sales@candelatech.com
support@candelatech.com
+1 (360) 380-1618 [PST, GMT -8]

Automated Probing of Ports for information

Goal: Probe a port for information on that port.

We will learn how to use a script to probe a port for more information.We will also look at the ouput from the GUI, JSON response, and the script itself. Use the port_probe.py script as a reference.

---

1. Using the Script

A. Command Line Options

A. `--port_eid portEID`

Specifies the eid of the port to be probed, if this option is used, the name will default to **1.1.eth0**.

B. Running the script

A. As an example, we can run the script using:

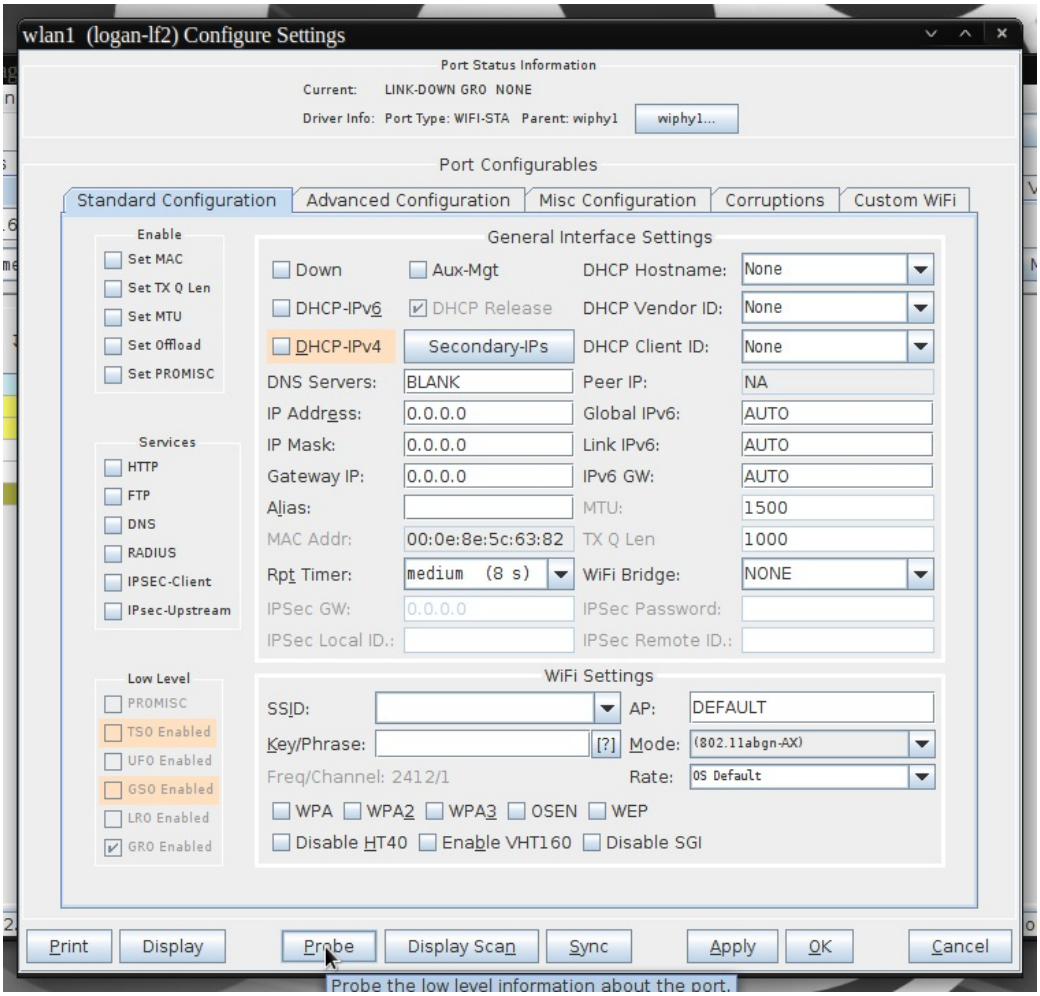
```
./sta_probe_test.py --port_eid 1.1.wlan1
```

