

6-2 Project One Submission: Network Modification Brief

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Cyb 210

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I. Network Reconfiguration

The screenshot displays the Cisco Packet Tracer interface. On the left, a network diagram shows two PCs connected to a switch. The switch is labeled 'Switch' and has a 'VLAN 50 - Data' label. The PCs are labeled 'PC-PT' and 'PC1' with IP address '192.168.50.5'. The switch has two ports labeled 'Fa0' connected to the PCs. The switch is also labeled 'Switch' and has a 'VLAN 50 - Data' label.

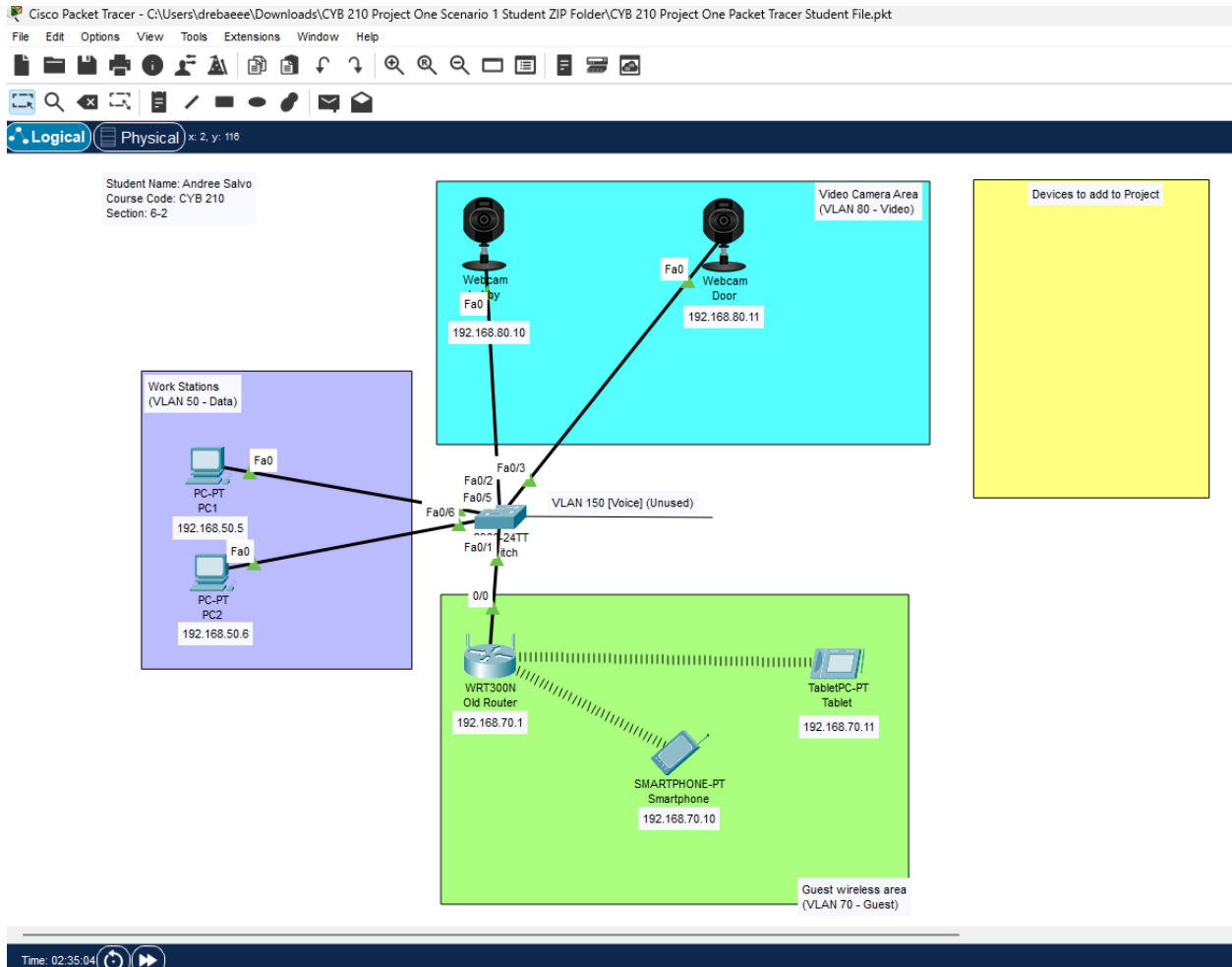
On the right, the 'Switch' configuration window is open, showing the 'Config' tab. The 'VLAN Configuration' section is visible, showing a table of VLANs. The 'VLAN No' column lists 1, 50, 70, 80, 150, 1002, 1003, 1004, and 1005. The 'VLAN Name' column lists default, Data, Guest, Video, Voice, fddi-default, token-ring-default, fddinet-default, and trnet-default. The 'Video' VLAN (VLAN 80) is highlighted. Below the table, the 'Equivalent IOS Commands' section shows the following commands:

```
Switch>enable
Switch#
Switch#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#
Switch(config)#vlan 70
Switch(config-vlan)# name Guest
Switch(config-vlan)#vlan 80
Switch(config-vlan)# name Video
Switch(config-vlan)#
```

