Unleashed Configuration

- Troubleshooting

Tips and Tricks

Firmware Version: 200.12

Troubleshooting Tips and Tricks

When troubleshooting Wi-Fi networks, there are specific details that can be used to identify a problem and provide insight into how to remedy the situation. In this presentation we will discuss some of the most common ways to troubleshoot an issue with the network and where this information can be found in the Access Networks Unleashed network management interface.

Troubleshooting Tips and Tricks

- Chapter 1 - Connect to the Unleashed Network
- Chapter 2 - Ensure All APs are Functioning Correctly
- Chapter 3 - Verify RF Coverage/Interference
- Chapter 4 - Verify Client Device Performance

Chapter 1 – Connect to the Unleashed Network

- Getting Started
- Security Warning
- Login Page
- Unleashed Dashboard

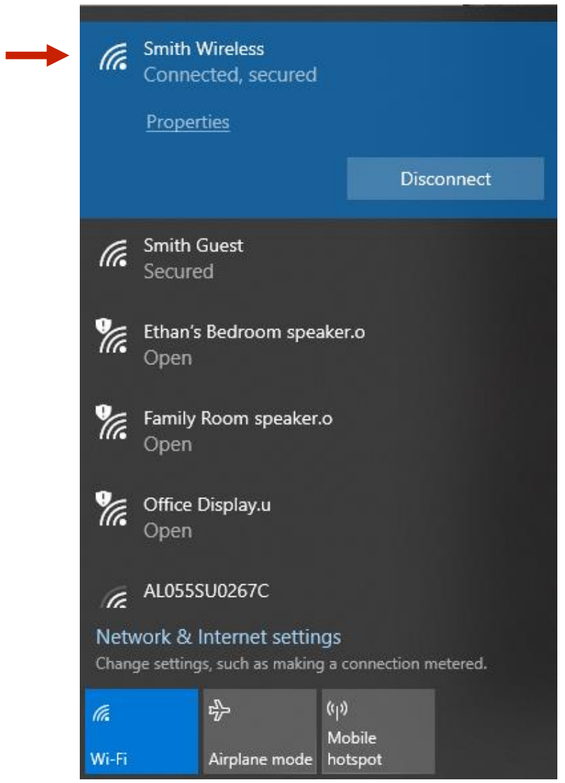
Connect to the Unleashed Network

Getting Started

Using the Wi-Fi configuration settings on your client device (such as a laptop or mobile device), select and associate to an Unleashed WLAN, and launch a web browser.

Now connect to any non-client isolating Unleashed WLAN.

In your browser's URL bar, enter the following address and press Enter: **unleashed.ruckuswireless.com**

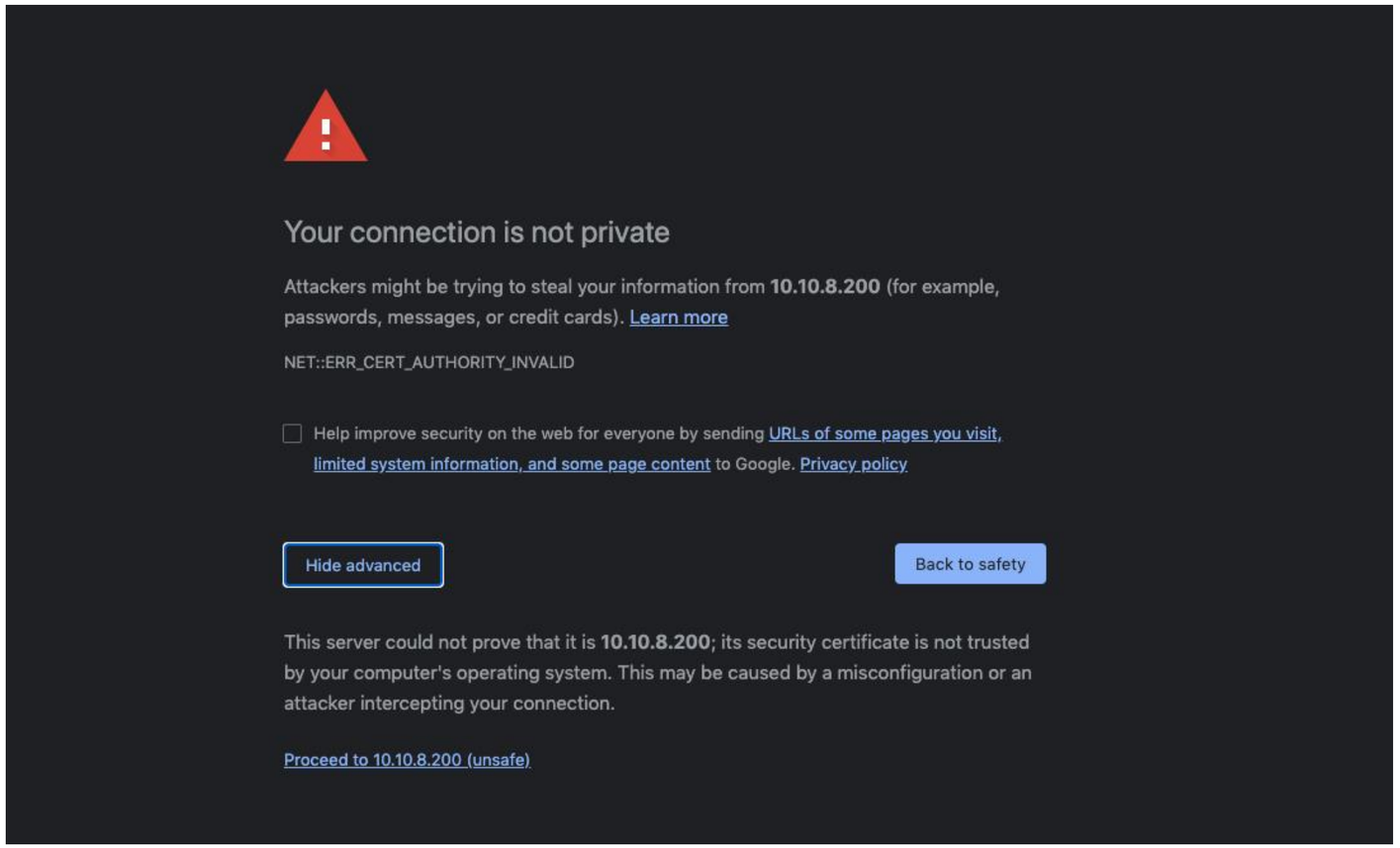


Connect to the Unleashed Network

Security Warning

Depending on your browser, you may be presented with a security warning stating "This connection is not trusted" (Firefox) or "Your Connection is Not Private" (Chrome) or "There is a problem with this website's security certificate" (Internet Explorer). This is normal, as the Unleashed AP does not have an SSL certificate that is recognized by your browser.

Accept the exception as needed per browser and proceed.



Connect to the Unleashed Network

Login Page

This is the login page for the Unleashed Network.

