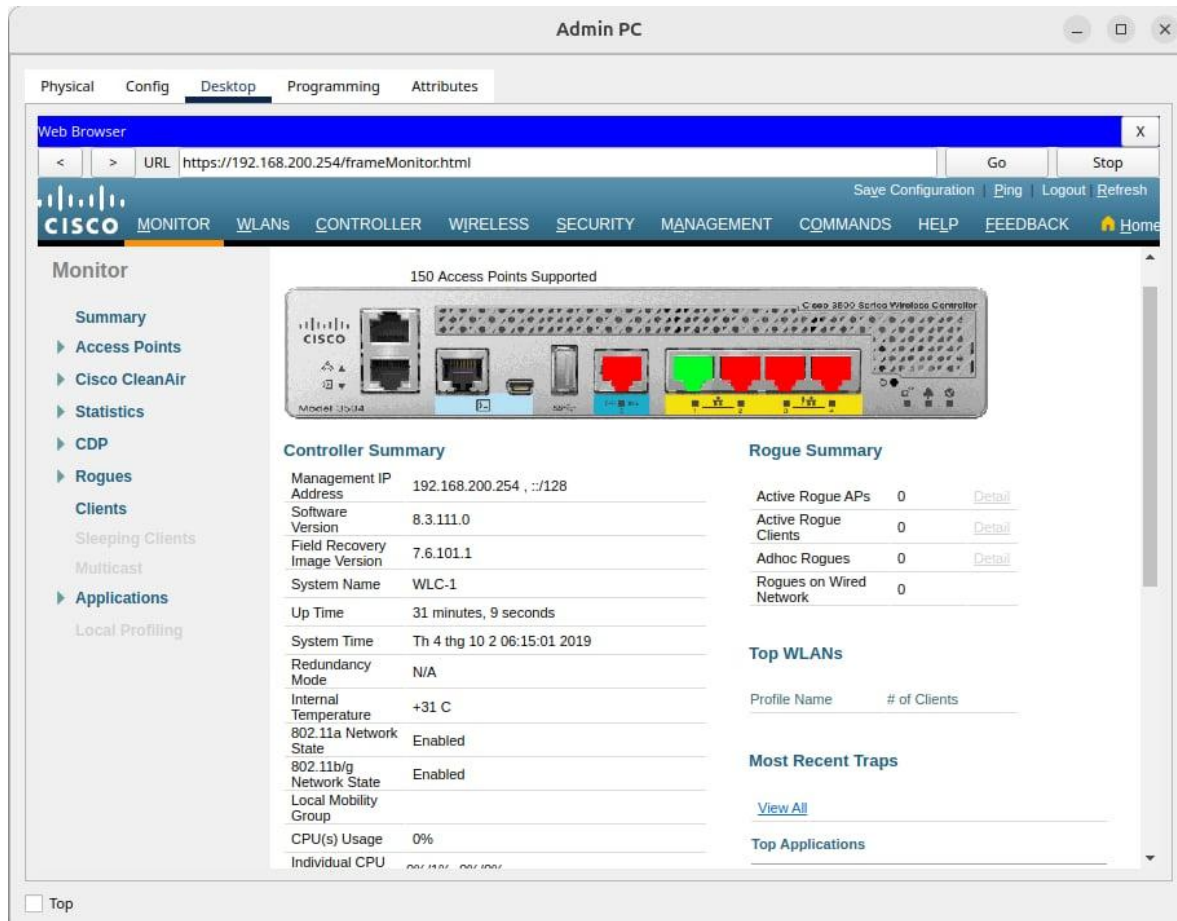


Họ và tên: Lê Chánh Ân

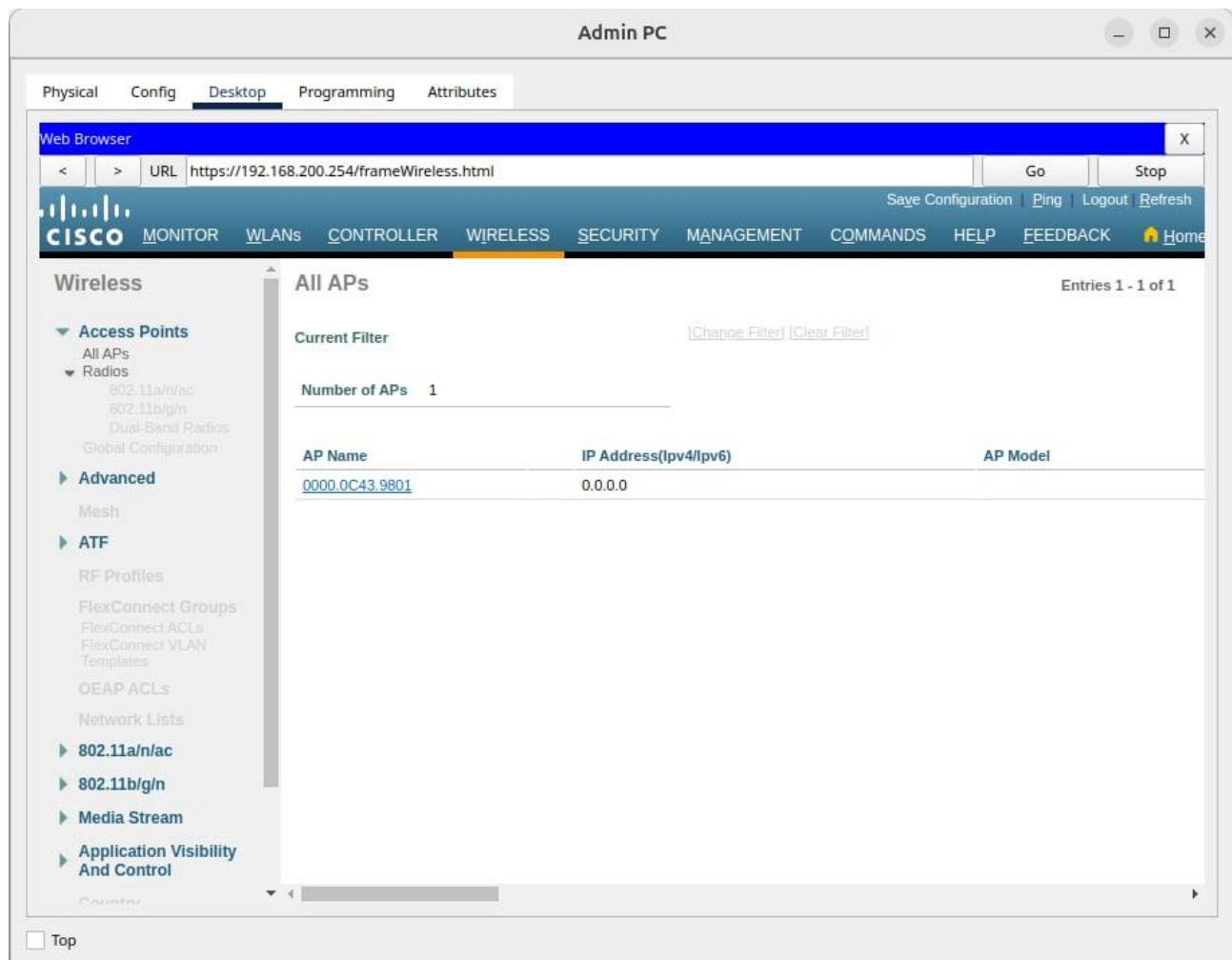
Mssv: 23530007

Bài 1. Packet Tracer - Configure a Basic WLAN on the WLC

Part 1. Monitor the WLC



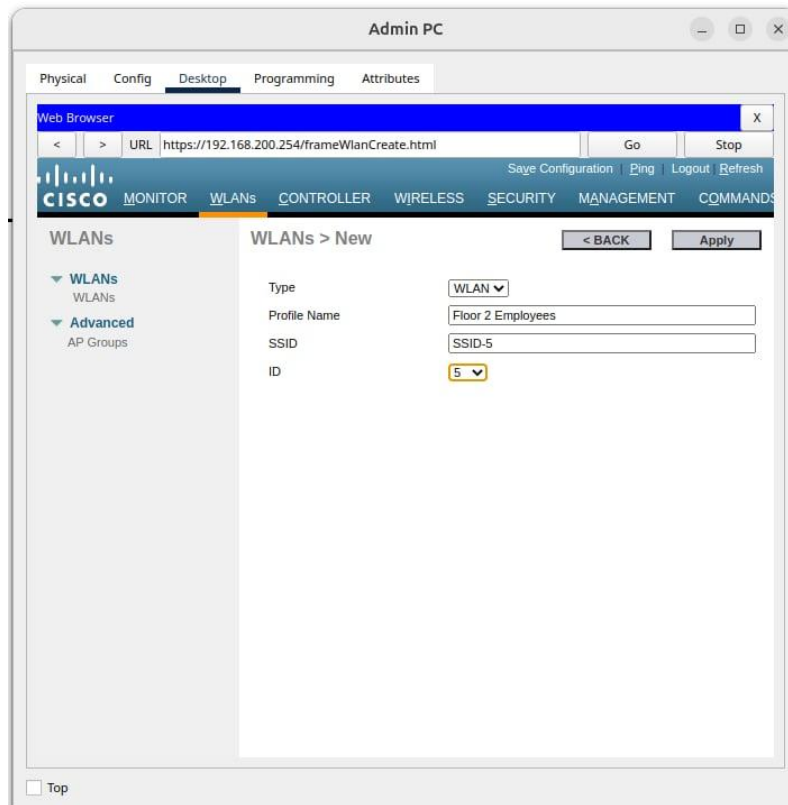
