

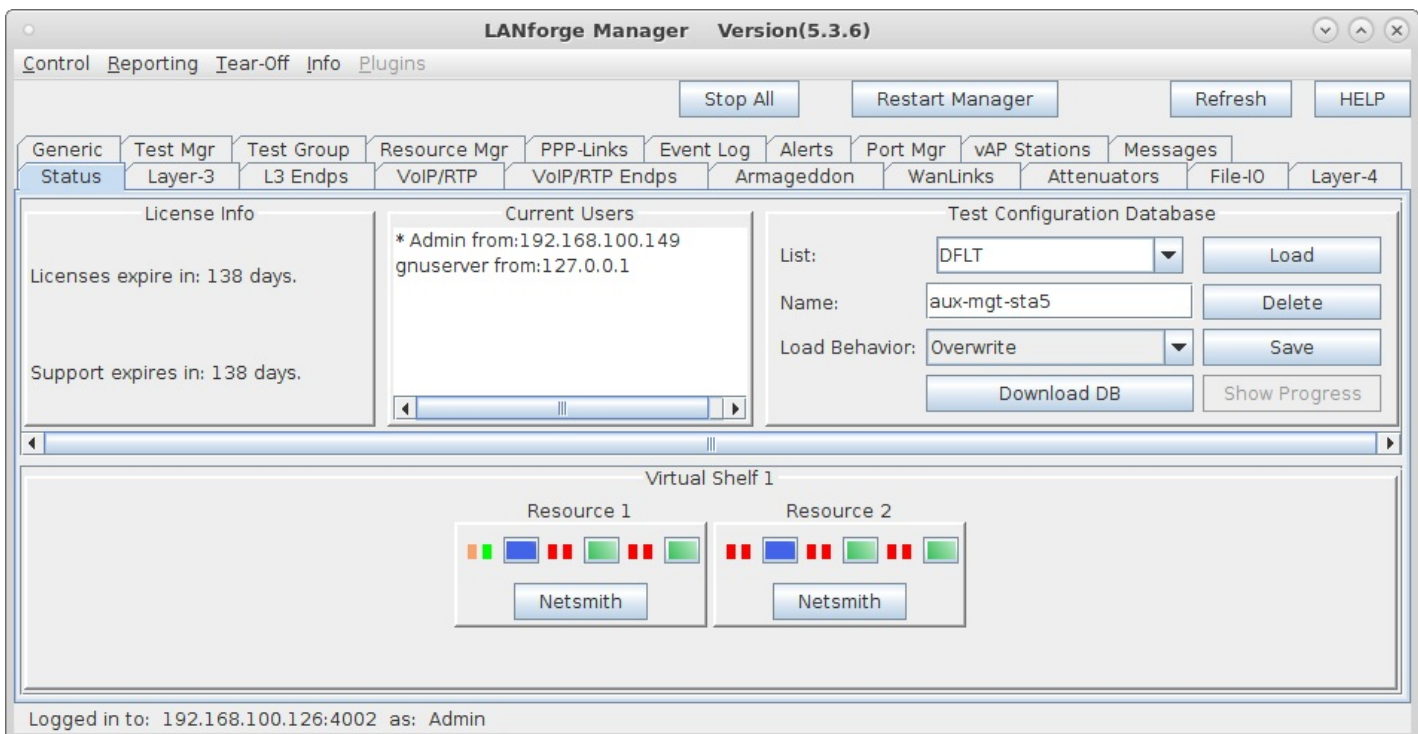
Configure Auxiliary Management Interfaces

Goal: Allow LANforge to create its own wireless management network.

In cases where it is not convenient to use an existing management network, LANforge WiFi systems can be configured to provide their own WiFi management network. This may be especially useful when testing in environments where LANforge needs to be moved around or where you have no good access to existing management LANs. This example assumes that you already know how to create and configure VAP and Stations in LANforge.

1. Configure LANforge for Auxiliary Management.

A. Connect LANforge systems through the normal management LAN for initial configuration. The resources should be visible in the management tab



The screenshot shows the LANforge Manager Version 5.3.6 web interface. At the top, there are navigation tabs: Control, Reporting, Tear-Off, Info, and Plugins. Below these are buttons for Stop All, Restart Manager, Refresh, and HELP. A secondary row of tabs includes Generic, Test Mgr, Test Group, Resource Mgr, PPP-Links, Event Log, Alerts, Port Mgr, vAP Stations, and Messages. A third row of tabs includes Status, Layer-3, L3 Endps, VoIP/RTP, VoIP/RTP Endps, Armageddon, WanLinks, Attenuators, File-I/O, and Layer-4. The main content area is divided into three sections: License Info (showing 138 days remaining for licenses and support), Current Users (listing Admin from 192.168.100.149 and gnusever from 127.0.0.1), and Test Configuration Database (with fields for List: DFLT, Name: aux-mgt-sta5, Load Behavior: Overwrite, and buttons for Load, Delete, Save, Download DB, and Show Progress). Below this is a Virtual Shelf 1 section with two Resource slots (Resource 1 and Resource 2), each containing a Netsmith icon and a status bar with colored indicators. At the bottom, it shows the user is logged in as Admin from 192.168.100.126:4002.

