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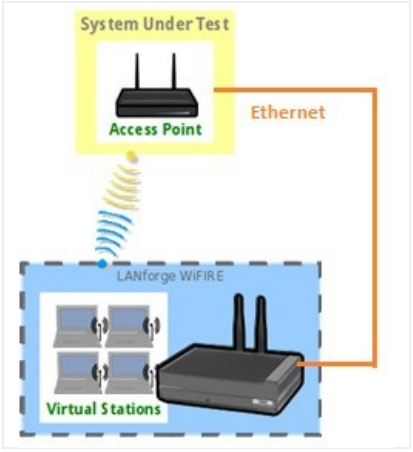
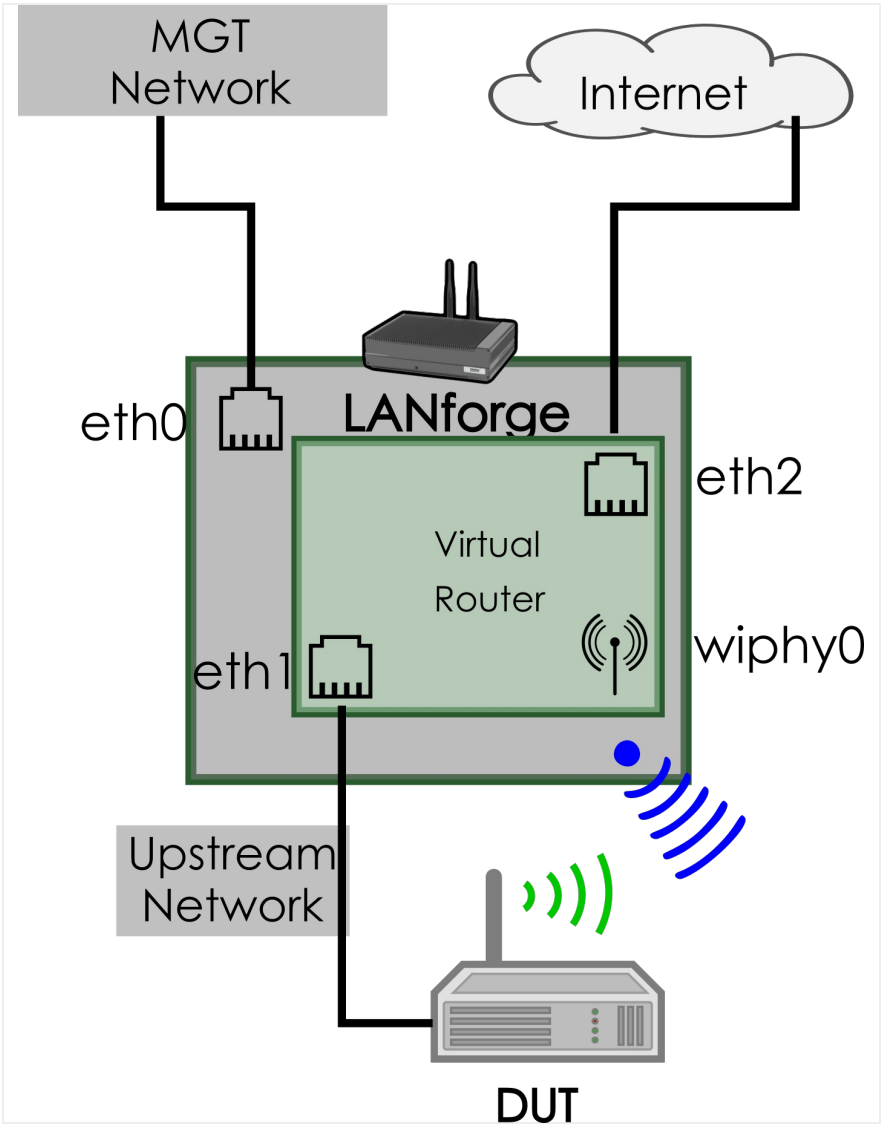
Advanced AP Testing with LANforge (using Chamber View)

Goal: Provide VLANs and upstream router for AP, as well as stations for complete end-to-end testing.

In this test scenario a LANforge system will provide a DHCP server with 802.1q vlans, provide NATed access to the internet for the AP, as well as create stations that will connect to the WiFi AP under test. The AP's Ethernet interface is connected to a LANforge Ethernet interface allowing the LANforge system to create both the wireless stations and Ethernet server. This is an advanced topic, so some steps will be glossed over. This requires LANforge version 5.4.3 or higher.