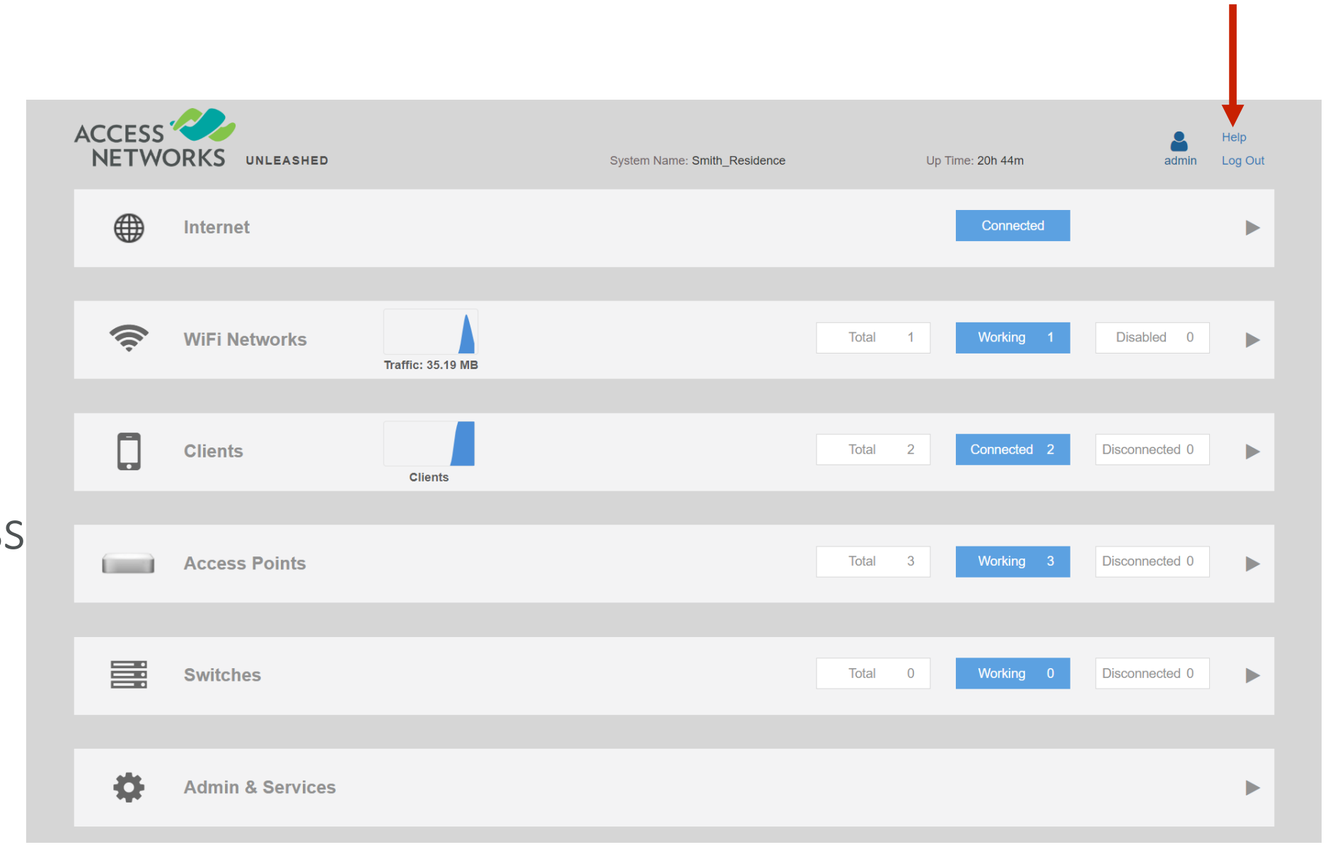
Enter the “Username”, “Password”, and click “Unleash” to login.

Connect to the Unleashed Network

Unleashed Dashboard

After successful login, you will be presented with the Unleashed Dashboard, which displays an overview of your Ruckus Unleashed network

At any point during the setup process you can access the complete Unleashed help page by clicking on “Help” in the upper right corner of the Unleashed web interface.



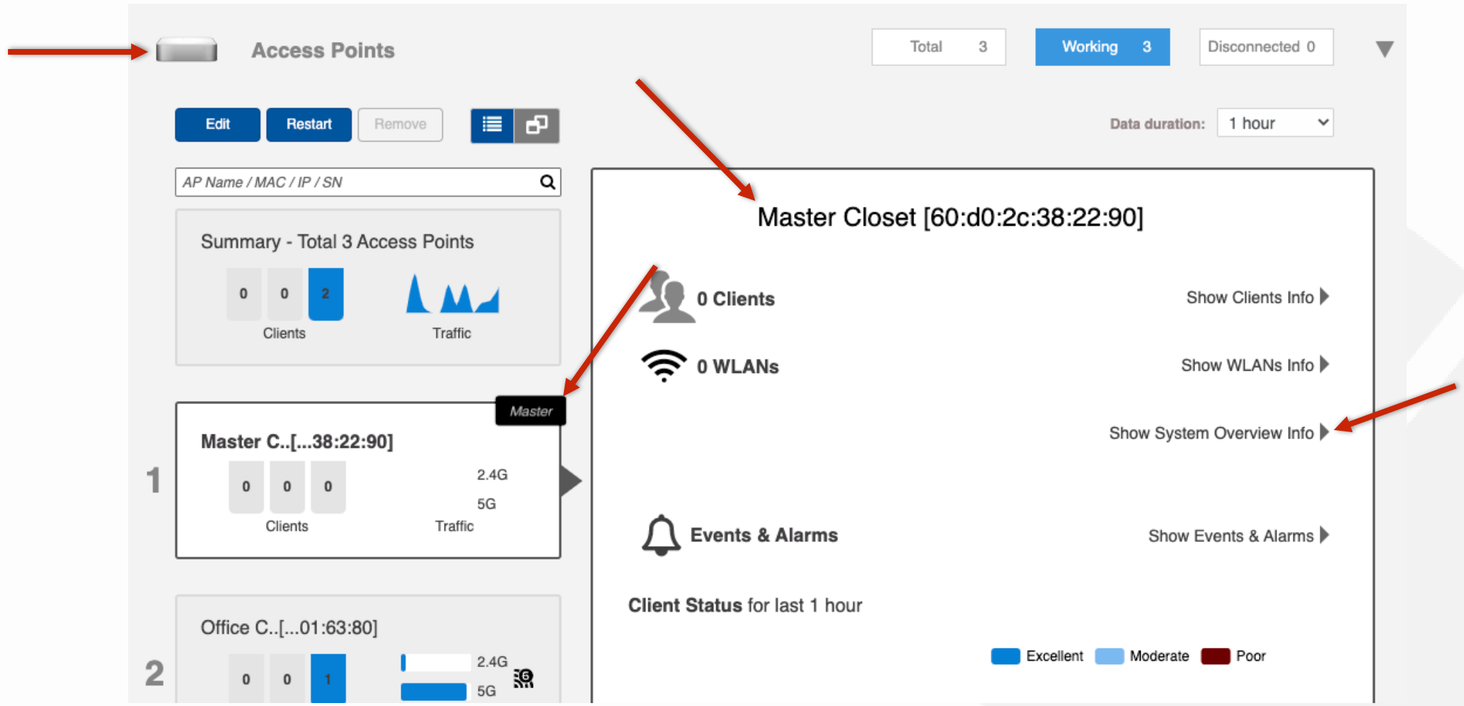
Chapter 2 – Ensure All APs are Functioning Correctly

- Verify the Master AP is Properly Identified & Connected
- Verify the Desired Master AP is Set as Preferred
- Verify Available Wi-Fi Channel Options
- Verify Available Channel Options
- Verify Automatic Channel Selection Properties
- Ensure Directed Multicast is Disabled