This example will probe the existing wlan1 port

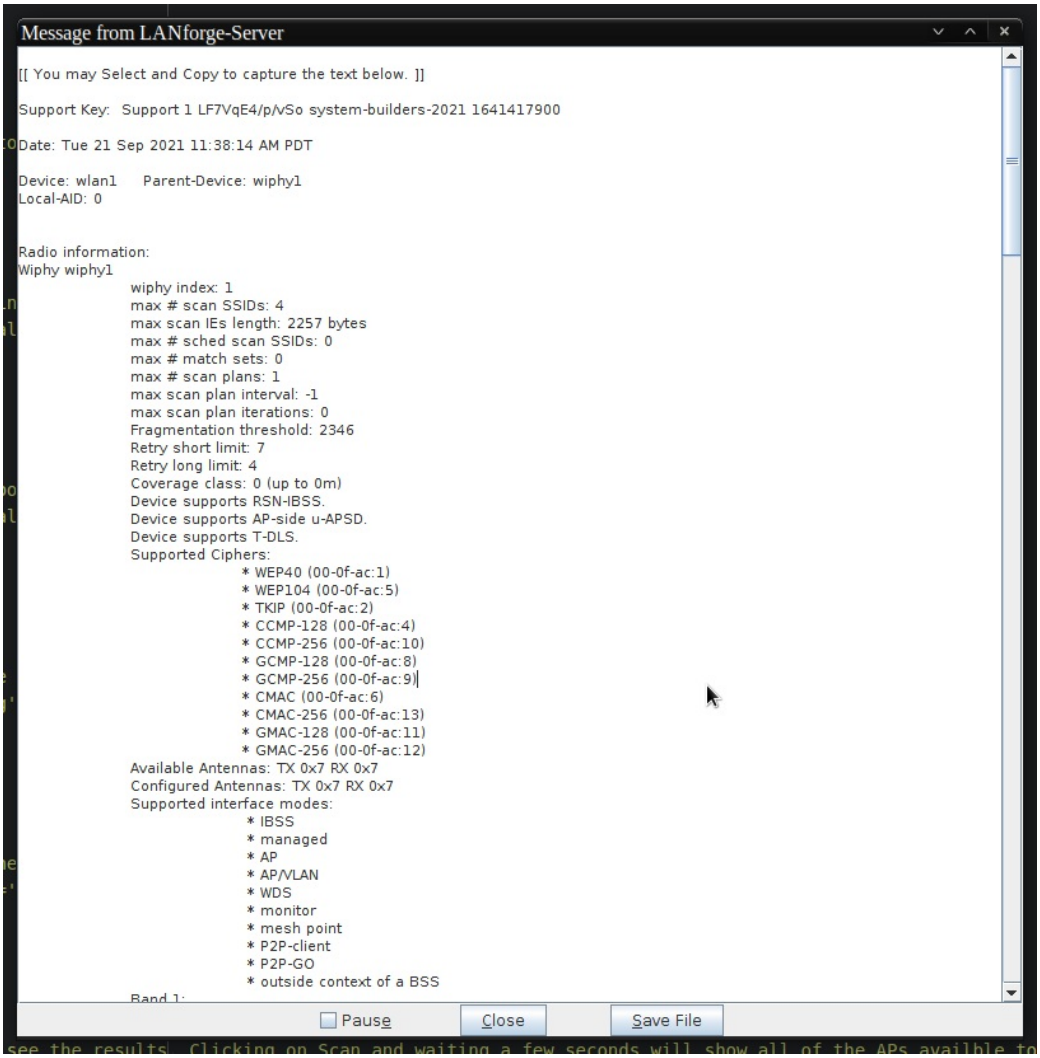
2. Probe Results From the GUI

A. In order to view this page we will need to choose a port to use and start probing.

A. First we will open the configure settings window for our chosen port:



B. Next we will click the probe button at the bottom of the window and another window will popup with the probe information:



This information is the formatted version of the probe. The other methods of accessing probe results will be unformatted JSON.