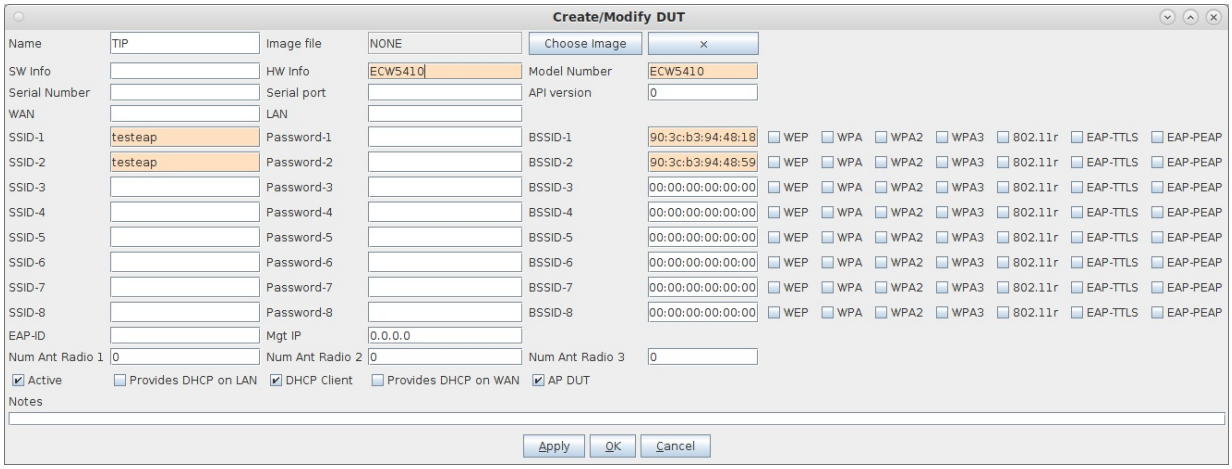


This scenario is built with these components

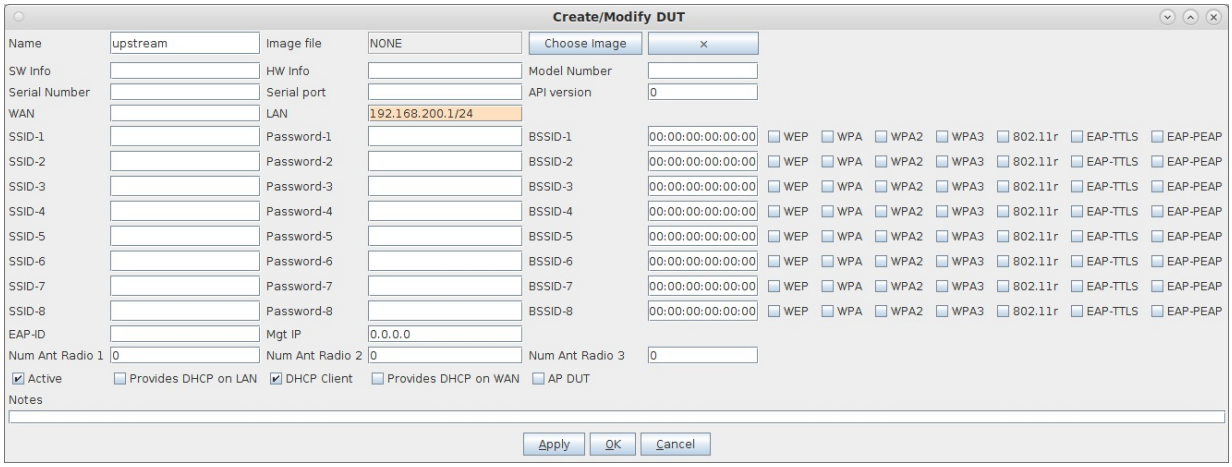


1. **Click on the Chamber View button in the LANforge GUI to launch the Chamber View screen.**