Chapter 2 – Ensure All APs are Functioning Correctly

Verify the Master AP is Properly Identified & Connected

1. Verify that the Master AP is named correctly
2. Access Points -> (select “Master” AP)



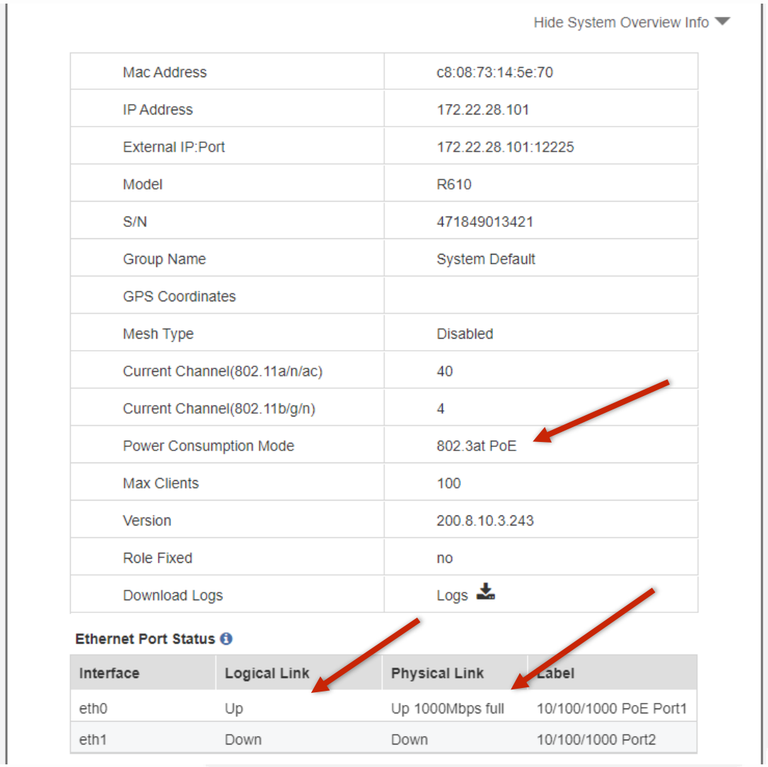
Chapter 2 – Ensure All APs are Functioning Correctly

Verify the Master AP is Properly Identified & Connected

1. Verify that the Master AP is connected at 1,000MBPs connection rate
2. Access Points -> (select “Master” AP) -> Show System Overview Info

- Verify that the AP is up/1000Mps
- Verify the “Power Consumption Mode” is correct for the AP model

- **After verifying that Master AP is properly identified & connected repeat these steps for all other member APs**



