Packet Tracer - Troubleshoot WLAN Issues (Instructor Version)

Instructor Note: Red font color or gray highlights indicate text that appears in the instructor copy only.

Answers: 21.2.1 Packet Tracer - Troubleshoot WLAN Issues

Addressing Table

Device	Interface	IP Address
Home Wireless Router	Internet	DHCP
	LAN	192.168.0.1
R1	G0/0/0.10	192.168.10.1/24
	G0/0/0.20	192.168.20.1/24
	G0/0/0.200	192.168.200.1/24
	G0/0/1	172.31.1.1/24
SW1	VLAN 200	192.168.200.100/24
LAP-1	G0	DHCP
WLC-1	Management	192.168.200.254/24
RADIUS Server	NIC	172.31.1.254/24
Admin PC	NIC	192.168.200.200/24
Web Server	NIC	203.0.113.78/24
DNS Server	NIC	10.100.100.254
Home Admin	NIC	DHCP
Laptop	NIC	DHCP
Laptop1	Wireless0	DHCP
Laptop2	Wireless0	DHCP
Tablet PC	Wireless0	DHCP
Smartphone	Wireless0	DHCP

WLAN Information

WLAN	SSID	Authentication	Username	Password
Home Network	HomeSSID	WPA2-Personal	N/A	Cisco123
WLAN VLAN10	SSID-10	WPA-2 PSK/Personal	N/A	Cisco123

WLAN	SSID	Authentication	Username	Password
WLAN VLAN 20	SSID-20	WPA-2 802.1x/Enterprise	user2	user2Pass

Objectives

In this activity, you will troubleshoot various issues in home wireless and enterprise wireless networks.

- Troubleshoot wireless LAN connectivity issues in a home network.
- Troubleshoot wireless LAN connectivity issues in an enterprise network.

Background / Scenario

Now that you have learned how to configure wireless in home and enterprise networks, you need to learn how to troubleshoot in both wireless environments. Your goal is to enable connectivity between hosts on the networks to the web server by both IP address and URL. Connectivity between the home and enterprise networks is not required.

To access the Home Wireless Router, the username and password is **admin**.

The WLC management interface username is **admin** and the password is **Cisco123**.

Instructions

Part 1: Troubleshoot the Network

Note: You will only be troubleshooting the Home Wireless Router, WLC and wireless host devices in this activity.

Step 1: Test connectivity.

a. Test connectivity between the various wireless hosts and the web server by both IP and URL **www.netacad.pt**.

b. Record the hosts that cannot access the web server in the table in Step 2.

Step 2: Investigate issues and record findings.

a. Investigate the connectivity issues with each host. Issues may be with the host configuration, or with other wireless network components.

b. Complete the table.

Device	Network Home/Enterprise	Issue	Remedy
Smartphone, Tablet PC, Laptop	**Home**	**Unable to access URL of server by name. The DNS server address misconfigured on Home Wireless Router DHCP server.**	**Change static address of the DNS server in the Home Wireless router DHCP server to 10.100.100.254**

Device	Network Home/Enterprise	Issue	Remedy
Tablet PC	Home	Client set to static addressing	Should be set to DHCP.
Wireless router	Home	Internet interface is set to static.	Set internet interface to DHCP
WLC	Enterprise	WLAN Wireless VLAN 20 is not enabled.	Enable WLAN and apply.
Laptop 2	Enterprise	Laptop 2 won't connect to Wireless VLAN 20. Incorrect username in client profile.	Change username to user2.
WLC	Enterprise	Laptop 1 cannot connect to the WLAN. On the WLC, WLAN-Wireless VLAN 10 has Authentication Key Management set to 802.1x rather than PSK, which is the configuration required for WPA2 PSK security.	Change Authentication Key Management to PSK, enter the PSK value from the WLAN table.

Part 2: Fix Issues

Make changes to the device configurations so hosts can achieve connectivity with the network. Test to ensure all hosts can reach the communication goal of connecting to the web server by both IP address and URL.