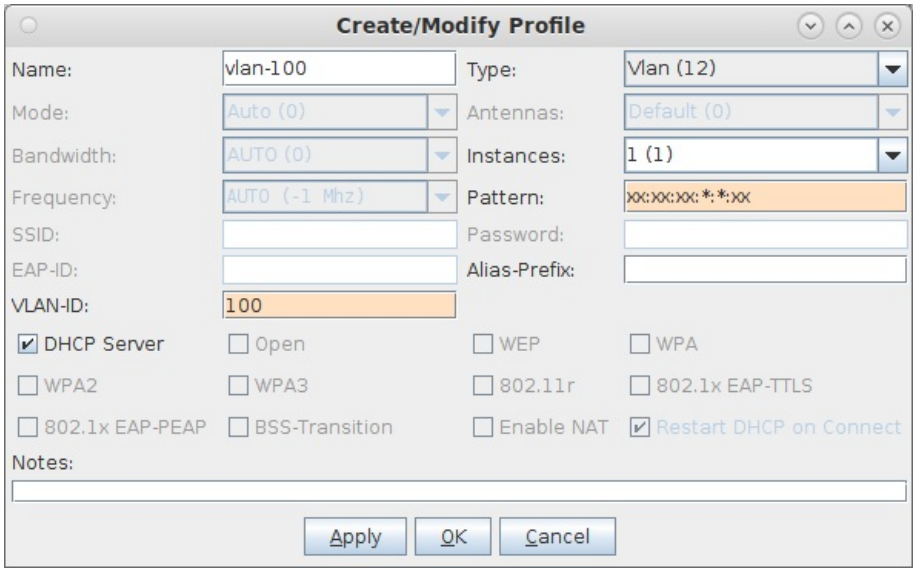
2. **Configure an AP under test (DUT).**



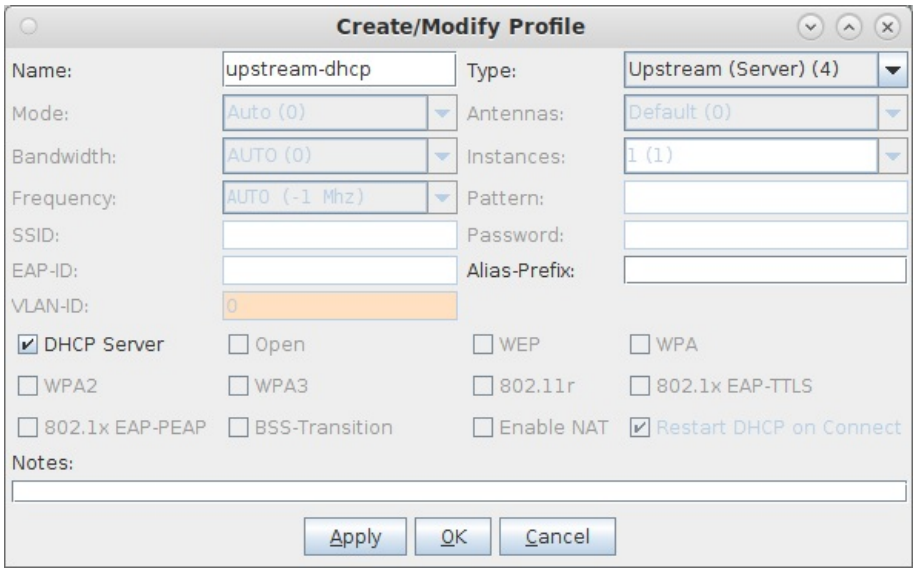
3. **Configure an Upstream (DUT).** This represents the upstream route for the AP's path to the Internet. The LANforge Ethernet port (eth2 in this example) that provides uplink to the internet must be configured with a static IP address (not via DHCP).



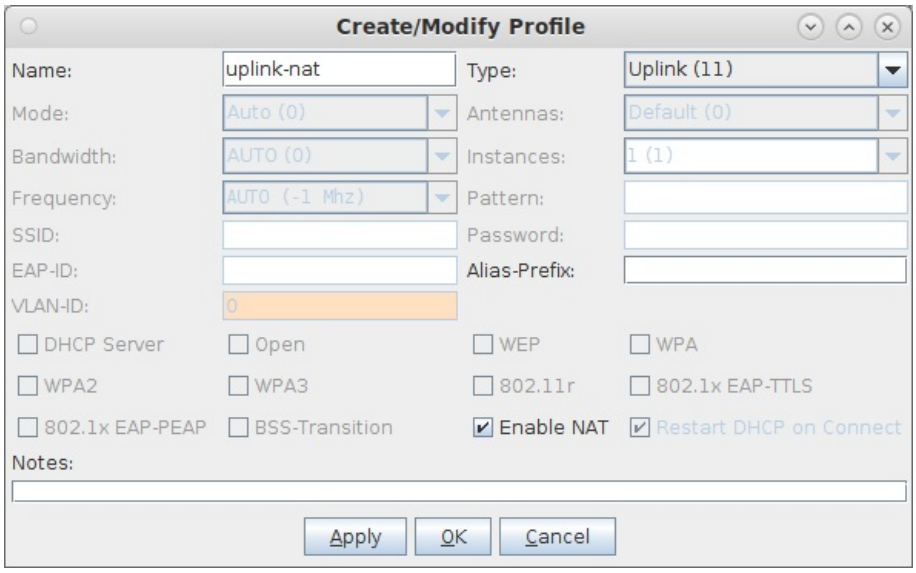
4. **Profiles used in this scenario include VLAN.**