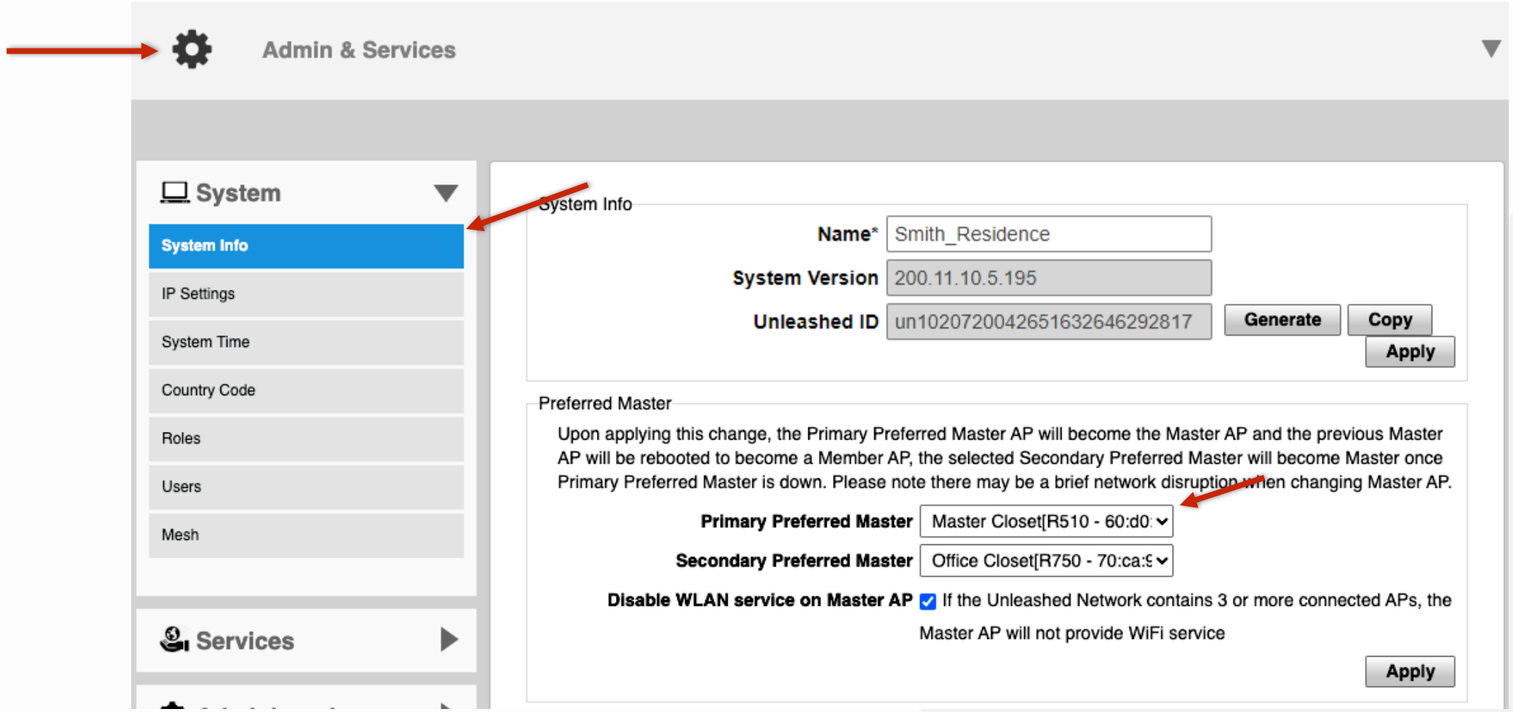
AP Power modes

- Not Support
- DC
- 802.3af PoE
- 802.3at PoE
- 802.3at+ PoE

Chapter 2 – Ensure All APs are Functioning Correctly

Verify the Desired Master AP is Set as Preferred

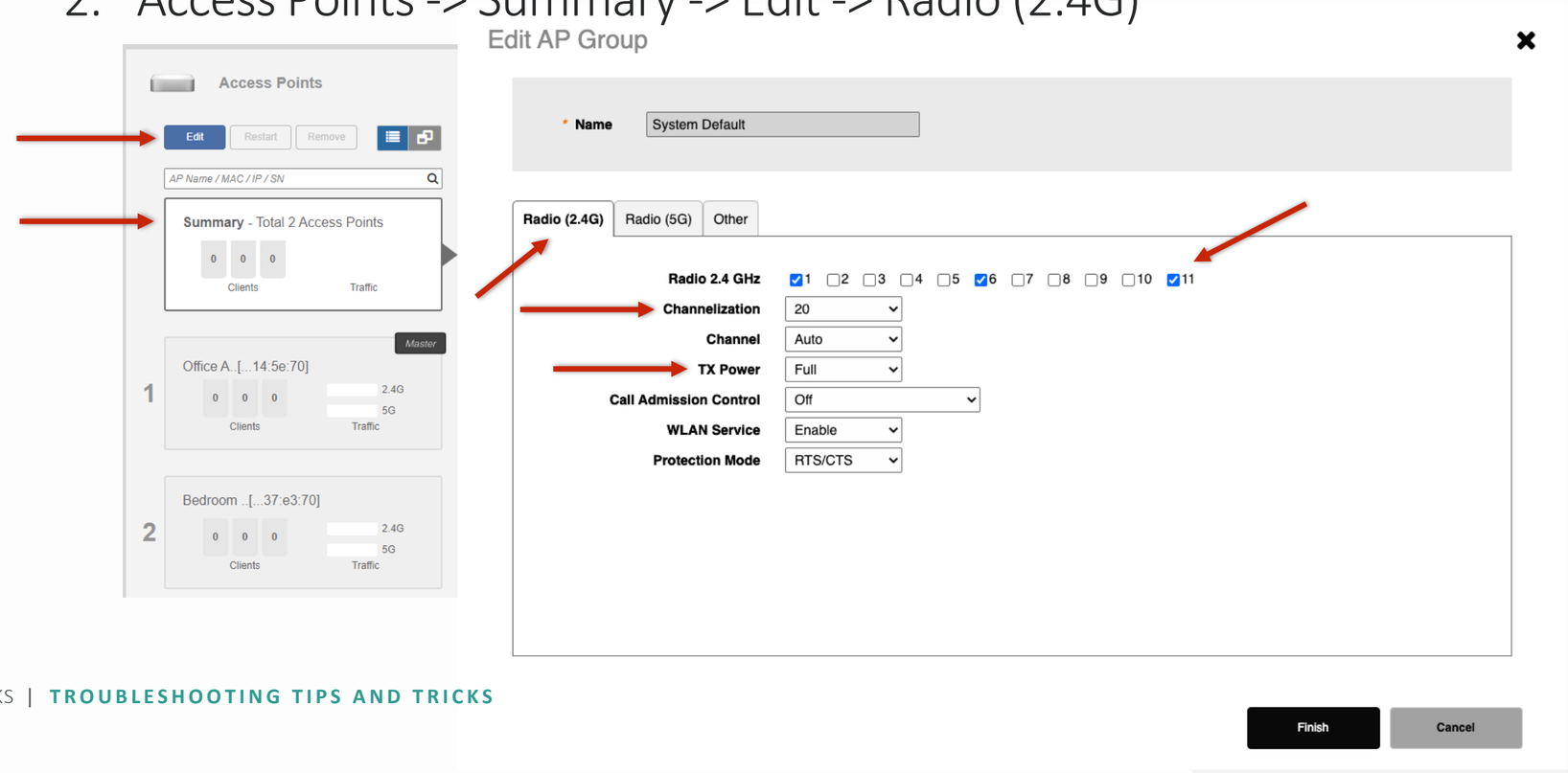
1. Verify “Preferred Master” AP setting
2. Admin & Services -> System Info -> Preferred Master -> Primary Preferred Master



Chapter 2 – Ensure All APs are Functioning Correctly

Verify Available Wi-Fi Channel Options

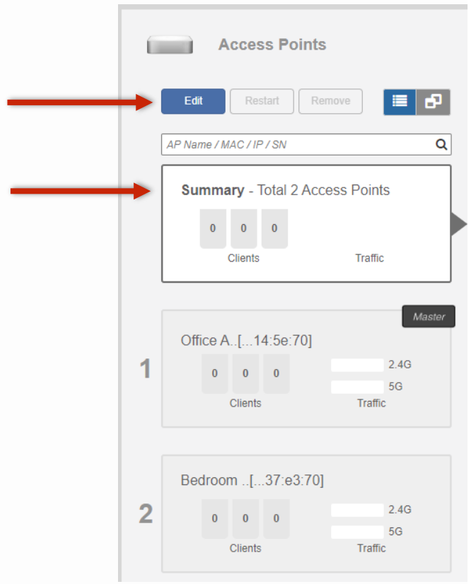
1. Verify that Channelization is set to “20”, TX Power is set to “Full”, and only Channels 1,6,11 are available in the **2.4GHz** frequency band
2. Access Points -> Summary -> Edit -> Radio (2.4G)

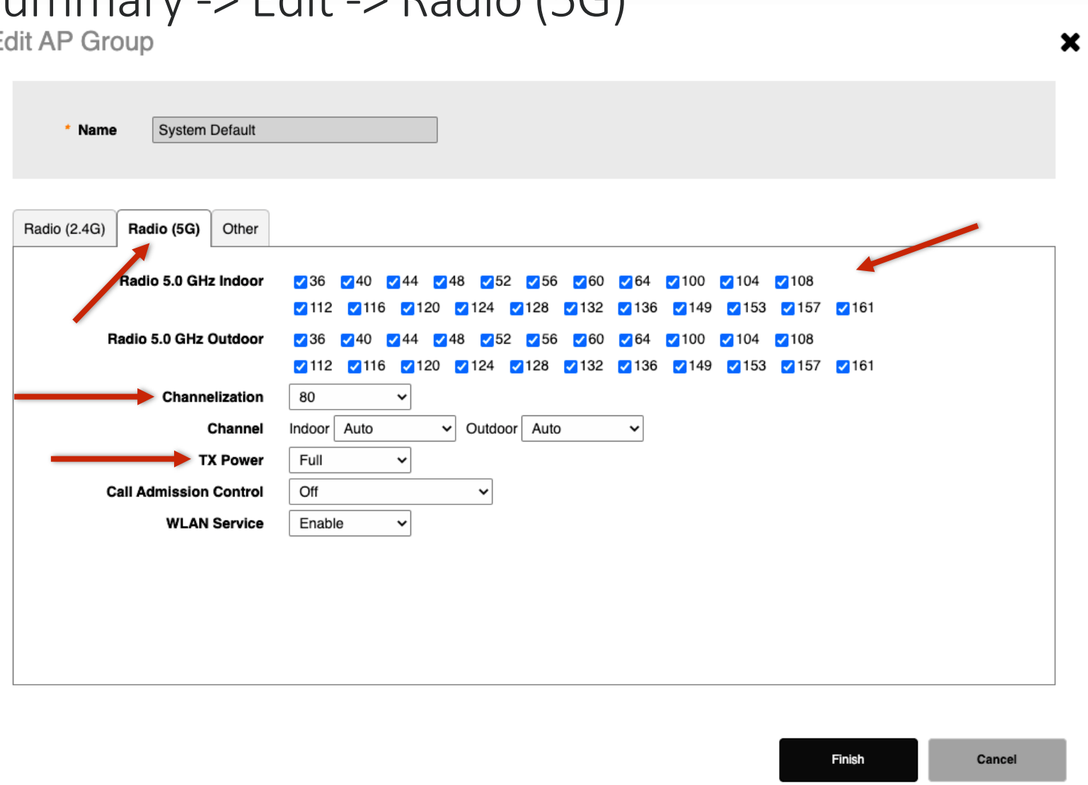


Chapter 2 – Ensure All APs are Functioning Correctly

Verify Available Channel Options

1. Verify that Performance mode is enabled and all **5GHz channels** are available with Channelization set to “80”, and TX Power set to “Full”
2. Access Points -> Summary -> Edit -> Radio (5G)

