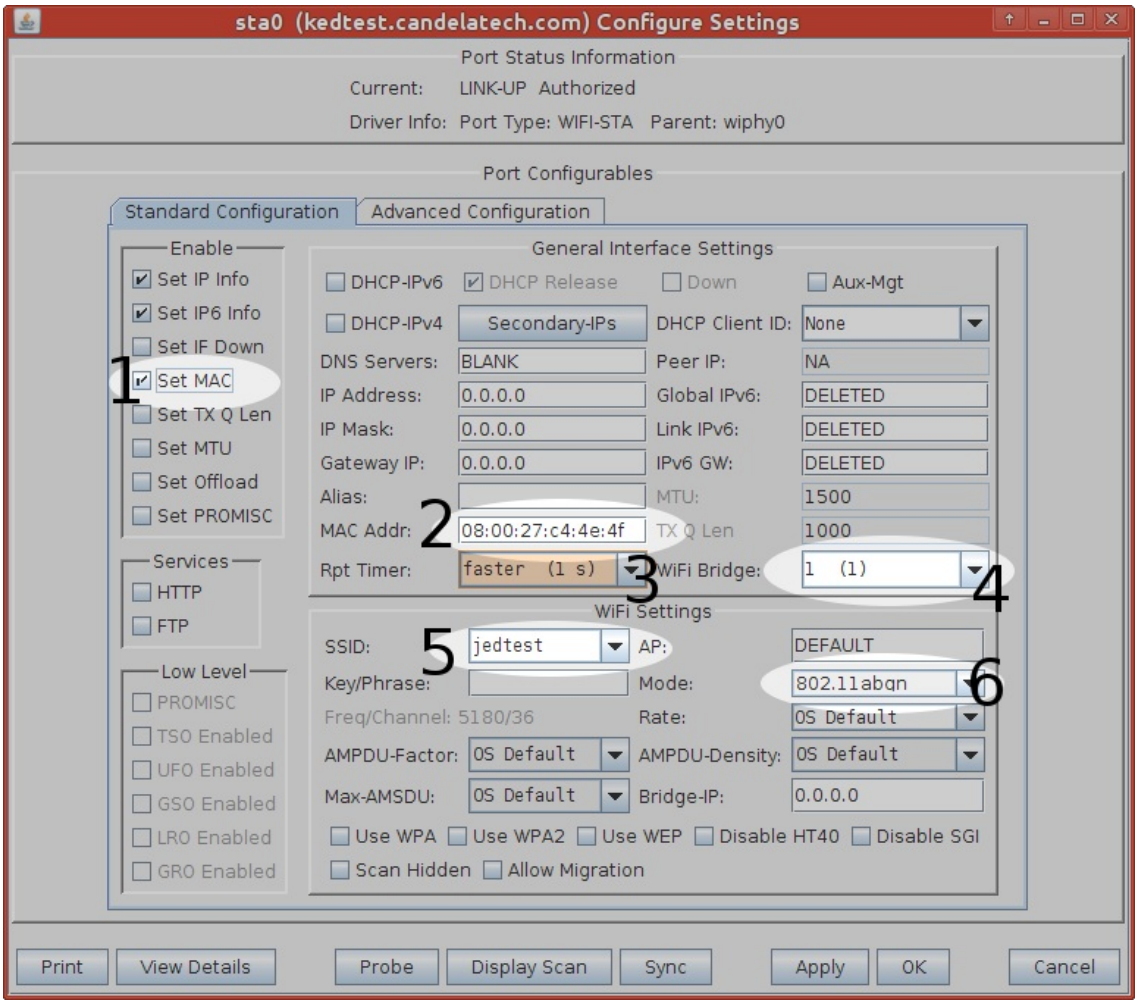
A. Do not set the mac address or the ip address of the port