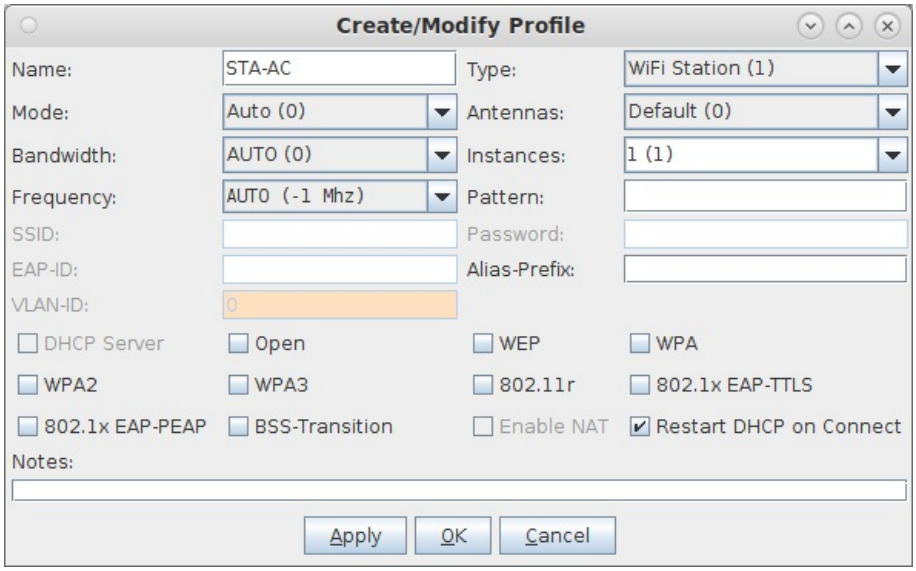
5. **Profiles used in this scenario include Upstream.**