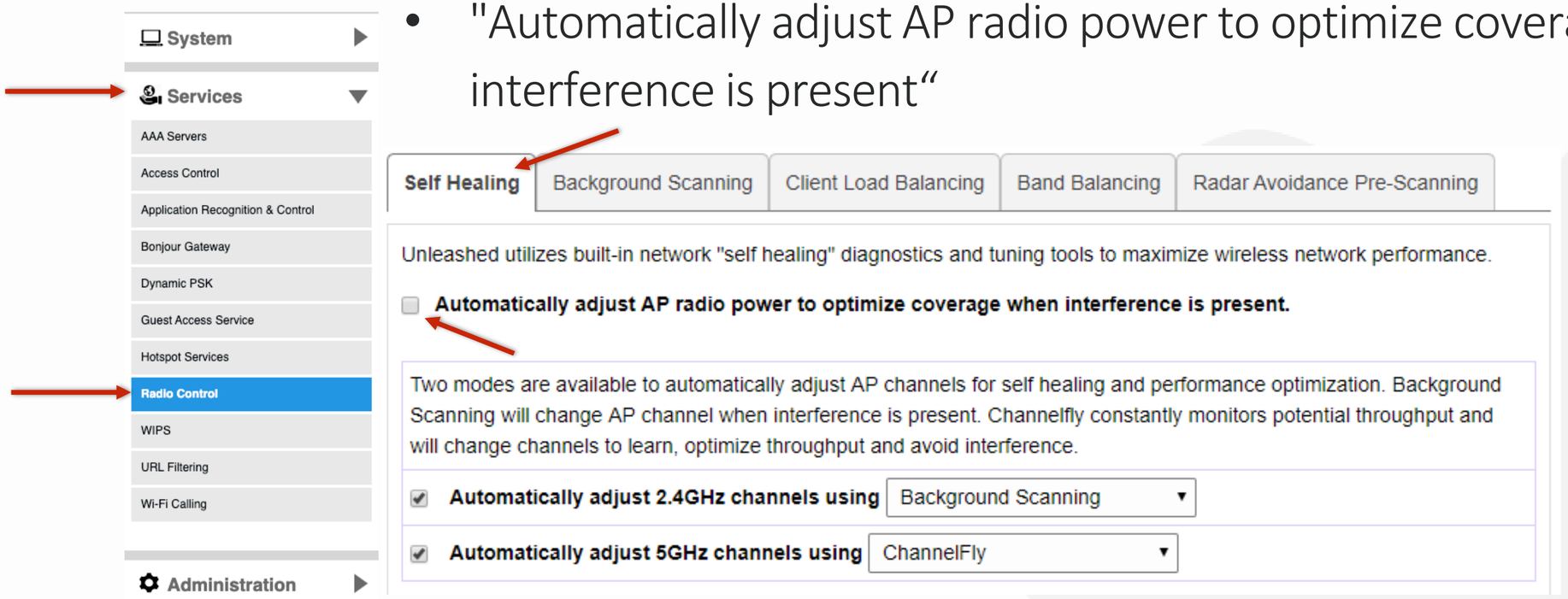




Chapter 2 – Ensure All APs are Functioning Correctly

Verify Automatic Channel Selection Properties

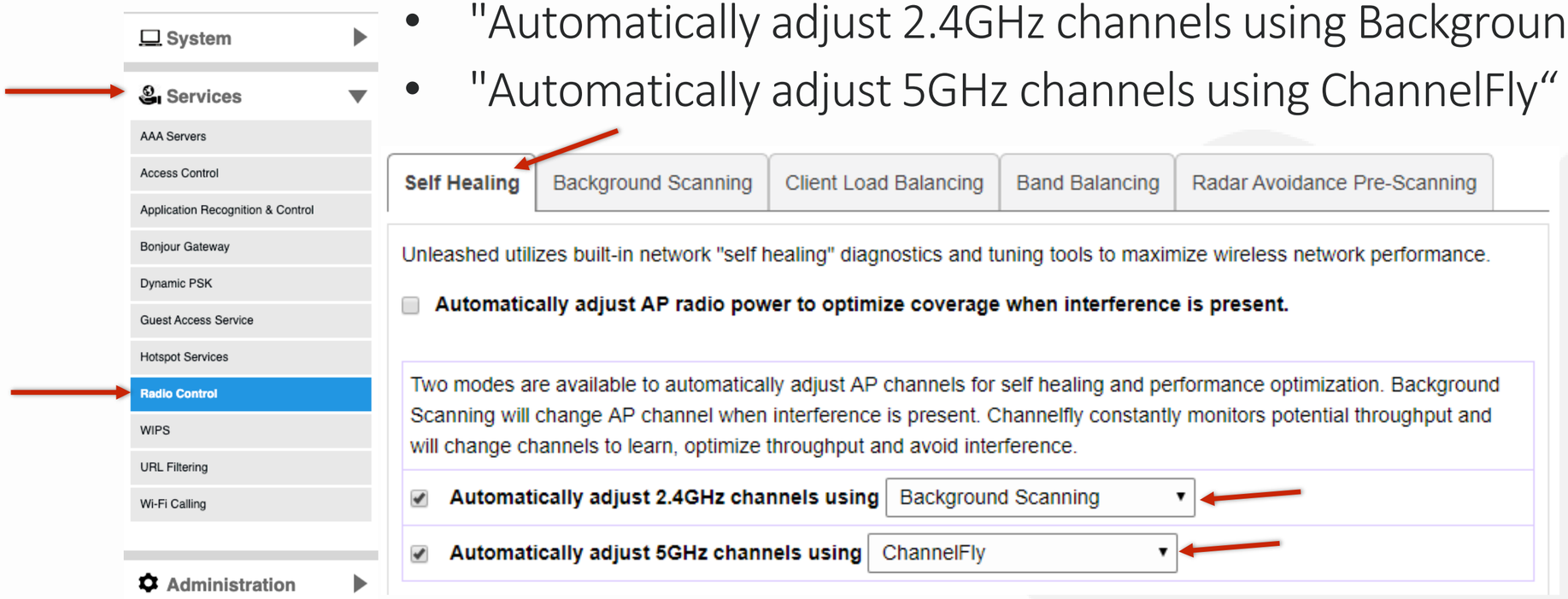
1. Admin & Services -> Services -> Radio Control -> Self Healing
2. Make sure the box is **unchecked** for -
   - "Automatically adjust AP radio power to optimize coverage when interference is present“



Chapter 2 – Ensure All APs are Functioning Correctly

Verify Automatic Channel Selection Properties

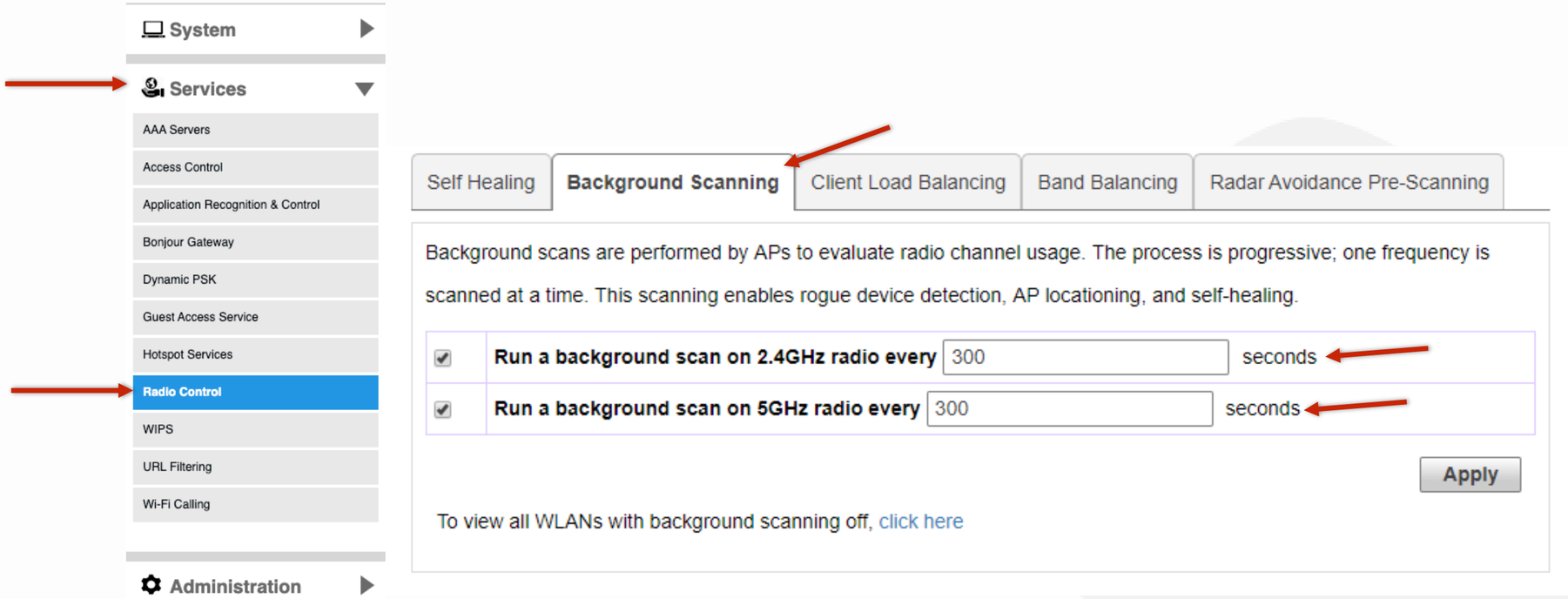
1. Admin & Services -> Services -> Radio Control -> Self Healing
2. Make sure the box is **checked** for -
   - "Automatically adjust 2.4GHz channels using Background Scanning“
   - "Automatically adjust 5GHz channels using ChannelFly“