B. Set Rpt Timer to `faster (1 s)`

C. Select `1` for WiFi Bridge

D. Click the **OK** button

C. Configure a WiFi station. This example will be connecting to a WiFi AP with the SSID jedtest.



A. Enable **Set MAC**

B. Use `08:00:27:c4:4e:4f` for the MAC Addr

C. Set Rpt Timer to `faster (1 s)`

D. Select `1` for WiFi Bridge

E. Enter `jedtest` for the SSID

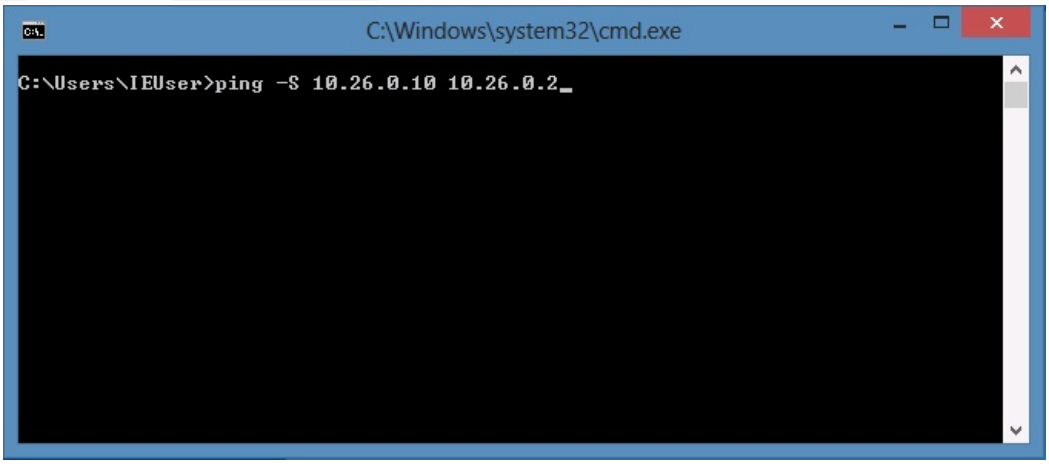
F. Select `802.11abgn` for the Mode

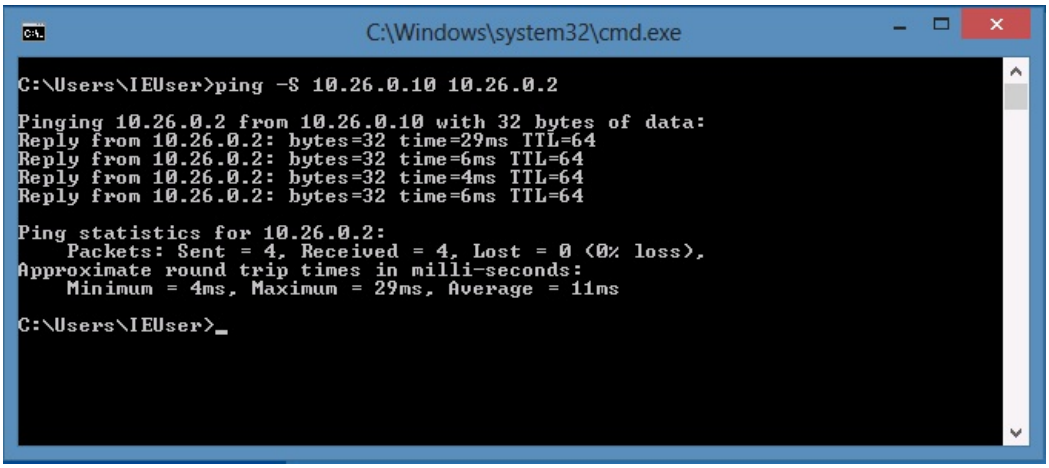
G. Click the **OK** button

D. (Note: these MAC addresses will remain persistent even through a LANforge Manager restart. To restore the physical mac addresses, you need to reboot the LANforge machine or use ethtool to find the physical hardware address.)

3. Sending and Validating Traffic

A. Use ping on the Windows machine to reach 10.26.0.2, the AP machine. To ping from a specific interface, use the `-S` switch like so: `ping -S 10.26.0.10`





B. On LANforge, use tcpdump to view packets traversing the Station interface, `sudo tcpdump -ni sta0 icmp`