- A. Configure the **VLAN** for guest and video connections to meet the project requirements. Submit a screenshot of the VLAN table.

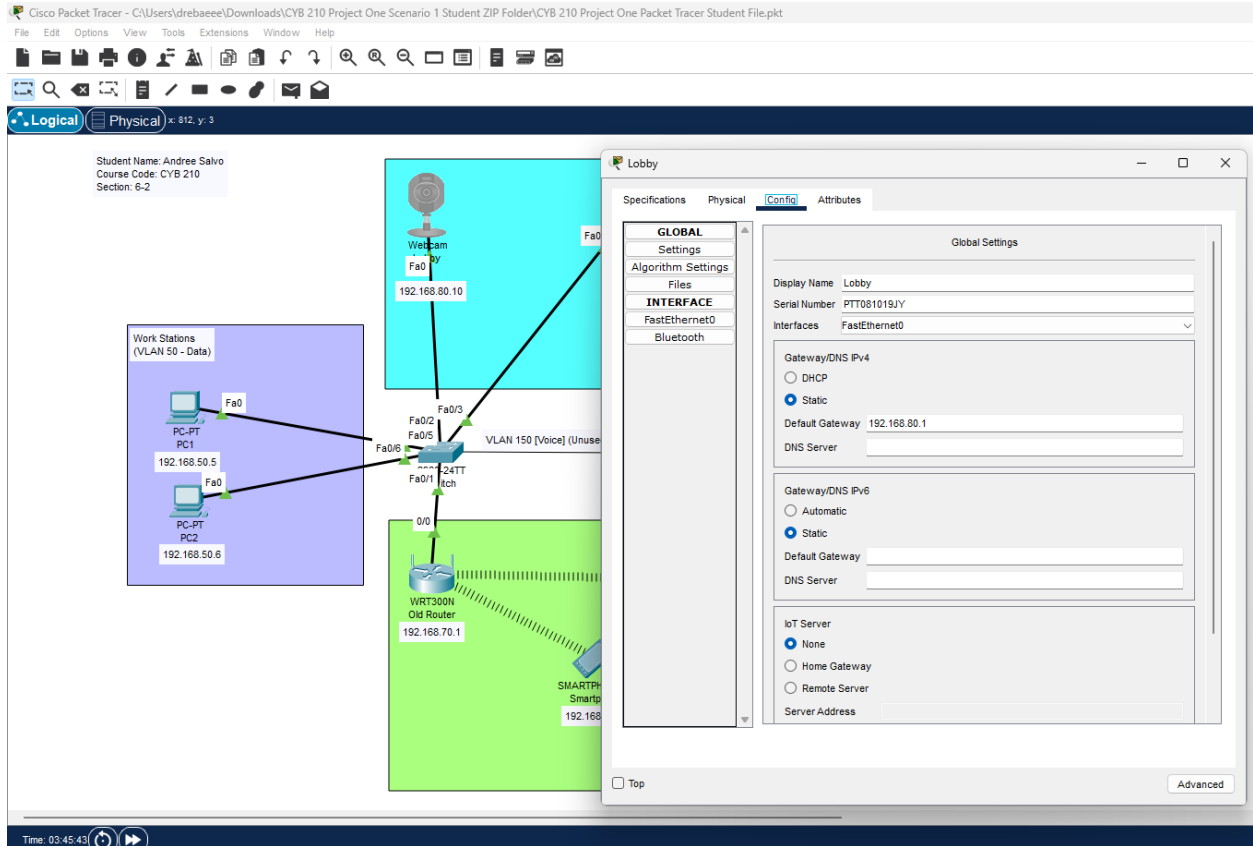
-
- The screenshot displays the Cisco Packet Tracer interface. On the left, a network topology is visible within a 'VLAN 50 - Data' cloud. It includes two PCs (PC-PT1 and PC-PT2) connected to a central router (WRT300N Old Router). The router has interfaces Fa0/0, Fa0/1, Fa0/2, Fa0/3, Fa0/4, Fa0/5, and Fa0/6. A wireless interface is also shown. The router is connected to a 'VLAN 100 - Management' cloud. The time displayed is 02:23:27.
- On the right, the configuration window for the 'Old Router' is open, showing the 'Config' tab. The 'Wireless' interface is selected. The configuration details are as follows:
- | Wireless Settings | |
|---|--------------|
| SSID | DMV_GUEST |
| 2.4 GHz Channel | 1 - 2.412GHz |
| Coverage Range (meters) | 250.00 |
| Authentication
<input checked="" type="radio"/> Disabled
<input type="radio"/> WPA-PSK
<input type="radio"/> WPA
<input type="radio"/> WEP
<input type="radio"/> WPA2-PSK
<input type="radio"/> WPA2 | |
| RADIUS Server Settings
IP Address
Shared Secret | |
| Encryption Type | Disabled |