- B. In this case, we are using wiphy0 for the Aux-Mgt interfaces. On the manager system, configure wiphy0 to be on the desired channel, create a virtual AP on wiphy0, and configure it appropriately. The **Aux-Mgt** checkbox should be selected, a static IP should be assigned, and an appropriate SSID configured. The AP Aux-Mgt port will automatically serve DHCP and will try to NAT and route packets to the wired Management interface.

The screenshot shows the configuration window for 'vap0 (If0350-6f84)'. The window is divided into several sections:

- Port Status Information:** Shows 'Current: LINK-UP GRO NONE' and 'Driver Info: Port Type: WIFI-AP Parent: wiphy0'.
- Port Configurables:** Includes tabs for 'Standard Configuration', 'Advanced Configuration', 'Misc Configuration', and 'Custom WiFi'.
- General Interface Settings:**
 - Enable:** Includes checkboxes for 'Set IF Down', 'Set MAC', 'Set TX Q Len', 'Set MTU', 'Set Offload', and 'Set PROMISC'.
 - Services:** Includes checkboxes for 'HTTP' and 'FTP'.
 - Low Level:** Includes checkboxes for 'PROMISC', 'TSO Enabled', 'UFO Enabled', 'GSO Enabled', 'LRO Enabled', and 'GRO Enabled'.
 - General Interface Settings:** Includes checkboxes for 'Down', 'Aux-Mgt' (checked), 'DHCP-IPv6', and 'DHCP-IPv4'. It also features a 'Secondary-IPs' button and fields for 'DNS Servers' (BLANK), 'IP Address' (99.99.1.1), 'IP Mask' (255.255.255.0), 'Gateway IP' (0.0.0.0), 'Alias', 'MAC Addr' (00:0e:8e:75:3d:8d), 'Rpt Timer' (medium (8 s)), 'DHCP Release', 'DHCP Vendor ID' (None), 'DHCP Client ID' (None), 'Peer IP' (NA), 'Global IPv6' (AUTO), 'Link IPv6' (AUTO), 'IPv6 GW' (AUTO), 'MTU' (1500), 'TX Q Len' (1000), and 'WiFi Bridge' (NONE).
- WiFi Settings:** Includes fields for 'SSID' (lanforge-mgt), 'Key/Phrase', 'Freq/Channel' (2462/11), 'DTIM-Period' (2), and 'Beacon' (240). It also has dropdowns for 'AP' (DEFAULT), 'Mode' ((802.11abgn-AC)), and 'Rate' (OS Default), and a field for 'Max-STA' (2007). At the bottom, there are checkboxes for 'WPA', 'WPA2', 'OSSEN', 'WEP', 'Disable HT40', 'Disable HT80', 'Enable VHT160', 'Disable SGI', and 'Verbose Debug'.

At the bottom of the window, there are buttons for 'Print', 'View Details', 'Logs', 'Probe', 'Display Scan', 'Sync', 'Apply', 'OK', and 'Cancel'.

- C. On the other resources, configure the wlanX interface to connect to the AP on the manager system, and select the **Aux-Mgt** checkbox.

wlan0 (If0350-6dbc) Configure Settings

Port Status Information
Current: LINK-UP GRO Authorized
Driver Info: Port Type: WIFI-STA Parent: wiphy0

Port Configurables

Standard Configuration | Advanced Configuration | Misc Configuration | Corruptions | Custom WiFi