Hình 1.1.1. Đăng nhập vào web



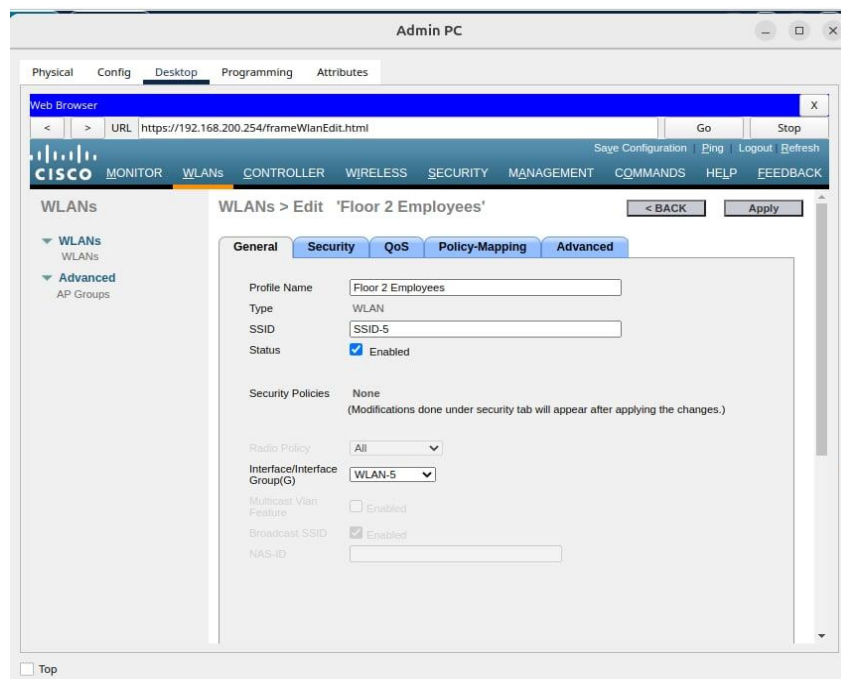
Hình 1.1.2. Nhấn vào chữ Detail kế bên Aps

Part 2. Create a Wireless LAN

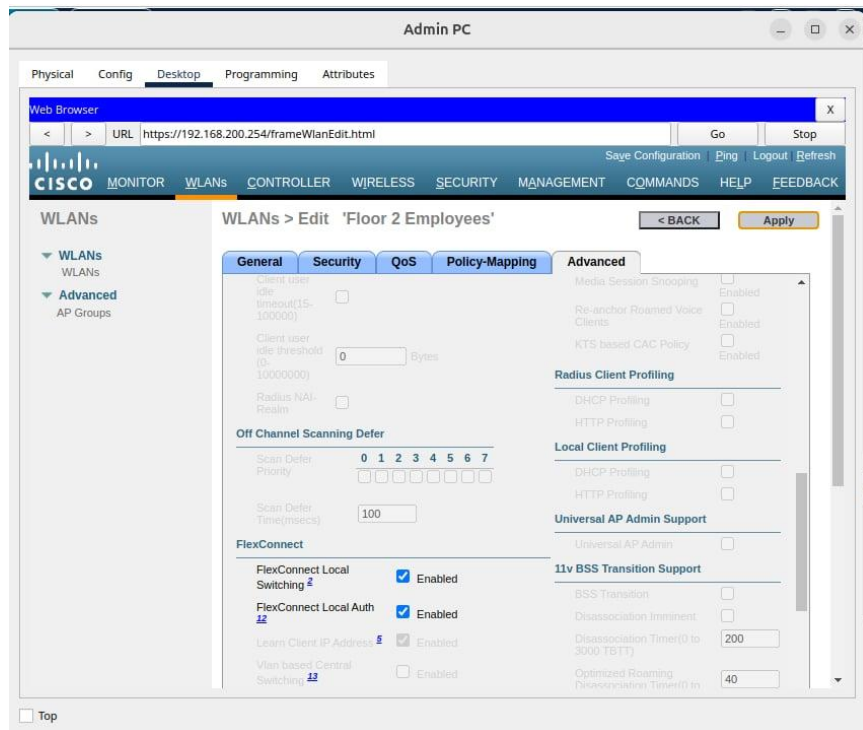
Step 1: Create and enable the WLAN.