Chapter 2 – Ensure All APs are Functioning Correctly

Verify Automatic Channel Selection Properties

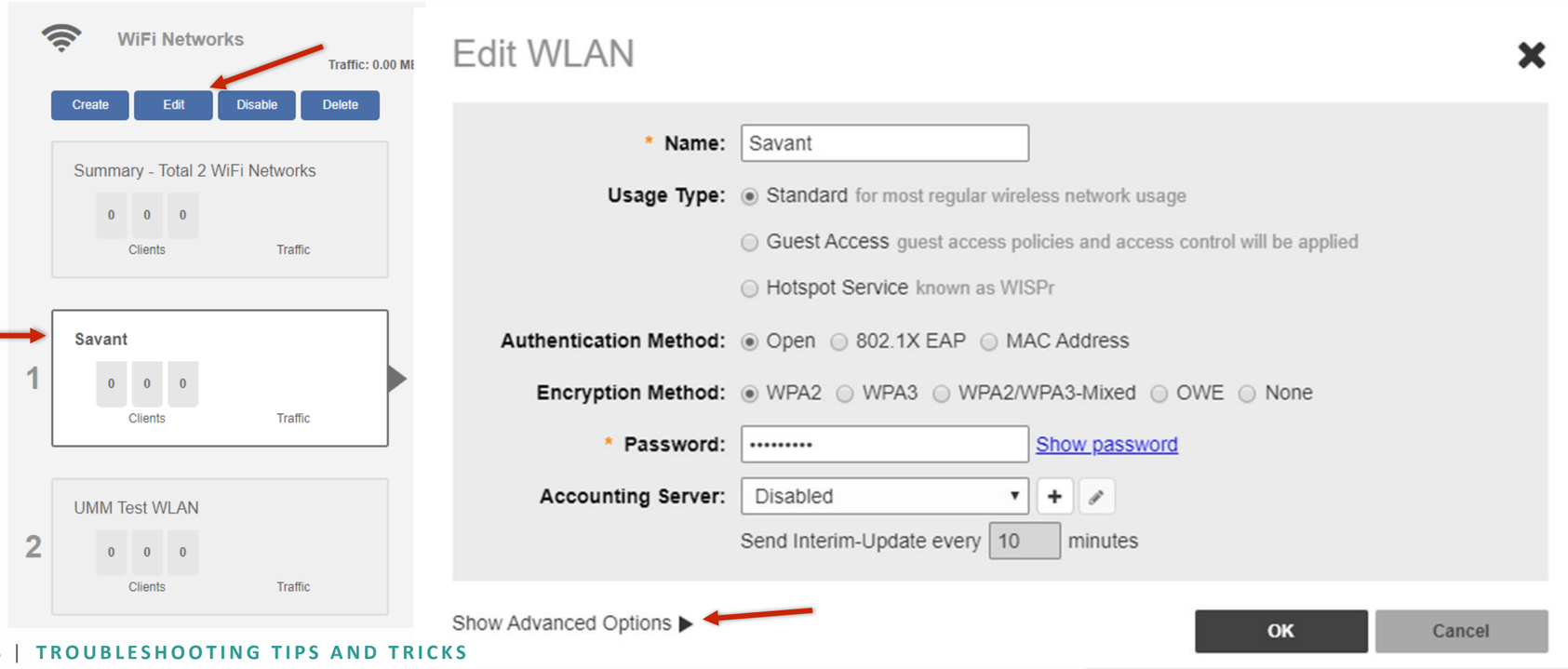
1. Admin & Services -> Services -> Radio Control -> Background Scanning
2. Verify both scanning intervals are set to 300 seconds



Chapter 2 – Ensure All APs are Functioning Correctly

Ensure Directed Multicast is Disabled

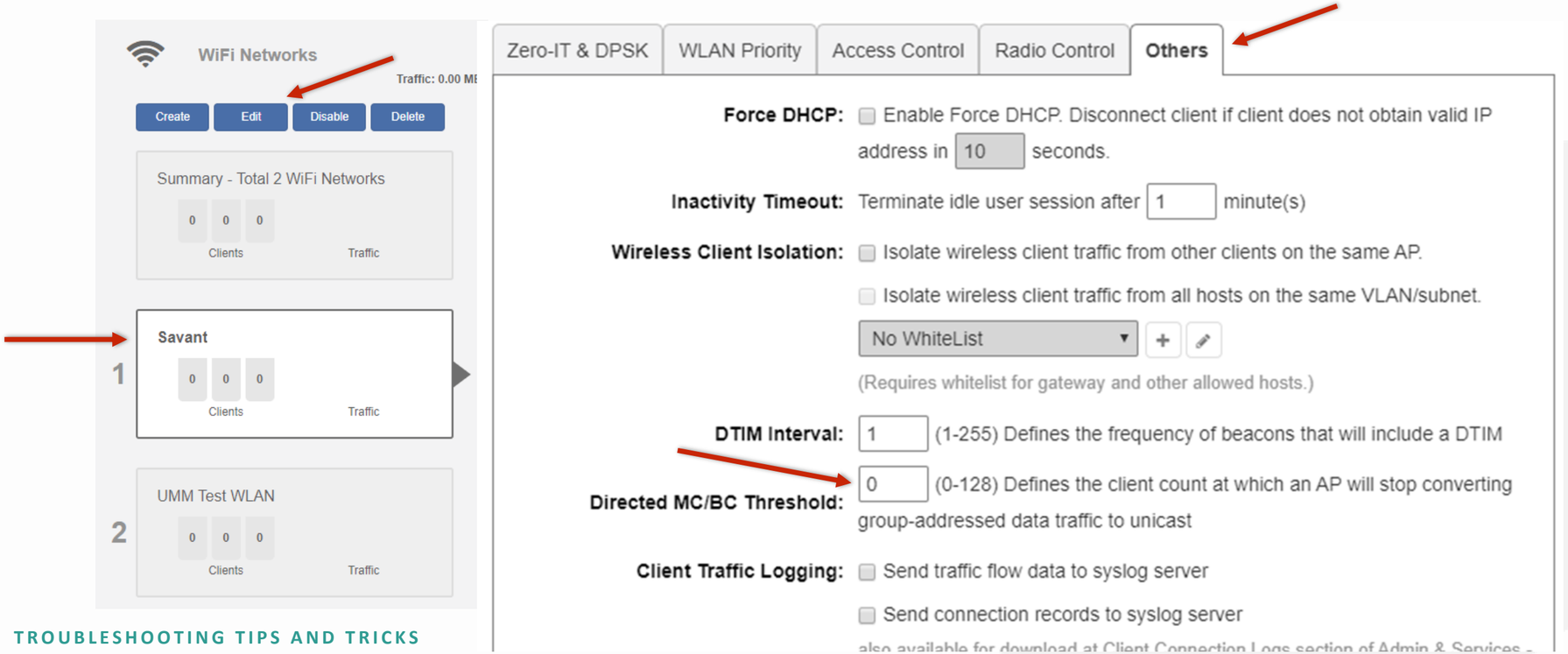
1. Wi-Fi Networks -> (ESSID for Savant) -> Edit -> Advanced Options