- C. Make sure that **devices** are connected to the guest wireless network to meet the project requirements. IP addresses for the devices should be noted in the network diagram PNG or PDF



- D. Make sure that **cameras** are connected to the video network to meet the project requirements. IP addresses for the cameras should be noted in the network diagram PNG or PDF.

(Lobby Camera)



(Door Camera)

Cisco Packet Tracer - C:\Users\drebaeee\Downloads\CYB 210 Project One Scenario 1 Student ZIP Folder\CYB 210 Project One Packet Tracer Student File.pkt

File Edit Options View Tools Extensions Window Help

Logical Physical + 500, y: 1

Student Name: Andree Salvo
Course Code: CYB 210
Section: 6-2

Work Stations (VLAN 50 - Data)

- PC-PT PC1 192.168.50.5
- PC-PT PC2 192.168.50.6

Webcam 192.168.80.10

Webcam Door 192.168.80.11

VLAN 150 [Voice] (Unused)

WRT300N Old Router 192.168.70.1

SMARTPHONE-PT Smartphone 192.168.70.10

Door

Specifications Physical Config Attributes

GLOBAL

Settings

Algorithm Settings

Files

INTERFACE

FastEthernet0

Bluetooth

FastEthernet0

Port Status ☒ On

Bandwidth ☒ 100 Mbps ☐ 10 Mbps ☒ Auto

Duplex ☐ Half Duplex ☒ Full Duplex ☒ Auto

MAC Address 000B.BEE8.A870

IP Configuration

☐ DHCP

☒ Static

IPv4 Address 192.168.80.11

Subnet Mask 255.255.255.0

IPv6 Configuration

☐ Automatic

☒ Static

IPv6 Address

Link Local Address: FE80::20B:BEFF:FE8B:A870

Time: 03:46:34

- E. Make sure that guest and video networks are **properly segmented**. Submit screenshots of ping tests that prove you have met this project requirement.