Hình 1.2.1.1. Tạo WLAN mới

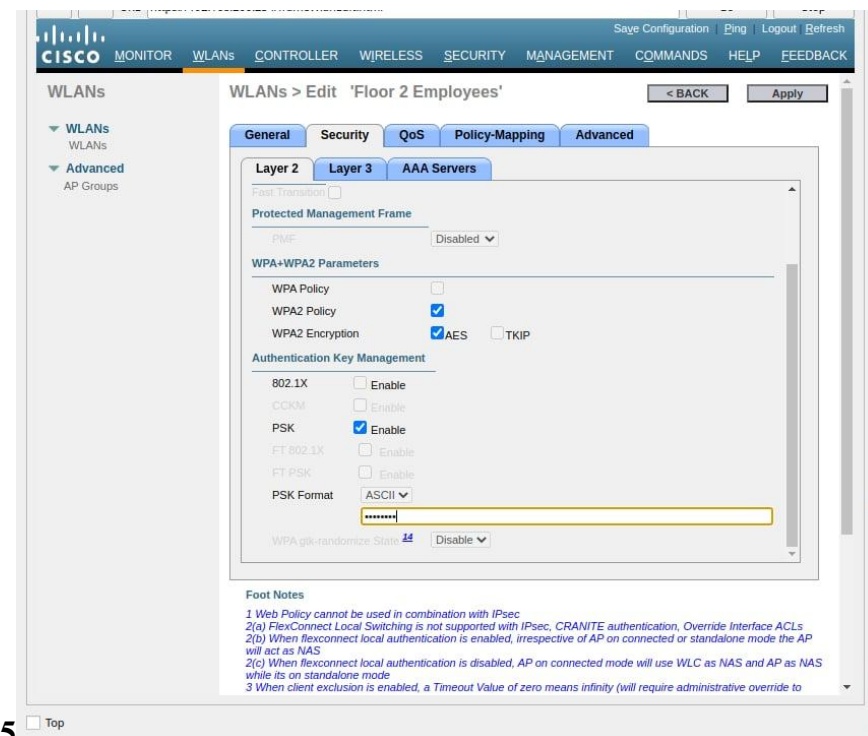


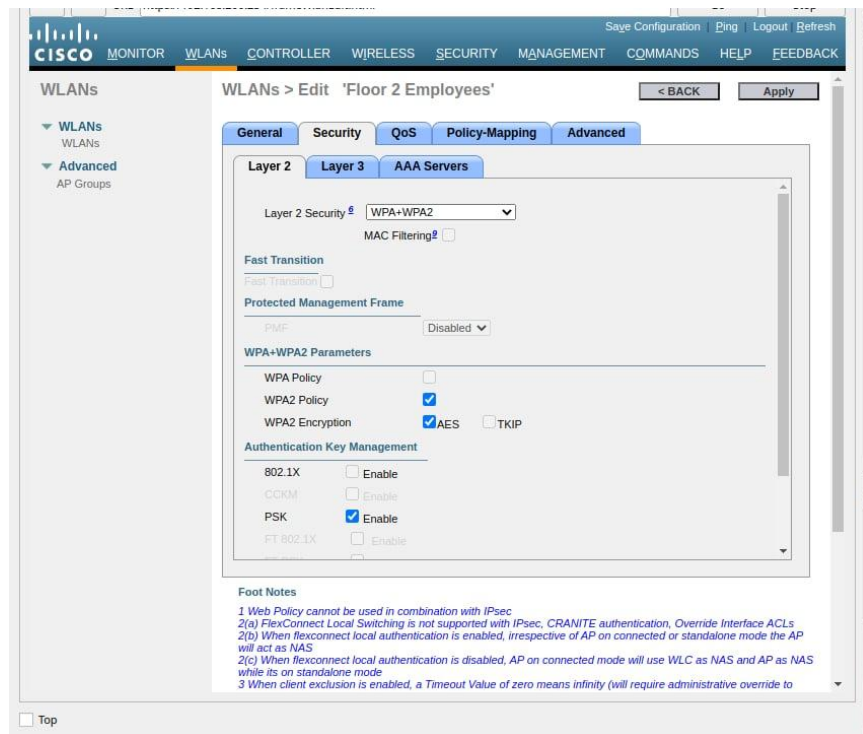
Hình 1.2.1.2. Gắn tên và SSID



Hình 1.2.1.3. tích enable và apply

Step 2: Secure the WLAN





Hình 1.2.2. Bảo mật WLAN

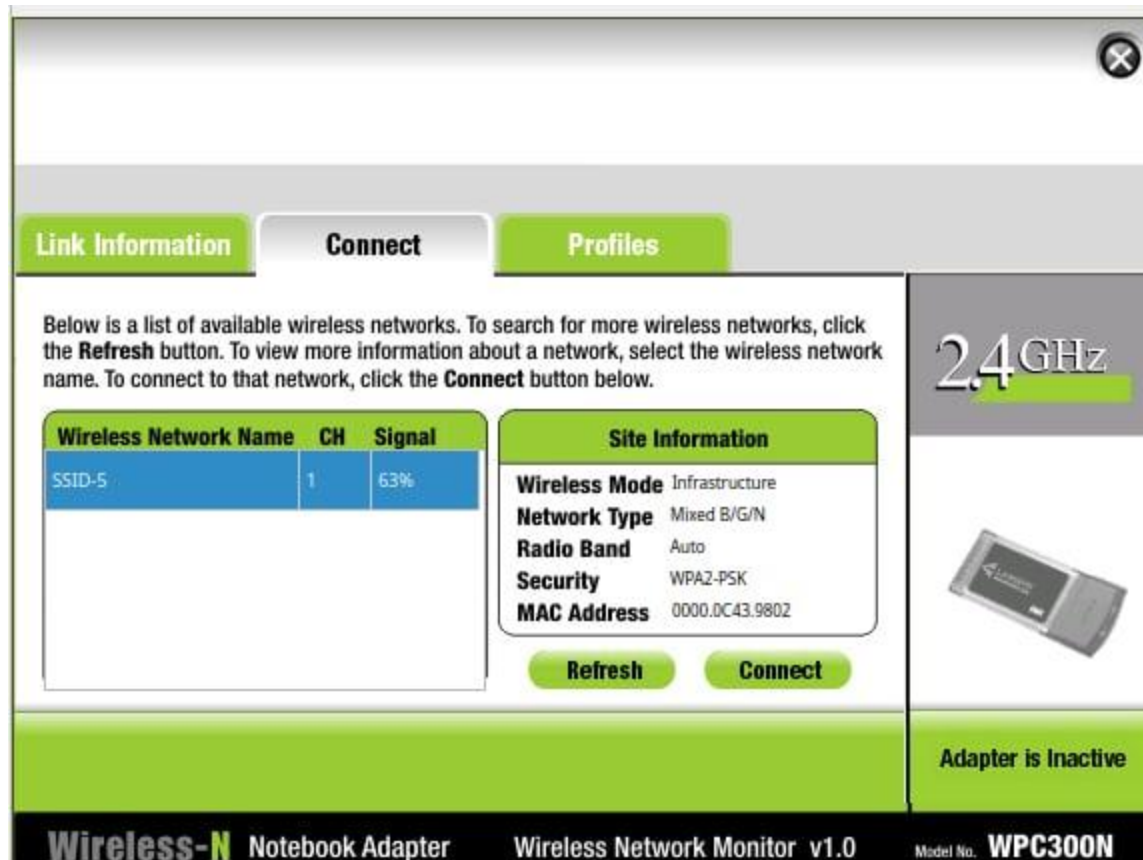
Step 3: Verify the Settings



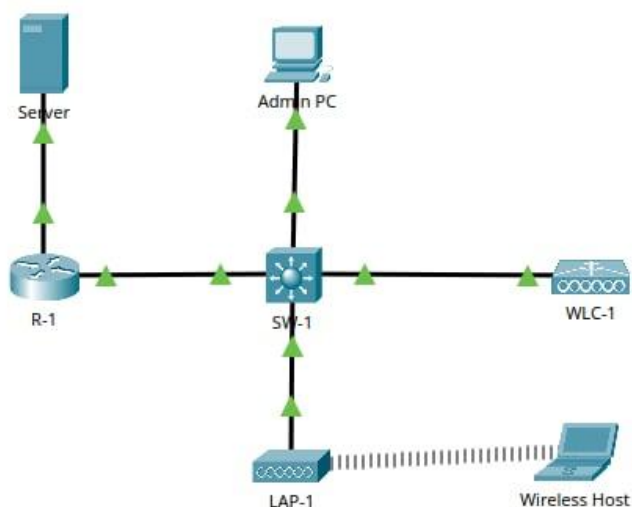
Hình 1.2.3. Xác minh thiết lập

Part 3: Connect a Host to the WLAN

Step 1: Connect to the network and verify connectivity.