3. ## JSON Response from /probe/

A. Another way of viewing the same information is to access the /probe/ page from LANforge. This can be done by going to the page at your LANforge ip using port 8080. Ex: 192.168.10.20:8080/probe. We will also need the shelf number, the resource number, and the port name.
The final URL would look like this: **192.168.10.20:8080/probe/1/1/wlan1** and the page will look similar to this:

- 1.1.wlan1:
  - entity id: NA
  - probe results: Date: Tue 21 Sep 2021 11:38:14 AM PDT Device: wlan1 Parent-Device: wiphy1 Local-AID: 0 Radio information: Wiphy wiphy1 wiphy index: 1 max # scan SSIDs: 4 max scan IEs length: 2257 bytes max # sched scan SSIDs: 0 max # match sets: 0 max # scan plans: 1 max scan plan interval: -1 max scan plan iterations: 0 Fragmentation threshold: 2346 Retry short limit: 7 Retry long limit: 4 Coverage class: 0 (up to 0m) Device supports RSN-IBSS. Device supports AP-side u-APSD. Device supports T-DLS. Supported Ciphers: * WEP40 (00-0f-ac:1) * WEP104 (00-0f-ac:5) * TKIP (00-0f-ac:2) * CCMP-128 (00-0f-ac:4) * CCMP-256 (00-0f-ac:10) * GCMP-128 (00-0f-ac:8) * GCMP-256 (00-0f-ac:9) * CMAC (00-0f-ac:6) * CMAC-256 (00-0f-ac:13) * GMAC-128 (00-0f-ac:11) * GMAC-256 (00-0f-ac:12) Available Antennas: TX 0x7 RX 0x7 Configured Antennas: TX 0x7 RX 0x7 Supported interface modes: * IBSS * managed * AP * AP/VLAN * WDS * monitor * mesh point * P2P-client * P2P-GO * outside context of a BSS Band 1: Capabilities: 0x11ef RX LDPC HT20/HT40 SM Power Save disabled RX HT20 SGI RX HT40 SGI TX STBC RX STBC 1-stream Max AMSDU length: 3839 bytes DSSS/CCK HT40 Maximum RX AMPDU length 65535 bytes (exponent: 0x003) Minimum RX AMPDU time spacing: 8 usec (0x06) HT TX/RX MCS rate indexes supported: 0-23 Bitrates (non-HT): * 1.0 Mbps * 2.0 Mbps (short preamble supported) * 5.5 Mbps (short preamble supported) * 11.0 Mbps (short preamble supported) * 6.0 Mbps * 9.0 Mbps * 12.0 Mbps * 18.0 Mbps * 24.0 Mbps * 36.0 Mbps * 48.0 Mbps * 54.0 Mbps Frequencies: * 2412 MHz [1] (23.0 dBm) * 2417 MHz [2] (23.0 dBm) * 2422 MHz [3] (23.0 dBm) * 2427 MHz [4] (23.0 dBm) * 2432 MHz [5] (23.0 dBm) * 2437 MHz [6] (23.0 dBm) * 2442 MHz [7] (23.0 dBm) * 2447 MHz [8] (23.0 dBm) * 2452 MHz [9] (23.0 dBm) * 2457 MHz [10] (23.0 dBm) * 2462 MHz [11] (23.0 dBm) * 2467 MHz [12] (disabled) * 2472 MHz [13] (disabled) * 2484 MHz [14] (disabled) Band 2: Capabilities: 0x11ef RX LDPC HT20/HT40 SM Power Save disabled RX HT20 SGI RX HT40 SGI TX STBC RX STBC 1-stream Max AMSDU length: 3839 bytes DSSS/CCK HT40 Maximum RX