Cisco Packet Tracer - C:\Users\drebaee\Downloads\CYB 210 Project One Scenario 1 Student ZIP Folder\CYB 210 Project One Packet Tracer Student File.pkt

File Edit Options View Tools Extensions Window Help

Logical Physical x: 832, y: 424

Course Code: CYB 210
Section: 6-2

Work Stations (VLAN 50 - Data)

PC-PT
192.168.50.5
PC-PT
192.168.50.6

Video Camera Area (VLAN 80 - Video)

Webcam
192.168.80.10
Webcam
192.168.80.11

VLAN 150 (Voice) (Unused)

WRT300N Old Router
192.168.70.1

TabletPC-PT Tablet
192.168.70.11

SMARTPHONE-PT Smartphone
192.168.70.10

Guest wireless area (VLAN 70 - Guest)

Smartphone

Physical Config Desktop Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>Ping 192.168.70.10

Pinging 192.168.70.10 with 32 bytes of data:
Reply from 192.168.70.10: bytes=32 time=4ms TTL=128
Reply from 192.168.70.10: bytes=32 time=6ms TTL=128
Reply from 192.168.70.10: bytes=32 time<1ms TTL=128
Reply from 192.168.70.10: bytes=32 time=6ms TTL=128

Ping statistics for 192.168.70.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 6ms, Average = 4ms
C:\>
```

Cisco Packet Tracer - C:\Users\drebaee\Downloads\CYB 210 Project One Scenario 1 Student ZIP Folder\CYB 210 Project One Packet Tracer Student File.pkt

File Edit Options View Tools Extensions Window Help

Logical Physical x: 800, y: 599

Student Name: Andree Salvo
Course Code: CYB 210
Section: 6-2

Work Stations (VLAN 50 - Data)

PC-PT
192.168.50.5
PC-PT
192.168.50.6

Video Camera Area (VLAN 80 - Video)

Webcam
192.168.80.10
Webcam
192.168.80.11

VLAN 150 (Voice) (Unused)

WRT300N Old Router
192.168.70.1

TabletPC-PT Tablet
192.168.70.11

SMARTPHONE-PT Smartphone
192.168.70.10

Guest wireless area (VLAN 70 - Guest)

Tablet

Physical Config Desktop Programming Attributes

Command Prompt

```
Reply from 192.168.70.11: Destination host unreachable.
Reply from 192.168.70.11: Destination host unreachable.
Reply from 192.168.70.11: Destination host unreachable.
Reply from 192.168.70.11: Destination host unreachable.

Ping statistics for 192.168.80.11:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>clear
Invalid Command.

C:\>clear
Invalid Command.

C:\>clear
Invalid Command.