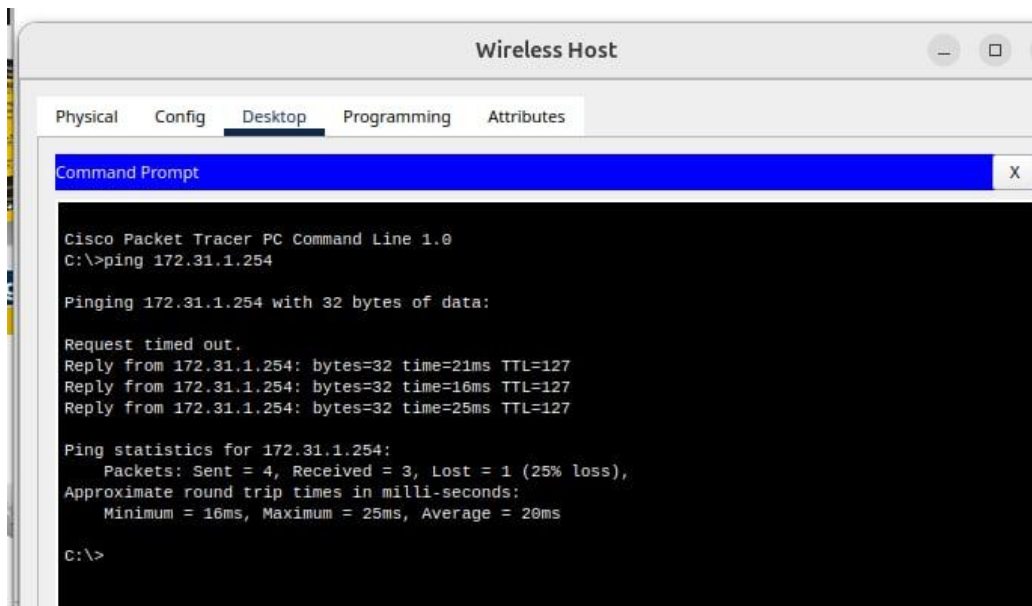
Hình 1.3.1. Connect với SSID-5



Hình 1.3.2. Kết nối thành công.



Hình 1.3.3. Link information



Hình 1.3.4. Ping test.

Bài 2. Packet Tracer - WLAN Configuration

Part 1: Configure a Home Wireless Router.

Step 1: Change DHCP settings.

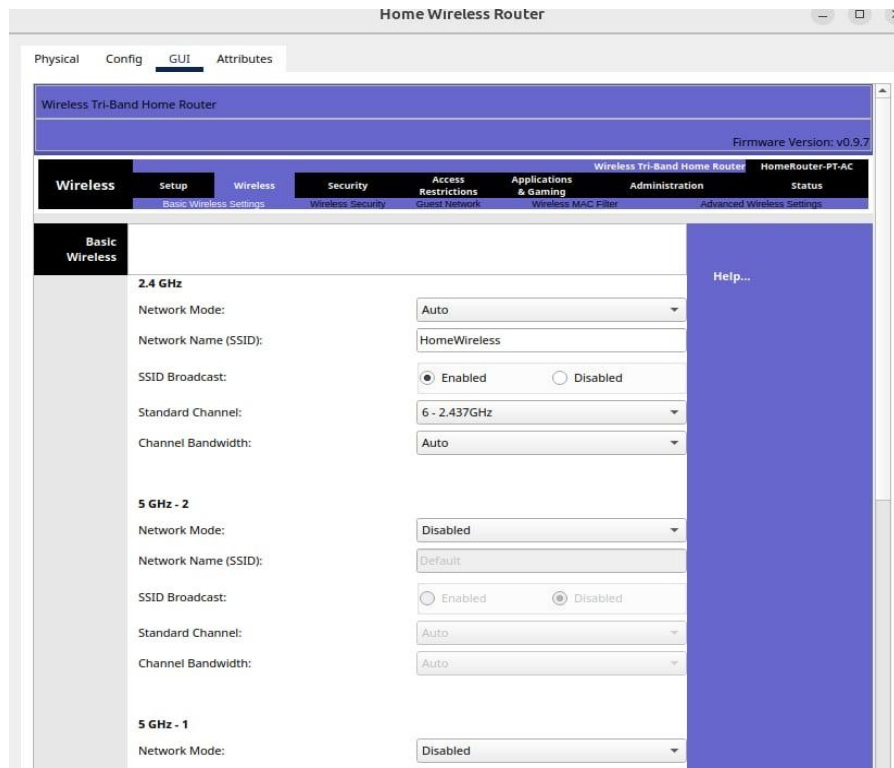
The screenshot shows the 'Home Wireless Router' configuration window. The 'Config' tab is selected, and the 'Internet' interface is chosen from the left sidebar. The 'Internet Settings' panel is displayed, showing the 'IP Configuration' section with 'DHCP' selected. The 'IPv4 Address' is set to 10.100.200.2, the 'Subnet Mask' is 255.255.255.0, and the 'Default Gateway' is 10.100.200.1. The 'DNS Server' field is empty.

Hình 2.1.1.1. Cấu hình internet là DHCP

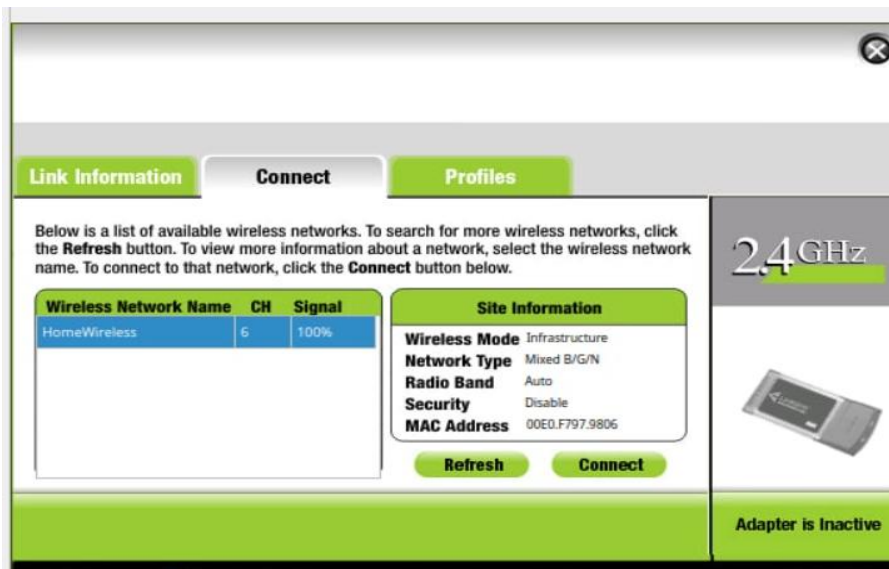
The screenshot shows the 'Home Wireless Router' configuration window with the 'GUI' tab selected. The 'Setup' section is active, and the 'Network Setup' sub-section is expanded. The 'Internet Setup' section shows 'Automatic Configuration - DHCP' selected. The 'Network Setup' section shows the 'Router IP' as 192.168.0.1 and the 'Subnet Mask' as 255.255.255.224. The 'DHCP Server Settings' section shows the 'DHCP Server' enabled, with a 'Start IP Address' of 192.168.0.3, a 'Maximum number of Users' of 20, an 'IP Address Range' of 192.168.0.1 - 10, a 'Client Lease Time' of 0 minutes, and 'Static DNS 1' set to 10.100.100.252.

