Packet Tracer - Troubleshoot WLAN Issues (Instructor Version)

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

# Addressing Table

| Device | Interface | IP Address |
| --- | --- | --- |
| Home Wireless Router | Internet | DHCP |
| Home Wireless Router | LAN | 192.168.0.1 |
| R1 | G0/0/0.10 | 192.168.10.1/24 |
| R1 | G0/0/0.20 | 192.168.20.1/24 |
| R1 | G0/0/0.200 | 192.168.200.1/24 |
| R1 | 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 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

## Troubleshoot the Network

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

### Test connectivity.

* + - 1. Test connectivity between the various wireless hosts and the web server by both IP and URL **www.netacad.pt**.
			2. Record the hosts that cannot access the web server in the table in Step 2.

### Investigate issues and record findings.

* + - 1. Investigate the connectivity issues with each host. Issues may be with the host configuration, or with other wireless network components.
			2. Complete the table.

| Device | NetworkHome/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 on Home Wireless router DHCP server to 10.100.100.254 |
| 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. |
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## 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.

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