Chapter 2 – Ensure All APs are Functioning Correctly

Ensure Directed Multicast is Disabled

1. Wi-Fi Networks -> (ESSID for Savant) -> Edit -> Advanced Options -> Others
2. Make sure under "Directed MC/BC Threshold" is set to 0



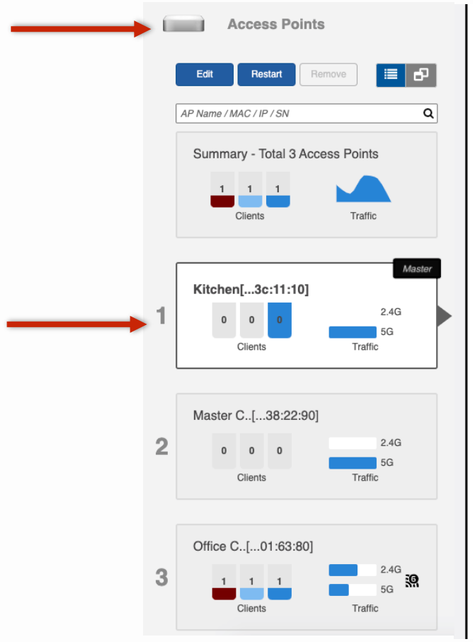
Chapter 3 - Verify RF Coverage/Interference

- View Neighboring AP Overlap Coverage
- Understanding the WIPS (Wireless Intrusion Prevention System)

Chapter 3 - Verify RF Coverage/Interference

View Neighboring AP Overlap Coverage

1. Check the 5GHz SNR levels of neighboring APs and verify that each AP has a minimum of 18db (20%) coverage overlap to at least 1 other AP
2. Access Points -> Wireless APs -> (Choose each AP to review Neighbor APs) -> Show System Overview Info -> Neighbor APs



Ethernet Port Status

Port	Interface	Logic Link	Physical Link	Label
Port1	eth0	Up	Up 1000Mbps full	10/100/1000 PoE Port1
Port2	eth1	Down	Down	10/100/1000 Port2

Neighbor APs

Access Point	Channel	SNR
Master Closet	48	54 dB
Office Closet	36	47 dB

Radio	802.11b/g/n	802.11a/n/ac
Current Channel	1	136
Config Channel	Auto	Auto
Channelization	20	80
WLAN Service	Enabled	Enabled
Background Scanning	Enabled	Enabled
TX Power	Full	Full

Design note

- System should be designed for 5GHz overlap coverage
- 2.4GHz coverage can be adjusted later if needed

Chapter 3 - Verify RF Coverage/Interference

Understanding the WIPS (Wireless Intrusion Prevention System)

The Wireless Intrusion Prevention System is an integrated software application that monitors a projects wireless LAN by scanning the network's radio spectrum to locate rogue access points as well as other wireless threats.

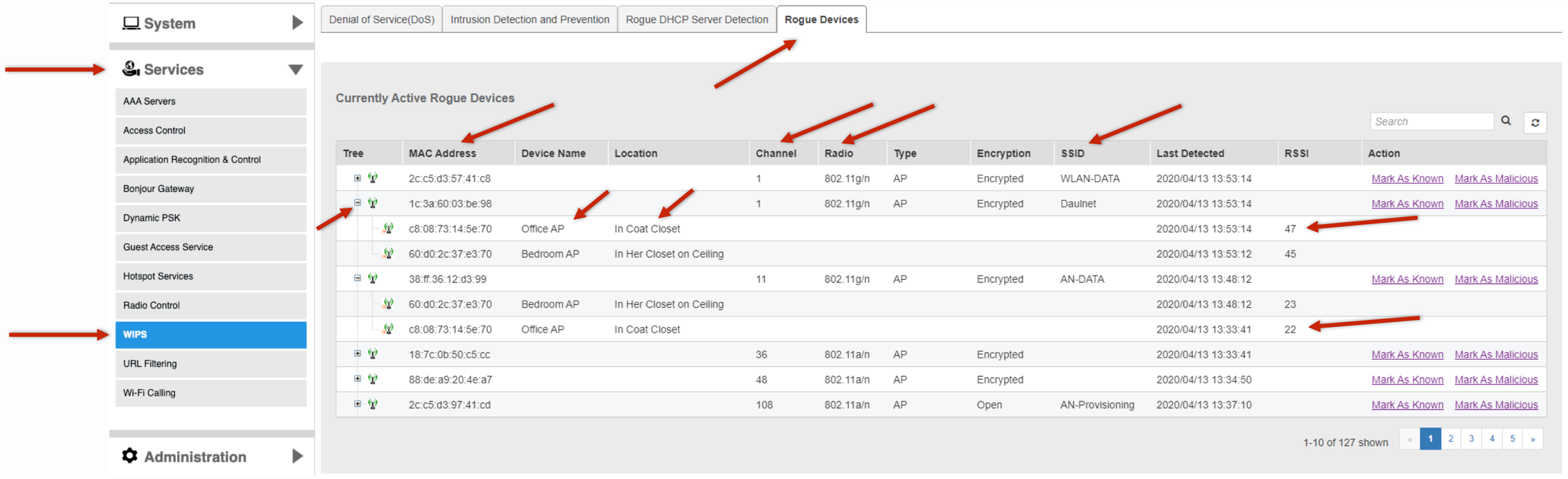
Expand out the "Tree" for each visible "MAC Address" to review which access points that can see the SSID. One of the first things to review is the RSSI (Received Signal Strength Indicator).

If the RSSI for a particular SSID is greater than 20db, it can cause significant RF interference to the network.

Chapter 3 - Verify RF Coverage/Interference

Understanding the WIPS (Wireless Intrusion Prevention System)

1. Check for rogue devices that may be causing Wi-Fi interference
2. Admin & Services -> Services -> WIPS -> Rogue Devices -> Currently Active Rogue Devices



Detected Rogue Wi-Fi networks that are showing less than 20db RSSI should not adversely affect your installation

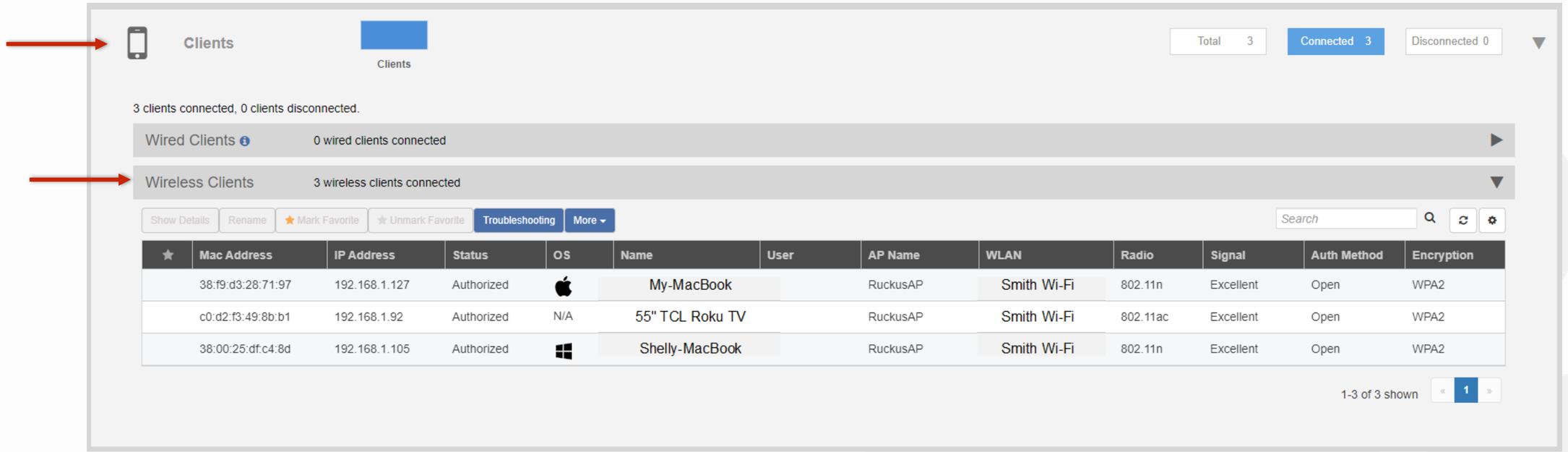
Chapter 4 - Verify Client Device Performance