Hình 2.1.1.2. cấu hình GUI

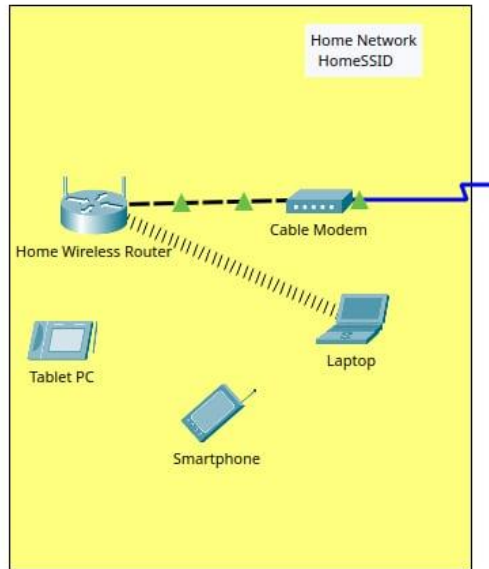
Step 2: Configure the Wireless LAN.



Hình 2.1.2.1. Wireless channel 6



Hình 2.1.2.2. thấy được HomeWireless



Hình 2.1.2.3. connect thành công

Step 3: Configure security.

Wireless Tri-Band Home Router

Wireless Setup Wireless Security Access Restrictions Applications & Gaming Administration

Basic Wireless Settings Wireless Security Guest Network Wireless MAC Filter Advanced V

Wireless Security

2.4 GHz

Security Mode: WPA2 Personal

Encryption: AES

Passphrase: Cisco123

Key Renewal: 3600 seconds

Help...

Hình 2.1.3.1. cấu hình bảo mật Wireless

Wireless Tri-Band Home Router

Firmware Version: 1.0.0

Administration | Setup | Wireless | Security | Access Restrictions | Applications & Gaming | Administration | Home Router Status

Management | Log | Diagnostics | Factory Defaults | Firmware Upgrade

Management

Router Access

Router Password: [password field]

Re-enter to confirm: [password field]

Web Access

Web Utility Access: ☒ HTTP ☐ HTTPS

Help...

Hình 2.1.3.2. Thay đổi mật khẩu

Step 4: Connect clients to the network.

WPA2-Personal Needed for Connection

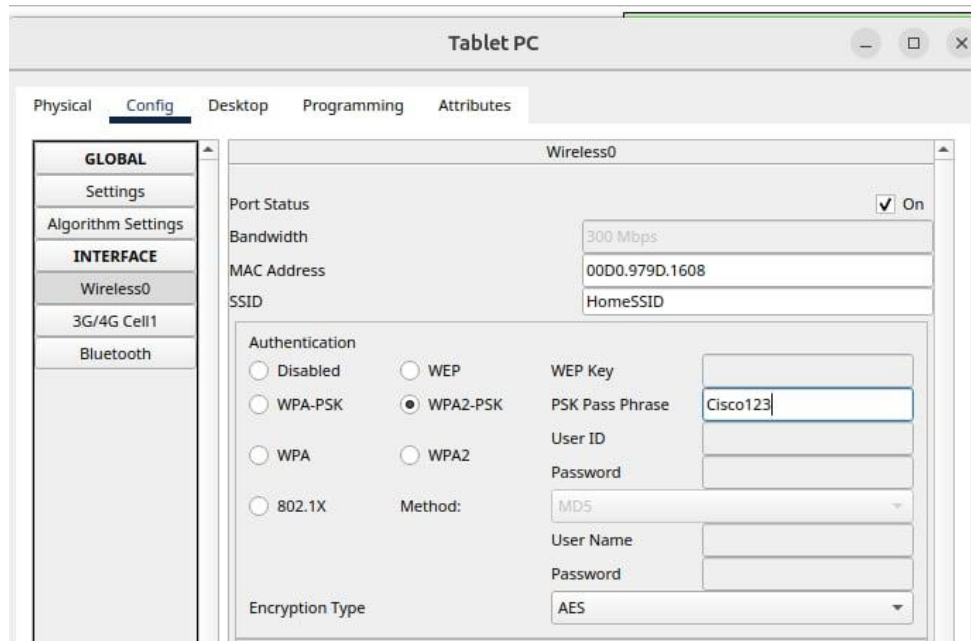
This wireless network has WPA2-Personal enabled. To connect to this network, enter the required passphrase in the appropriate field below. Then click the **Connect** button.

Security | WPA2-Personal | Please select the wireless security method used by your existing wireless network.

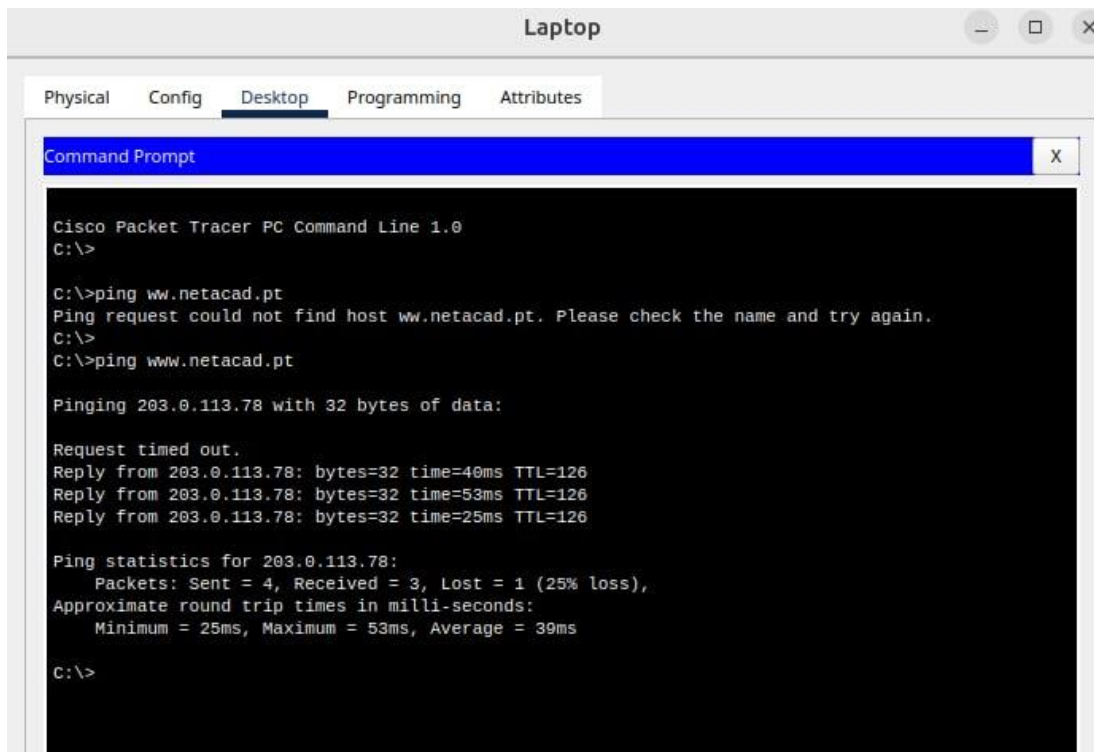
Pre-shared Key | Cisco123 | Please enter a Pre-shared Key that is 8 to 63 characters in length.

