

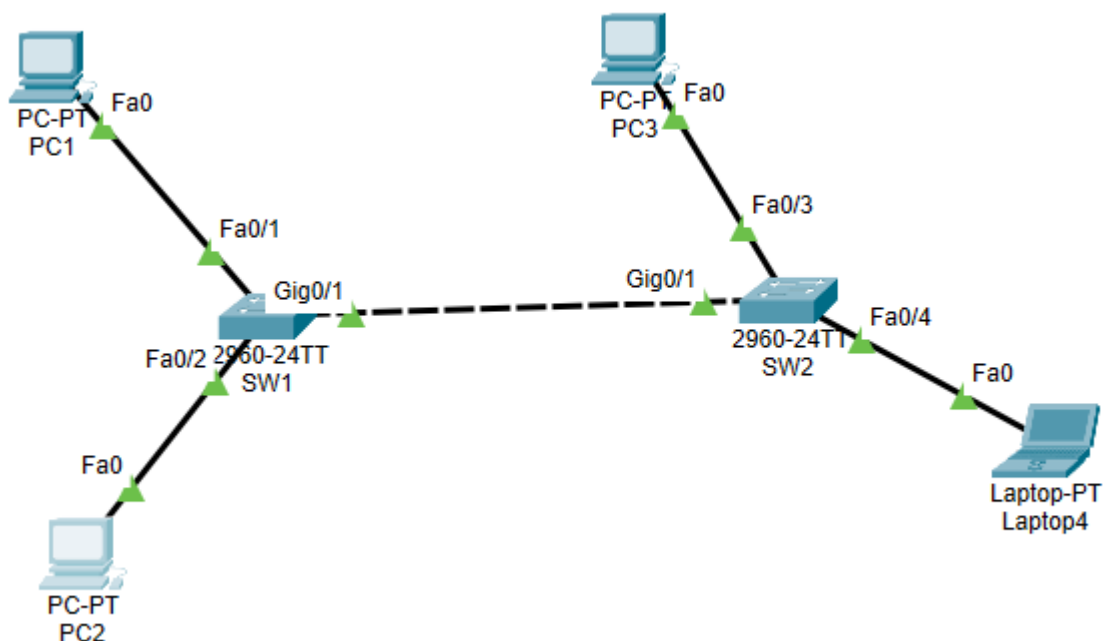
Network and Cybersecurity essentials (ACCA4024 Network Lab)

Task 1 To be done on Packet Tracer

Understand Networking Devices: Design and Connect a LAN

1. Build a simple network.
2. Use a 2960 Layer 2 switch.
3. Use straight-through and crossover cables.
4. Use the ipconfig /all command in the command prompt to record:
 - IP address
 - Subnet mask
 - MAC address for each PC

Cable the LAN topology as shown below.



Configure IP Addresses as per the Given IP Address

End Device	IP address	Subnet mask	MAC- Address
PC1	172.16.20.1	255.255.0.0	0002.4A75.C9EB
PC2	172.16.20.2	255.255.0.0	0060.2FE2.AADD
PC3	172.16.20.3	255.255.0.0	0001.9704.B0C8
Laptop4	172.16.20.4	255.255.0.0	00E0.F9E3.D45B

- i) **Use the Desktop>>IP configuration Tab :** to assign the IP addresses to PCS
- ii) **Use the Desktop>>Command Prompt Tab:** to check the MAC-Addresses of PCs by using the command:

C:\>ipconfig /all

You may fill in the MAC address column in the IP address table.

- iii) **Do the following Pings**

From PC 1 ping PC3

From PC2 ping PC4

- iv) On Switch (SW1) on **CLI Tab** type the following commands:

Switch#enable

Switch#show mac-address-table

Take a screenshot of the Mac Address Table e.g

Mac Address Table

Vlan	Mac Address	Type	Ports
1	0001.9704.b0c8	DYNAMIC	Gig0/1
1	0001.97c2.e219	DYNAMIC	Gig0/1
1	0002.4a75.c9eb	DYNAMIC	Fa0/1
1	0060.2fe2.aadd	DYNAMIC	Fa0/2
1	00e0.f9e3.d45b	DYNAMIC	Gig0/1

- v) On Switch (SW2) on **CLI Tab** type the following commands:

Switch#enable

Switch#show mac-address-table

Take a screenshot.

```
-----  
                        Mac Address Table  
-----  
  
Vlan      Mac Address      Type      Ports  
----      -  
1         0001.9704.b0c8    DYNAMIC    Fa0/3  
1         0002.4a75.c9eb    DYNAMIC    Gig0/1  
1         0006.2a89.0019    DYNAMIC    Gig0/1  
1         0060.2fe2.aadd    DYNAMIC    Gig0/1  
1         00e0.f9e3.d45b    DYNAMIC    Fa0/4
```

Reflection: Why is Gig 0/1 associated with 3 or 2 mac-addresses?

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