- Review All Connected Wireless Clients
- Show Details of Client Device Performance
- Review Client Device Performance

Chapter 4 - Verify Client Device Performance

Review All Connected Wireless Clients

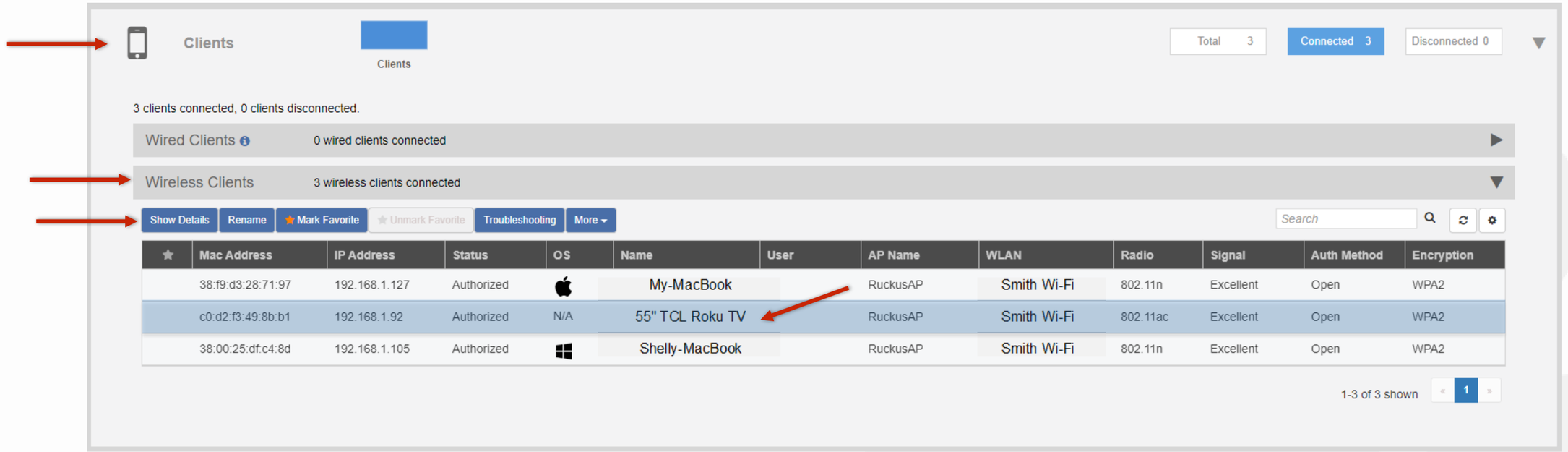
1. Check the performance characteristics of any devices that attached to the WLAN that appear to displaying lower/higher performance than expected
2. Clients -> Wireless Clients



Chapter 4 - Verify Client Device Performance

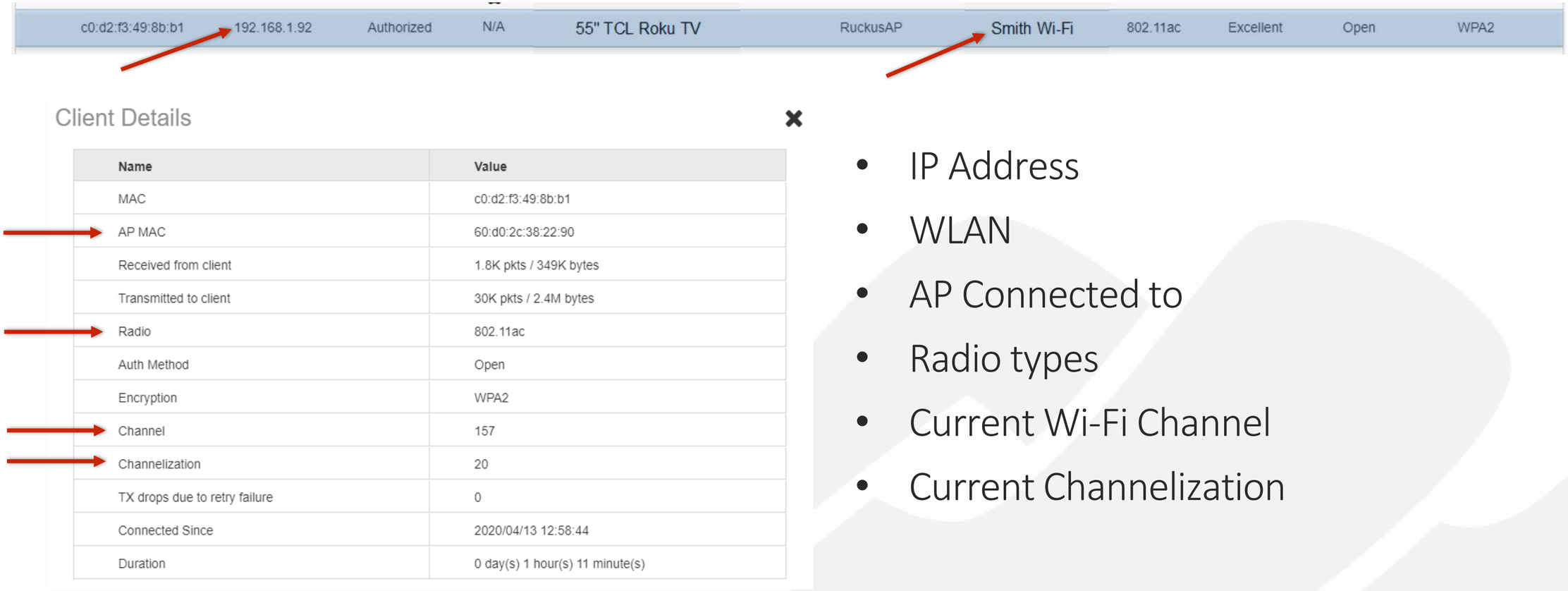
Show Details of Client Device Performance

1. Check the performance characteristics of any devices that attached to the WLAN that appear to displaying lower/higher performance than expected
2. Clients -> Wireless Clients -> (Choose a client device) -> Show Details



Chapter 4 - Verify Client Device Performance

Review Client Device Performance



- IP Address
- WLAN
- AP Connected to
- Radio types
- Current Wi-Fi Channel
- Current Channelization

Troubleshooting Tips and Tricks Firmware Version 200.12

- Access Networks Technical Services engineers are available to assist you in the troubleshooting process.
- If you have questions about the steps to isolate or remediate a Wi-Fi performance issue or need information on a topic not detailed in the Unleashed Configuration Guides, please contact the Access Networks Technical Services department for assistance.
- For telephone, visit snp1.com/techsupport
- Email: support-case@accessnetworks.com
- Existing Access Networks partner can visit https://my.accessnetworks.com/partners/ and either open a case or start a chat session by selecting the “Support” tab.

THANK YOU

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