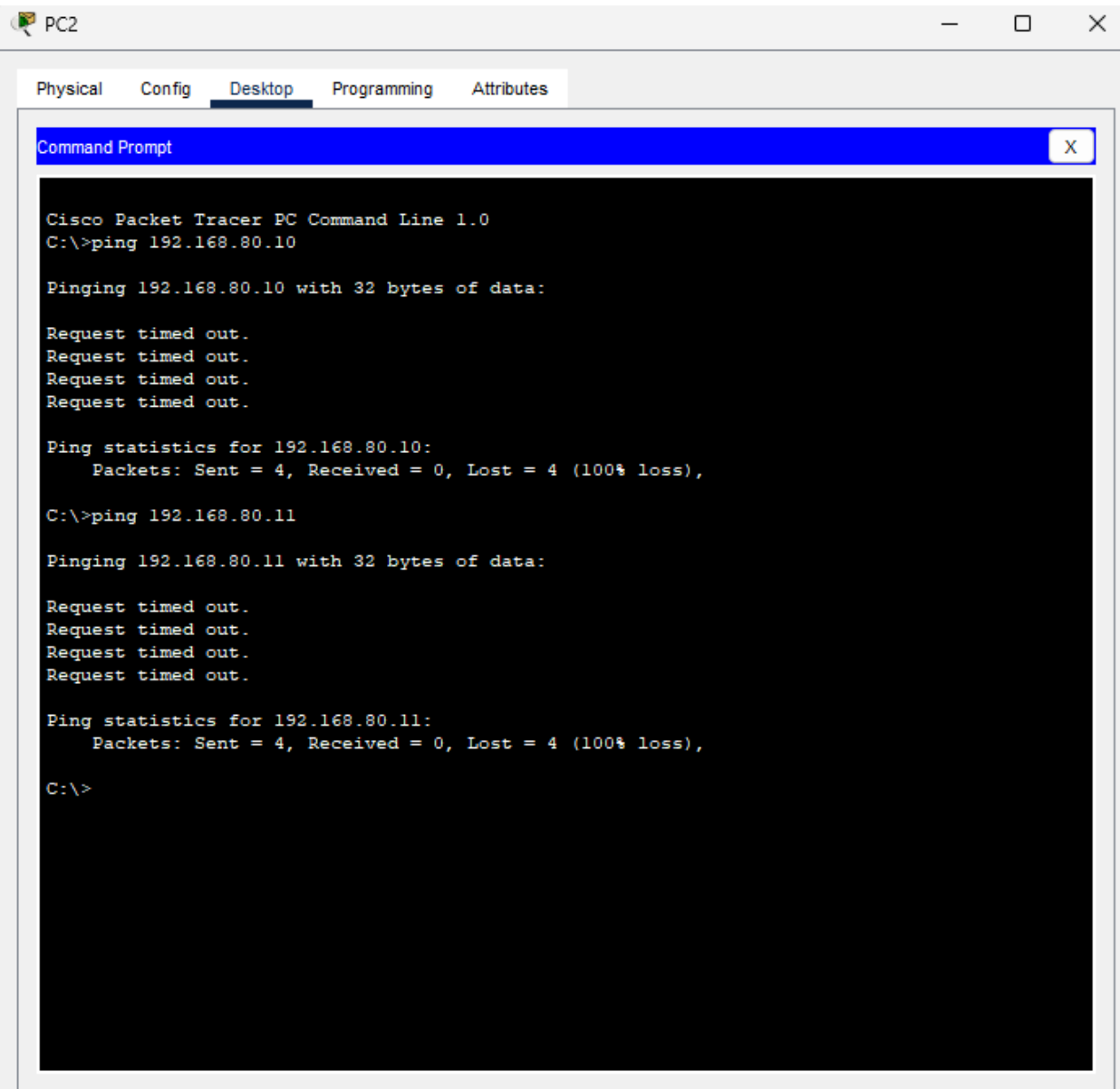
C:\>ping statistics for 192.168.80.11
Invalid Command.

C:\>Ping statistics 192.168.80.11
Invalid Command.

C:\>Ping 192.168.70.11

Pinging 192.168.70.11 with 32 bytes of data:
Reply from 192.168.70.11: bytes=32 time=1ms TTL=128
Reply from 192.168.70.11: bytes=32 time=1ms TTL=128
Reply from 192.168.70.11: bytes=32 time=7ms TTL=128
Reply from 192.168.70.11: bytes=32 time=1ms TTL=128

Ping statistics for 192.168.70.11:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 6ms, Average = 6ms
C:\>
```



II. Explanation of Network Segregation

A. Describe how network traffic was segmented to meet the project requirements for guest and video connections.

Explanation: The switch segmented the network traffic by multiple VLAN databases. (1) VLAN 70, VLAN 70 is to be used for the guest, which connects to a wireless router, smartphone, and tablet. (2) VLAN 80 is for video. There were only two webcams for this scenario: "Lobby" and " Door." (3) Lastly, VLAN 50 and 150 were already preset and were already segmented by two PCs. PC1 and PC2. VLAN 50 is data, and VLAN 150 is Voice. All four of these VLANs connect together by the switch, and all four work together differently.

B. Explain how you considered the scalability of the guest wireless network in order to meet the project requirements (IP addressing, leasing, and so on).

Explanation: The scalability of meeting the project requirements allows up to 70 users to connect to a wireless network through the DHCP IP address. I did this from the Router's GUI tab. Although the DMV may be slow, guests are not there for longer than 4 hours and cannot be connected to the guest network for a long.