6. **Profiles used in this scenario include Uplink.**

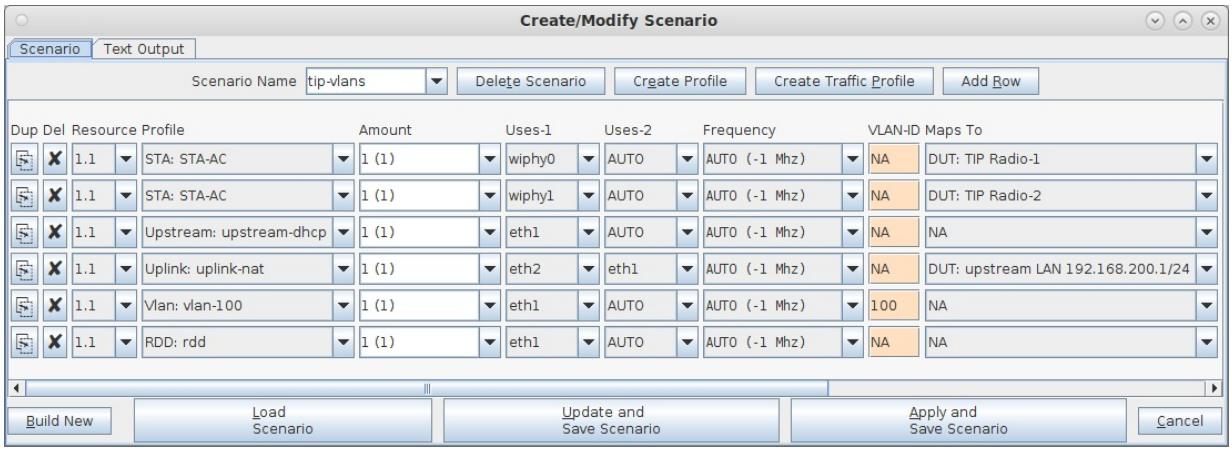


7. **Profiles used in this scenario include Stations.**

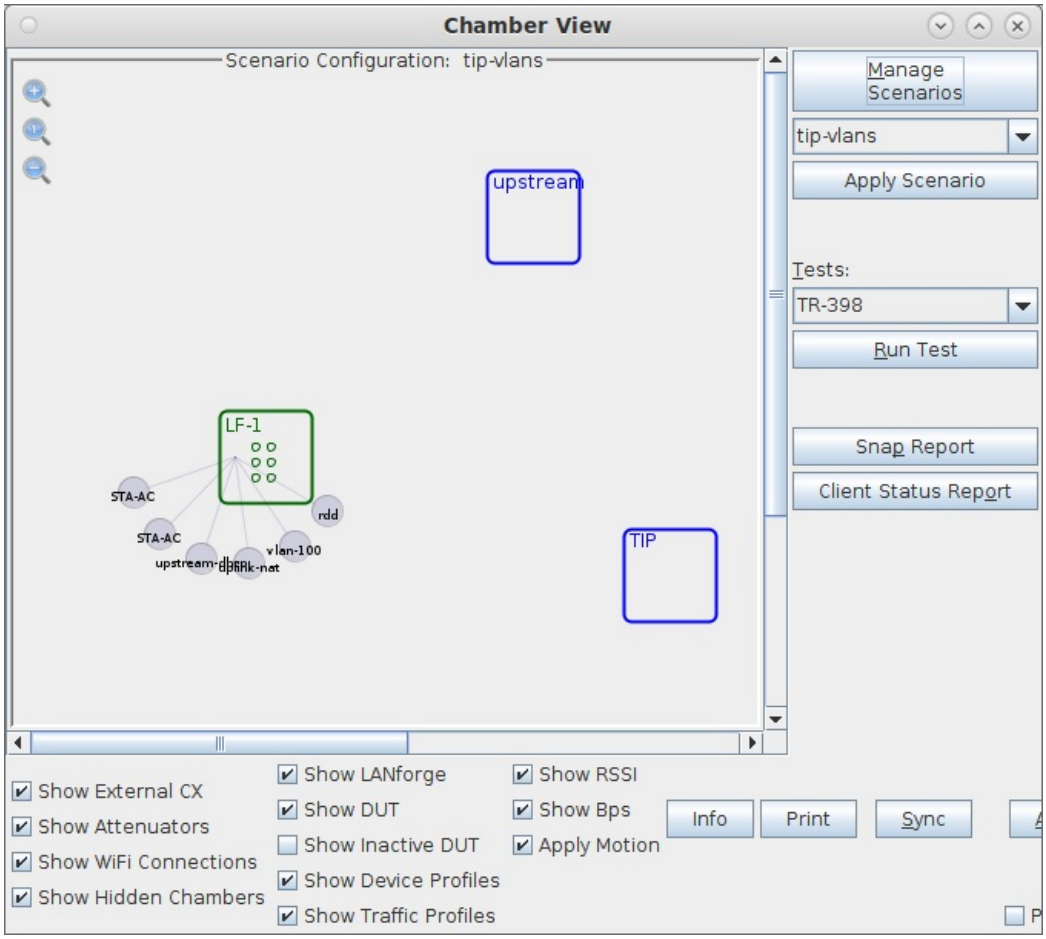


8. **Create a Chamber View Scenario.** The first two rows specify the radios used for virtual stations. The third row is for the Upstream port. This is what the AP connects to with its WAN port. The Uplink-Nat row, associated with eth2, indicates that the eth2 port routes the APs traffic to the internet. The Maps-to portion of this line is important. The secondary port 'eth1' mapping associates this uplink port with the virtual-router that will hold eth2. The VLAN line creates an 802.1q VLAN on port eth1. Additional VLANs can be added as needed. The