Enable

- Set IF Down
- Set MAC
- Set TX Q Len
- Set MTU
- Set Offload
- Set PROMISC

Services

- HTTP
- FTP
- RADIUS

Low Level

- PROMISC
- TSO Enabled
- UFO Enabled
- GSO Enabled
- LRO Enabled
- GRO Enabled

General Interface Settings

- Down
- Aux-Mgt
- DHCP-IPv6
- DHCP Release
- DHCP Vendor ID: None
- DHCP-IPv4
- Secondary-IPs
- DHCP Client ID: None
- DNS Servers: 192.168.100.1
- Peer IP: NA
- IP Address: 0.0.0.0
- Global IPv6: AUTO
- IP Mask: 0.0.0.0
- Link IPv6: AUTO
- Gateway IP: 0.0.0.0
- IPv6 GW: AUTO
- Alias:
- MTU: 1500
- MAC Addr: 00:0e:8e:4e:5a:95
- TX Q Len: 1000
- Rpt Timer: medium (8 s)
- WiFi Bridge: NONE

WiFi Settings

- SSID: lanforge-mgt
- AP: DEFAULT
- Key/Phrase:
- Mode: (802.11abgn-AC)
- Freq/Channel: 2462/11
- Rate: OS Default
- WPA WPA2 OSEN WEP Disable HT40 Enable VHT160 Disable SGI

Print | View Details | Probe | Display Scan | Sync | Apply | OK | Cancel

D. The Port-Mgr tab should look something like this when the Aux-Management interfaces are configured.

The screenshot shows the LANforge Manager interface with the 'Port Mgr' tab selected. The interface includes a menu bar (Control, Reporting, Tear-Off, Info, Plugins), buttons for 'Stop All', 'Restart Manager', 'Refresh', and 'HELP', and a sub-menu for 'Port Mgr' with options like 'vAP Stations', 'Messages', 'WanLinks', 'Attenuators', 'File-I/O', and 'Layer-4'. Below the menu is a control panel with 'Disp: 192.168.100.149:0.0', 'Sniff Packets', 'Clear Counters', 'Reset Port', 'Delete', 'Rpt Timer: medium (8 s)', 'Apply', 'View Details', 'Create', 'Modify', and 'Batch Modify' buttons. The main area displays a table titled 'All Ethernet Interfaces (Ports) for all Resources.' with the following data:

Port	Pha...	Down	IP	SEC	Alias	Parent Dev	RX Bytes	RX Pkts	Pps RX	bps RX	TX Bytes	TX Pkts	Pps TX
1.1.0			192.168.100.126	0	eth0		190,618,480	221,996	10	9,135	169,584,879	163,484	14
1.1.1			0.0.0.0	0	eth1		0	0	0	0	0	0	0
1.1.2			0.0.0.0	0	eth2		0	0	0	0	0	0	0
1.1.3			0.0.0.0	0	wiphy0		128,822,643	338,150	53	151,268	6,903,320	53,578	8
1.1.4			0.0.0.0	0	wiphy1		0	0	0	0	0	0	0
1.1.5			0.0.0.0	0	wlan0	wiphy0	0	0	0	0	0	0	0
1.1.6		<input checked="" type="checkbox"/>	0.0.0.0	0	wlan1	wiphy1	0	0	0	0	0	0	0
1.1.7			99.99.1.1	0	vap0	wiphy0	40,938,553	37,349	7	62,461	3,953,755	35,591	6
1.2.00			192.168.100.109	0	eth0		111,649,961	88,549	0	0	24,980,368	29,494	0
1.2.01			0.0.0.0	0	eth1		0	0	0	0	0	0	0
1.2.02			0.0.0.0	0	eth2		0	0	0	0	0	0	0
1.2.03			88.1.1.187	0	sta100	wiphy1	20,738	171	0	0	4,074	39	0
1.2.04			0.0.0.0	0	wiphy1		17,988,948	86,713	19	31,472	59,967	1,170	0
1.2.05			88.1.1.193	0	sta101	wiphy1	20,454	163	0	0	4,974	47	0
1.2.06			88.1.1.186	0	sta102	wiphy1	20,644	160	0	0	10,802	73	0
1.2.07			88.1.1.189	0	sta103	wiphy1	17,368	146	0	0	4,272	44	0
1.2.08			88.1.1.194	0	sta104	wiphy1	20,306	165	0	0	5,420	48	0
1.2.09			0.0.0.0	0	wiphy0		16,072,057	75,744	11	12,999	43,571,163	39,673	7
1.2.10			99.99.1.11	0	wlan0	wiphy0	3,228,043	35,474	6	4,820	41,679,777	37,345	7
1.2.11			0.0.0.0	0	wlan1	wiphy1	0	0	0	0	0	0	0

Logged in to: 192.168.100.126:4002 as: Admin

E. To test that it works properly, you can now remove the wired Manament port connection and wait about 1 minute for the old connection to time out and re-connect to the Auxiliary Management port. Or, just reboot systems with the wired ports unplugged and they should be discovered on the Aux-Mgt ports promptly.