AMPDU length 65535 bytes (exponent: 0x003) Minimum RX AMPDU time spacing: 8 usec (0x06) HT TX/RX MCS rate indexes supported: 0-23 Bitrates (non-HT): * 6.0 Mbps * 9.0 Mbps * 12.0 Mbps * 18.0 Mbps * 24.0 Mbps * 36.0 Mbps * 48.0 Mbps * 54.0 Mbps Frequencies: * 5180 MHz [36] (20.0 dBm) * 5200 MHz [40] (20.0 dBm) * 5220 MHz [44] (20.0 dBm) * 5240 MHz [48] (20.0 dBm) * 5260 MHz [52] (20.0 dBm) (no IR, radar detection) * 5280 MHz [56] (20.0 dBm) (no IR, radar detection) * 5300 MHz [60] (20.0 dBm) (no IR, radar detection) * 5320 MHz [64] (20.0 dBm) (no IR, radar detection) * 5500 MHz [100] (20.0 dBm) (no IR, radar detection) * 5520 MHz [104] (20.0 dBm) (no IR, radar detection) * 5540 MHz [108] (20.0 dBm) (no IR, radar detection) * 5560 MHz [112] (20.0 dBm) (no IR, radar detection) * 5580 MHz [116] (20.0 dBm) (no IR, radar detection) * 5600 MHz [120] (20.0 dBm) (no IR, radar detection) * 5620 MHz [124] (20.0 dBm) (no IR, radar detection) * 5640 MHz [128] (20.0 dBm) (no IR, radar detection) * 5660 MHz [132] (20.0 dBm) (no IR, radar detection) * 5680 MHz [136] (20.0 dBm) (no IR, radar detection) * 5700 MHz [140] (19.0 dBm) (no IR, radar detection) * 5745 MHz [149] (19.0 dBm) * 5765 MHz [153] (19.0 dBm) * 5785 MHz [157] (19.0 dBm) * 5805 MHz [161] (19.0 dBm) * 5825 MHz [165] (19.0 dBm) * 5845 MHz [169] (disabled) * 5865 MHz [173] (disabled) Supported commands: * new_interface * set_interface * new_key * start_ap * new_station * new_mpath * set_mesh_config * set_bss * authenticate * associate * deauthenticate * disassociate * join_ibss * join_mesh * remain_on_channel * set_tx_bitrate_mask * frame * frame_wait_cancel * set_wiphy_netns * set_channel * set_wds_peer * tdls_mgmt * tdls_oper * probe_client * set_noack_map * register_beacons * start_p2p_device * set_mcast_rate * testmode * connect * disconnect * channel_switch * set_qos_map * set_multicast_to_unicast Supported TX frame types: * IBSS: 0x00 0x10 0x20 0x30 0x40 0x50 0x60 0x70 0x80 0x90 0xa0 0xb0 0xc0 0xd0 0xe0 0xf0 * managed: 0x00 0x10 0x20 0x30 0x40 0x50 0x60 0x70 0x80 0x90 0xa0 0xb0 0xc0 0xd0 0xe0 0xf0 * AP: 0x00 0x10 0x20 0x30 0x40 0x50 0x60 0x70 0x80 0x90 0xa0 0xb0 0xc0 0xd0 0xe0 0xf0 * AP/VLAN: 0x00 0x10 0x20 0x30 0x40 0x50 0x60 0x70 0x80 0x90 0xa0 0xb0 0xc0 0xd0 0xe0 0xf0 * mesh point: 0x00 0x10 0x20 0x30 0x40 0x50 0x60 0x70 0x80 0x90 0xa0 0xb0 0xc0 0xd0 0xe0 0xf0 * P2P-client: 0x00 0x10 0x20 0x30 0x40 0x50 0x60 0x70 0x80 0x90 0xa0 0xb0 0xc0 0xd0 0xe0 0xf0 * P2P-GO: 0x00 0x10 0x20 0x30 0x40 0x50 0x60 0x70 0x80 0x90 0xa0 0xb0 0xc0 0xd0 0xe0 0xf0 * P2P-device: 0x00 0x10 0x20 0x30 0x40 0x50 0x60 0x70 0x80 0x90 0xa0 0xb0 0xc0 0xd0 0xe0 0xf0 Supported RX frame types: * IBSS: 0x40 0xb0 0xc0 0xd0 * managed: 0x40 0xd0 * AP: 0x00 0x20 0x40 0xa0 0xb0 0xc0 0xd0 * AP/VLAN: 0x00 0x20 0x40 0xa0 0xb0 0xc0 0xd0 * mesh point: 0xb0 0xc0 0xd0 * P2P-client: 0x40 0xd0 * P2P-GO: 0x00 0x20 0x40 0xa0 0xb0 0xc0 0xd0 * P2P-device: 0x40 0xd0 software interface modes (can always be added): * AP/VLAN * monitor valid interface combinations: * #{ managed } <= 2048, #{ AP, mesh point } <= 32, #{ P2P-client, P2P-GO } <= 1, #{ IBSS } <= 1, total <= 2048, #channels <= 1, STA/AP BI must match, radar detect widths: { 20 MHz (no HT), 20 MHz, 40 MHz } * #{ WDS } <= 2048, total <= 2048, #channels <= 1, STA/AP BI must match HT Capability overrides: * MCS: ff ff ff ff ff ff ff ff ff ff * maximum A-MSDU length * supported channel width * short GI for 40 MHz * max A-MPDU length exponent * min MPDU start spacing Device supports TX status socket option. Device supports HT-IBSS. Device supports SAE with AUTHENTICATE command Device supports low priority scan. Device supports scan flush. Device supports AP scan. Device supports per-vif TX power setting P2P GO supports CT window setting Driver supports full state transitions for AP/GO clients Driver supports a userspace MPM Device supports active monitor (which will ACK incoming frames) Driver/device bandwidth changes during BSS lifetime (AP/GO mode) Device supports ACK timeout estimation. Device supports configuring vdev MAC-addr on create. Supported extended features: * [RRM]: RRM * [FILS_STA]: STA FILS (Fast Initial Link Setup) * [CQM_RSSI_LIST]: multiple CQM_RSSI_THOLD records * [CONTROL_PORT_OVER_NL80211]: control port over nl80211 * [TXQS]: FQ-CoDel-enabled intermediate TXQs * [AIRTIME_FAIRNESS]: airtime fairness scheduling * [SCAN_RANDOM_SN]: use random sequence numbers in scans * [SCAN_MIN_PREQ_CONTENT]: use probe request with only rate IEs in scans Regulatory information: global country US: DFS-FCC (2402 - 2472 @ 40), (N/A, 30), (N/A) (5170 - 5250 @ 80), (N/A, 23), (N/A), AUTO-BW (5250 - 5330 @ 80), (N/A, 23), (0 ms), DFS, AUTO-BW (5490 - 5730 @ 160), (N/A, 23), (0 ms), DFS (5735 - 5835 @ 80), (N/A, 30), (N/A) (57240 - 71000 @ 2160), (N/A, 40), (N/A) phy#0 country US: DFS-FCC (2402 - 2472 @ 40), (N/A, 30), (N/A) (5170 - 5250 @ 80), (N/A, 23), (N/A), AUTO-BW (5250 - 5330 @ 80), (N/A, 23), (0 ms), DFS, AUTO-BW (5490 - 5730 @ 160), (N/A, 23), (0 ms), DFS (5735 - 5835 @ 80), (N/A, 30), (N/A) (57240 - 71000 @ 2160), (N/A, 40), (N/A)