Cancel | **Connect**

Hình 2.1.4.1 PC Wireless kết nối với WLAN



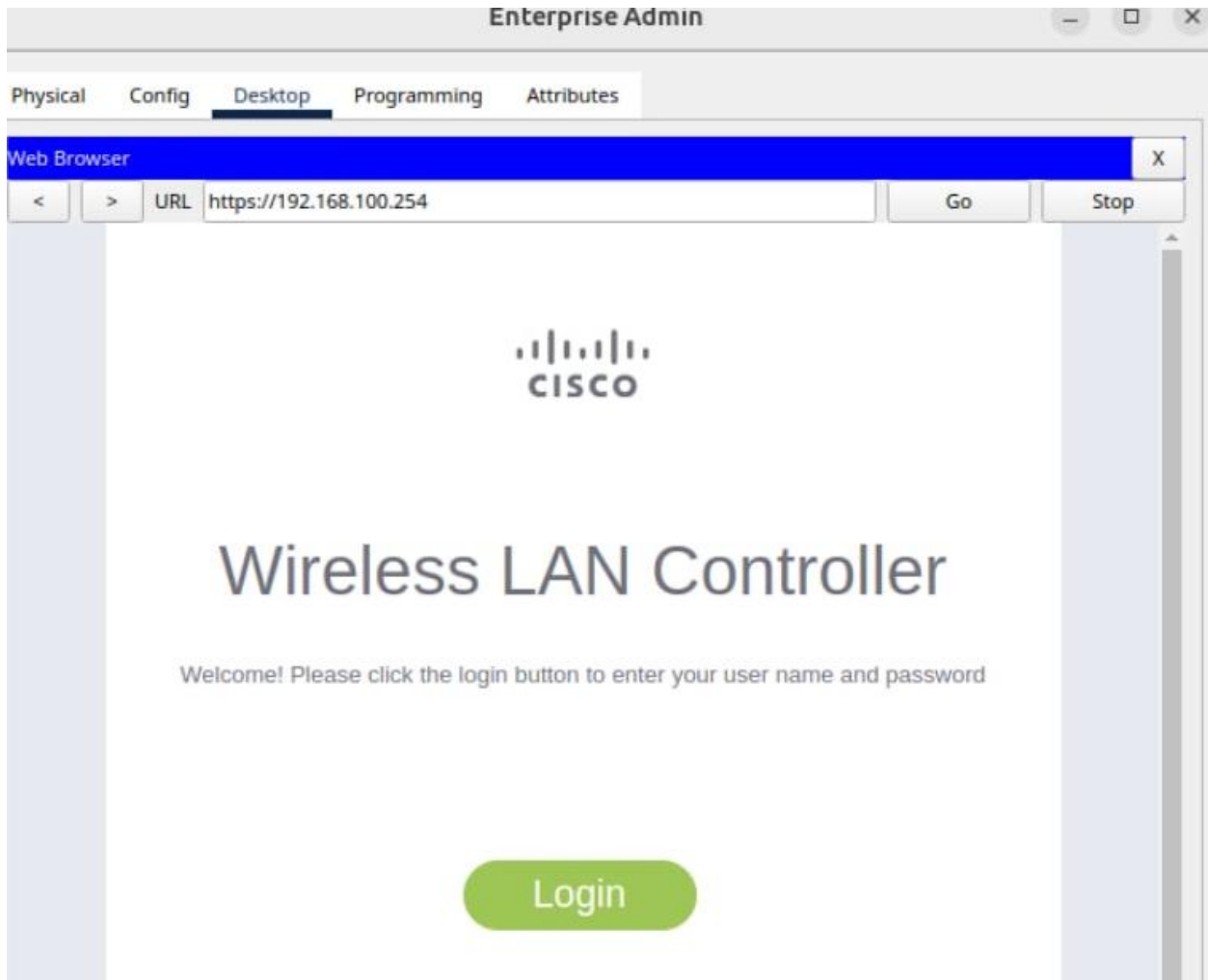
Hình 2.1.4.2. Cấu hình Interface wireless0



Hình 2.1.4.3. Ping test

Part 2: Configure a WLC Controller Network

Step 1: Configure VLAN interfaces.



Hình 2.2.1.1. truy cập web



Hình 2.2.1.2. Login

Enterprise Admin

Physical Config **Desktop** Programming Attributes

Web Browser

< > URL https://192.168.100.254/frameInterfaceEdit.html

CISCO MONITOR WLANS **CONTROLLER** WIRELESS SECURITY M

Controller

- General
- Inventory
- Interfaces
- Interface Groups
- Multicast
- ▶ Internal DHCP Server
- ▶ Mobility Management
- Ports
- ▶ NTP
- ▶ CDP
- ▶ Tunneling
- ▶ IPv6
- ▶ mDNS
- ▶ Advanced

General Information

Interface Name	WLAN 2
MAC Address	00:06:2A:89:75:D8

Configuration

Guest Lan	<input type="checkbox"/>
Quarantine	<input type="checkbox"/>
Quarantine Vlan Id	0
NAS-ID	

Physical Information

Port Number	1
Backup Port	0
Active Port	0
Enable Dynamic AP Management	<input type="checkbox"/>

Interface Address

VLAN Identifier	2
IP Address	192.168.2.254
Netmask	255.255.255.0
Gateway	192.168.2.1

DHCP Information

Primary DHCP Server	192.168.2.1
Secondary DHCP Server	

Hình 2.2.1.3. cấu hình controller

Step 2: Configure a DHCP scope for the wireless management network.

Enterprise

Physical Config **Desktop** Programming Attributes

Web Browser

< > URL https://192.168.100.254/frameDhcpScopeEdit.html

CISCO

MONITOR WLANs **CONTROLLER** WIRELESS SECURITY

Controller

General
Inventory
Interfaces
Interface Groups
Multicast
▶ Internal DHCP Server
▶ Mobility Management
Ports
▶ NTP
▶ CDP
▶ Tunneling
▶ IPv6
▶ mDNS
▶ Advanced

DHCP Scope > Edit

Scope Name	management
Pool Start Address	192.168.100.235
Pool End Address	192.168.100.245
Network	192.168.100.0
Netmask	255.255.255.0
Lease Time (seconds)	86400
Default Routers	192.168.100.1
DNS Domain Name	Not Supported
DNS Servers	0.0.0.0
Netbios Name Servers	0.0.0.0
Status	Enabled

Hình 2.2.2.1. Cấu hình phạm vi DHCP

Step 3: Configure the WLC with external server addresses.