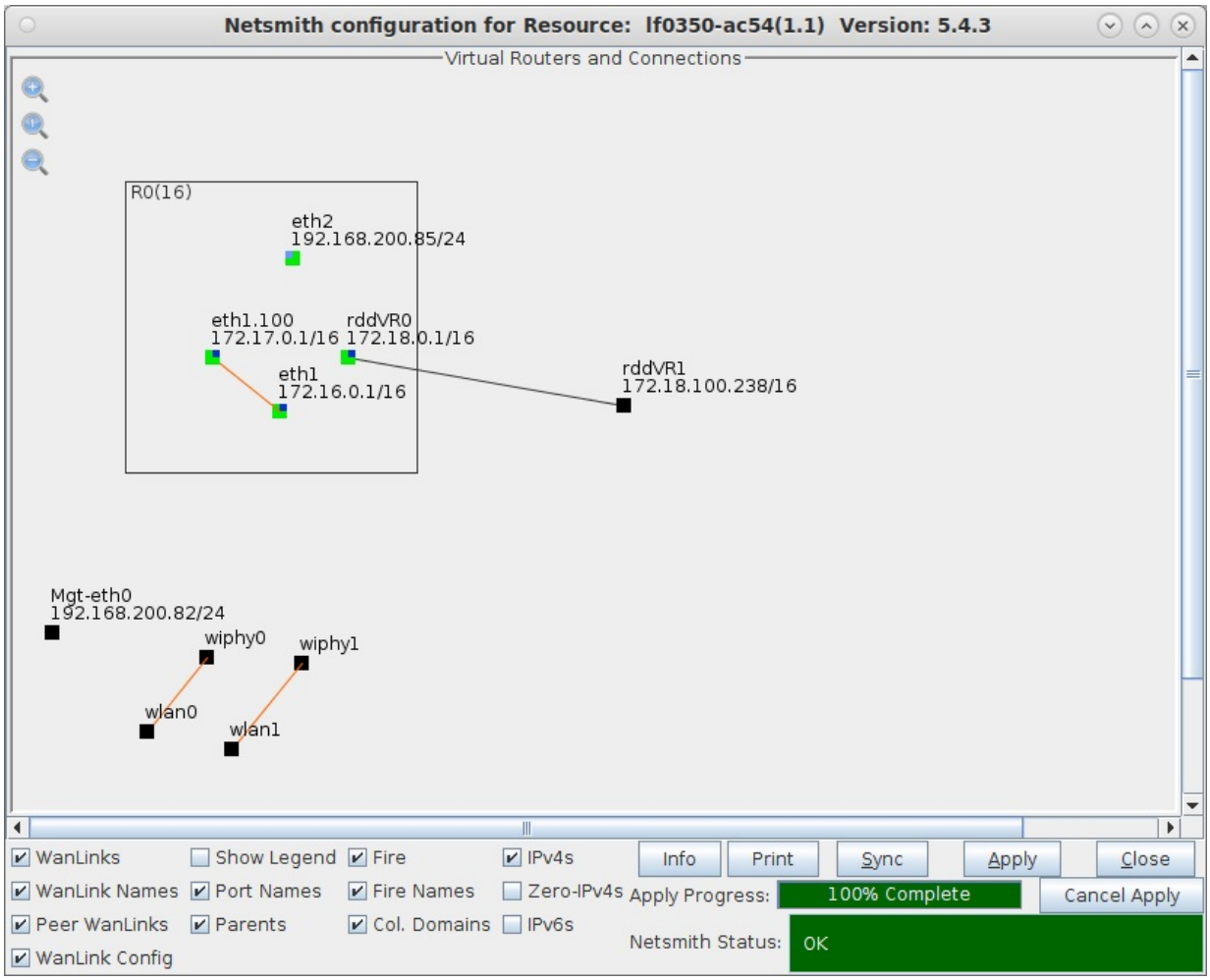
final RDD line creates a virtual Ethernet pair and adds to the virtual router associated with eth1. The RDD port outside of the virtual router can be used as an upstream port that is able to generate traffic across eth1 and any VLANs created.



9. **Chamber-view screen with LANforge, AP, and Upstream.** When satisfied with the scenario, click Build Scenario and the ports and virtual router will be created and configured.



10. **Netsmith virtual router.** The step above creates the Netsmith configuration. Eth2 is our uplink port, it enables NAT for anything routing out of it. Eth1 and the vlan eth1.100 provide DHCP leases to the DUT and DUT's stations. The rddVR1 port is a convenient 'upstream' port for generating traffic to/from the stations across the DUT. The IP addresses for eth1, eth1.100 and rddVR* are auto-created by the scenario building logic. The wlan0 and wlan1 are stations that can be associated with the AP.



11. At this point, your AP should be able to get a DHCP address from the LANforge virtual router and connect to the Internet. You can run various tests using the pull-down test selector in Chamber View, do manual testing, or launch fully automated scripted tests against the system.