Physical Config **Desktop** Programming Attributes

Web Browser

< > URL https://192.168.100.254/frameRadiusCreate.html

CISCO

MONITOR WLANs CONTROLLER WIRELESS **SECURITY** MANAGEMENT COMMANDS HELP

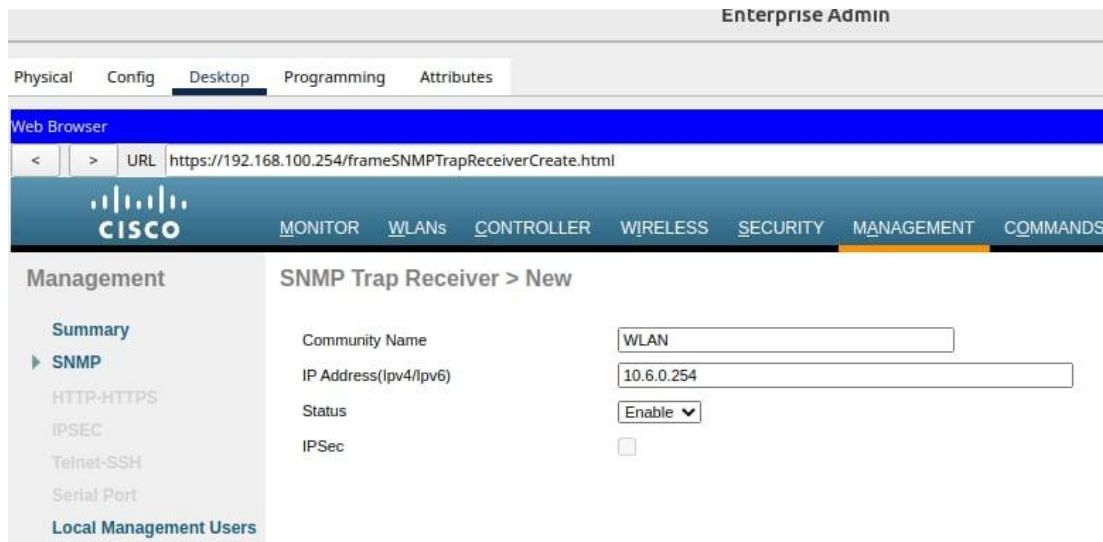
Security

▼ AAA
General
▼ RADIUS
Authentication
Accounting
Fallback
ONS
Downloaded AVP
▶ TACACS+
LDAP
Local Net Users
MAC Filtering
▶ Disabled Clients
User Login Policies
AP Policies
Password Policies
▶ Local EAP
Advanced EAP
▶ Priority Order
▶ Certificate
▶ Access Control Lists
Wireless Protection

RADIUS Authentication Servers > New

Server Index (Priority)	1
Server IP Address (IPv4/IPv6)	10.6.0.254
Shared Secret Format	ASCII
Shared Secret	*****
Confirm Shared Secret	
Key Wrap	<input type="checkbox"/> (Designed for FIPS customers and requires a key wrap compliant RADIUS server)
Port Number	1812
Server Status	Enabled
Support for CoA	Disabled
Server Timeout	2 seconds
Network User	<input checked="" type="checkbox"/> Enable
Management	<input checked="" type="checkbox"/> Enable
Management Retransmit Timeout	2 seconds
IPSec	<input type="checkbox"/> Enable

Hình 2.2.3.1. Cấu hình Radius authentication server



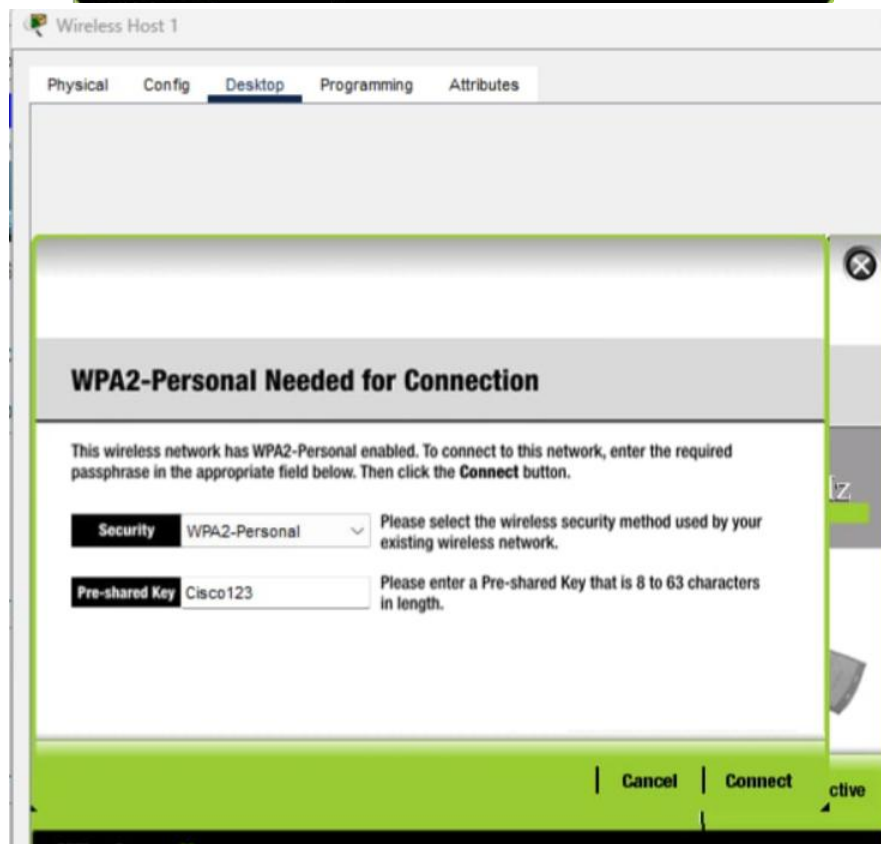
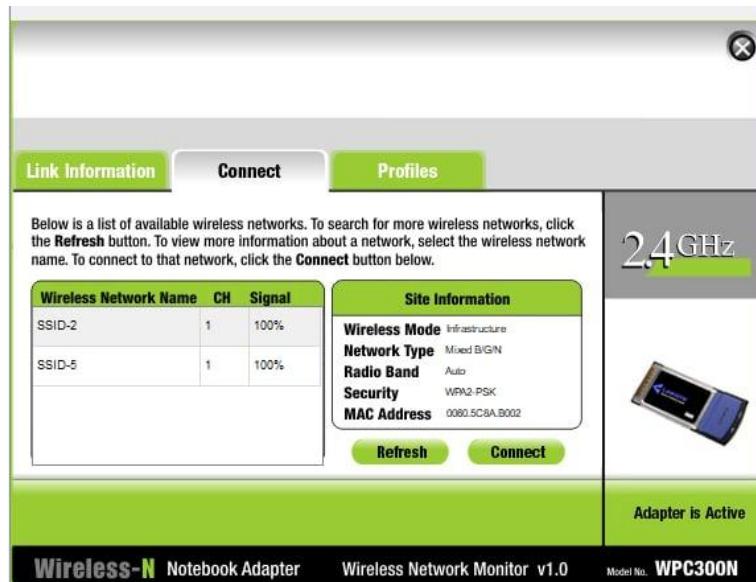
Hình 2.2.3.2. cấu hình WLC

Step 4: Create the WLANs.

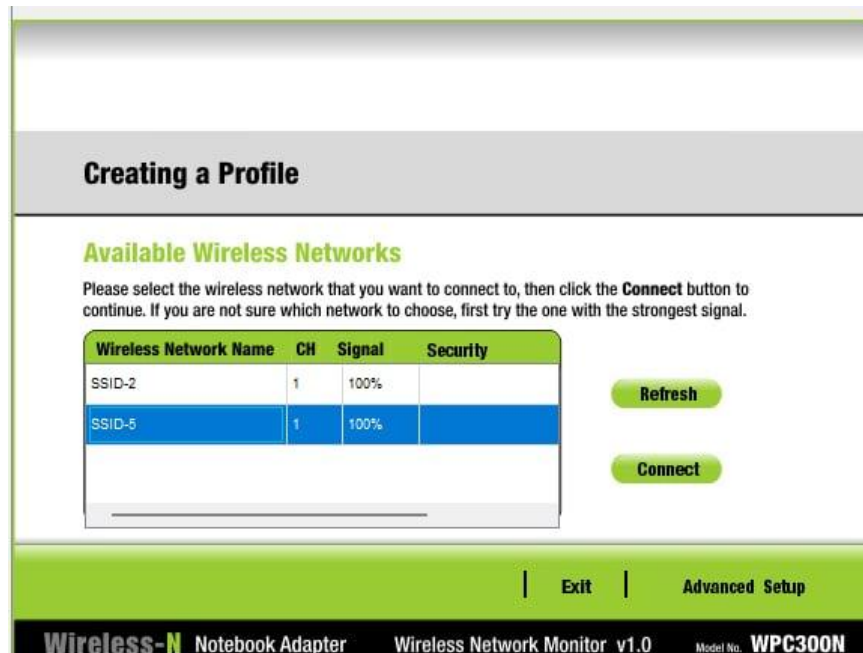


Hình 2.2.4.1. Tạo WLAN

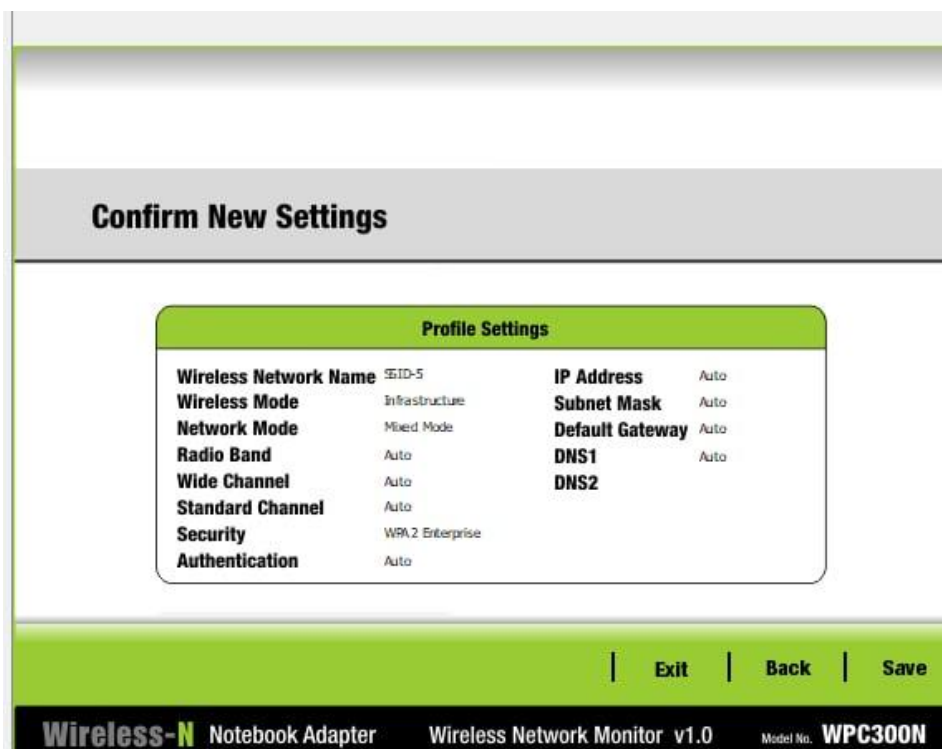
Step 5: Configure the hosts to connect to the WLANs.



Hình 2.2.5.1. Wireless Host 1 kết nối với Wireless VLAN 2

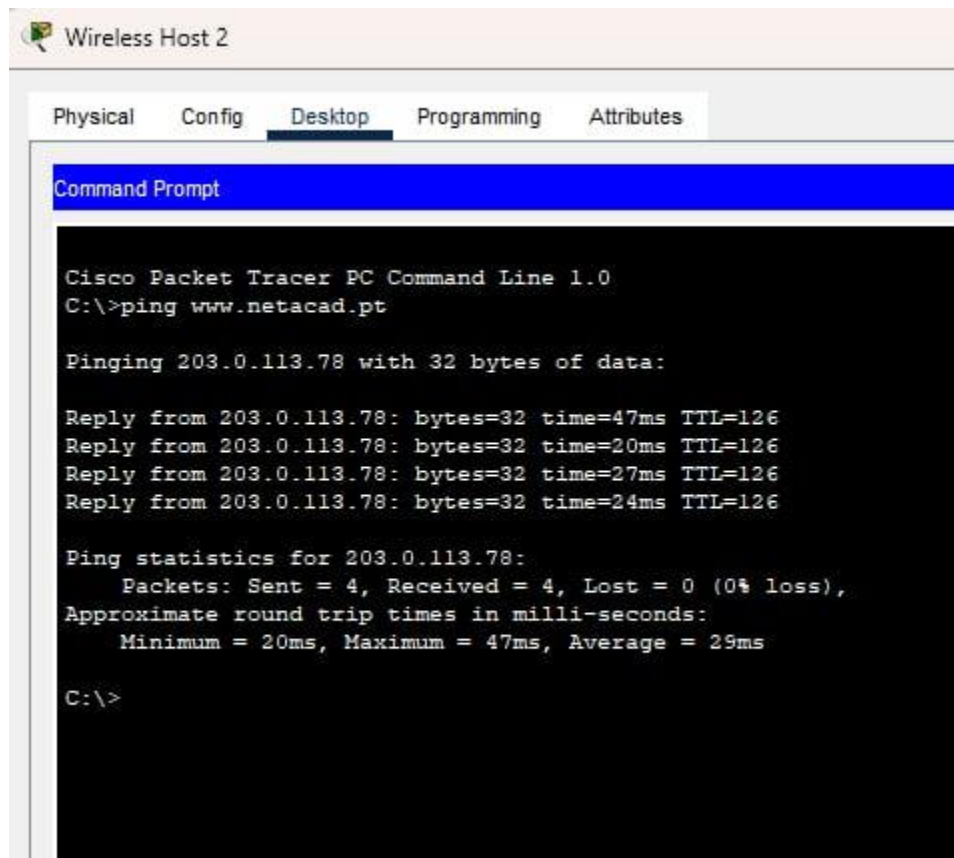


Hình 2.2.5.2. Advanced Setup



Hình 2.2.5.3. Confirm New Settings

Step 6: Test connectivity.



The screenshot shows the 'Wireless Host 2' configuration window in Cisco Packet Tracer. The 'Desktop' tab is selected, displaying a 'Command Prompt' window. The command prompt shows the execution of a ping command to the website 'www.netacad.pt', which translates to the IP address 203.0.113.78. The output shows four successful replies with varying round-trip times (20ms, 24ms, 27ms, and 47ms) and a TTL of 126. The statistics indicate 0% packet loss.

```
Wireless Host 2
Physical  Config  Desktop  Programming  Attributes
Command Prompt

Cisco Packet Tracer PC Command Line 1.0
C:\>ping www.netacad.pt

Pinging 203.0.113.78 with 32 bytes of data:

Reply from 203.0.113.78: bytes=32 time=47ms TTL=126
Reply from 203.0.113.78: bytes=32 time=20ms TTL=126
Reply from 203.0.113.78: bytes=32 time=27ms TTL=126
Reply from 203.0.113.78: bytes=32 time=24ms TTL=126

Ping statistics for 203.0.113.78:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 20ms, Maximum = 47ms, Average = 29ms

C:\>
```

Hình 2.2.6. Ping test.