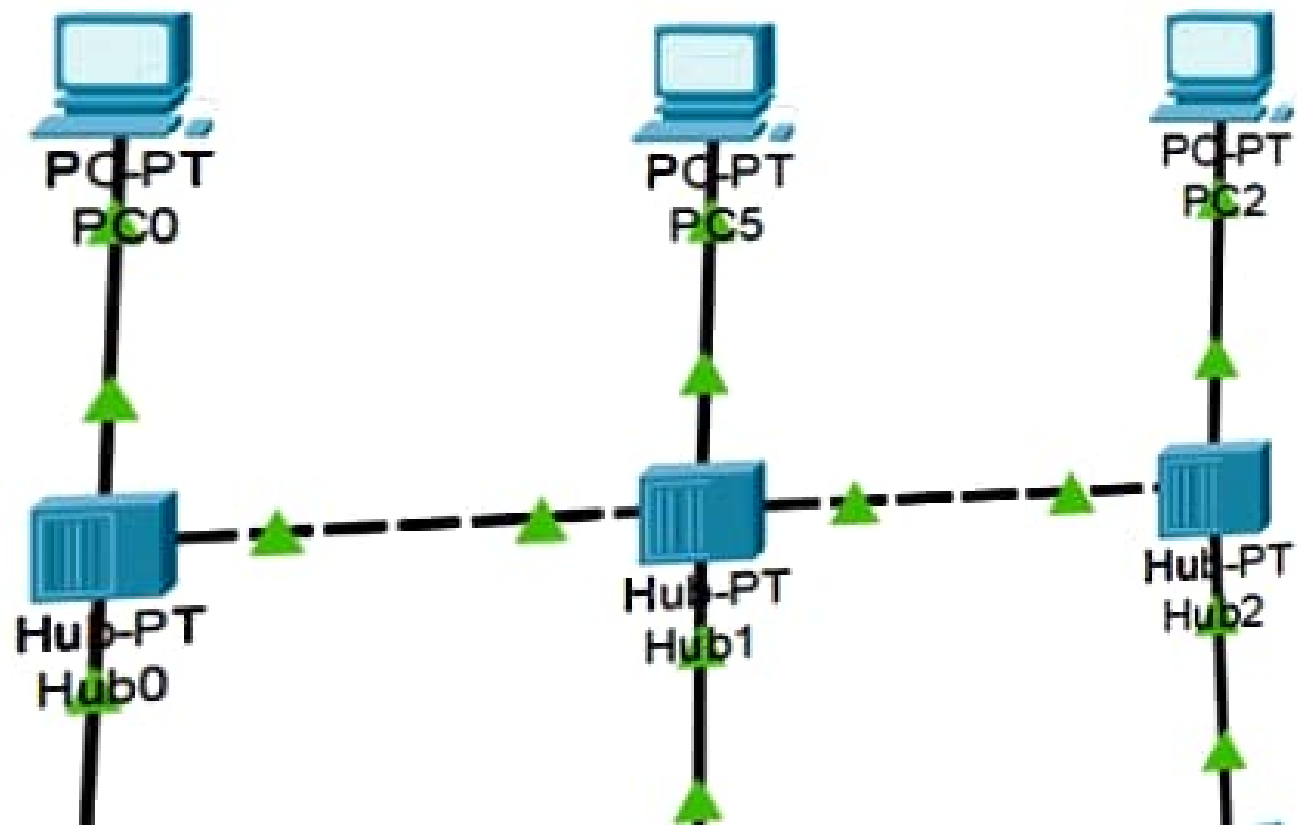
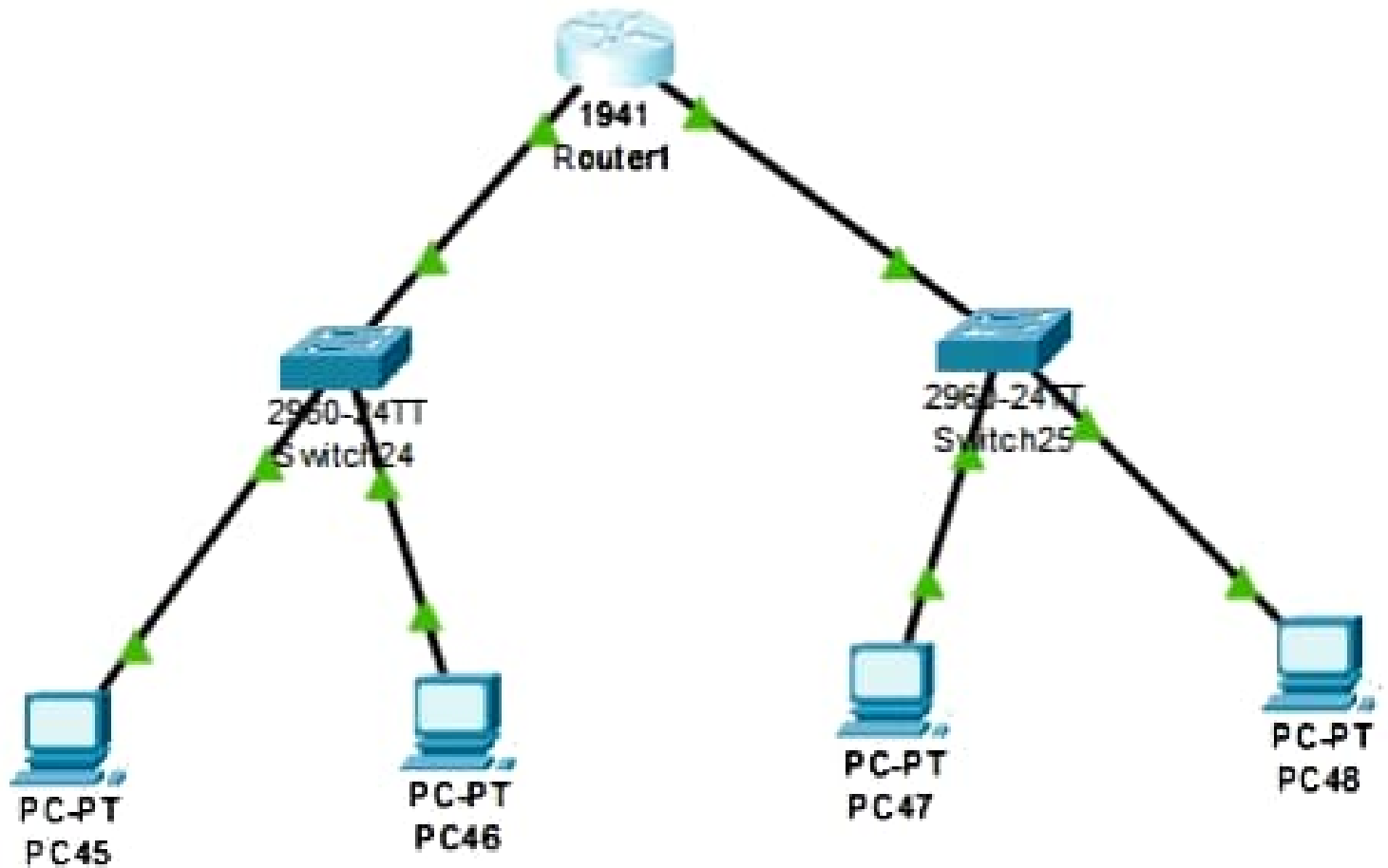
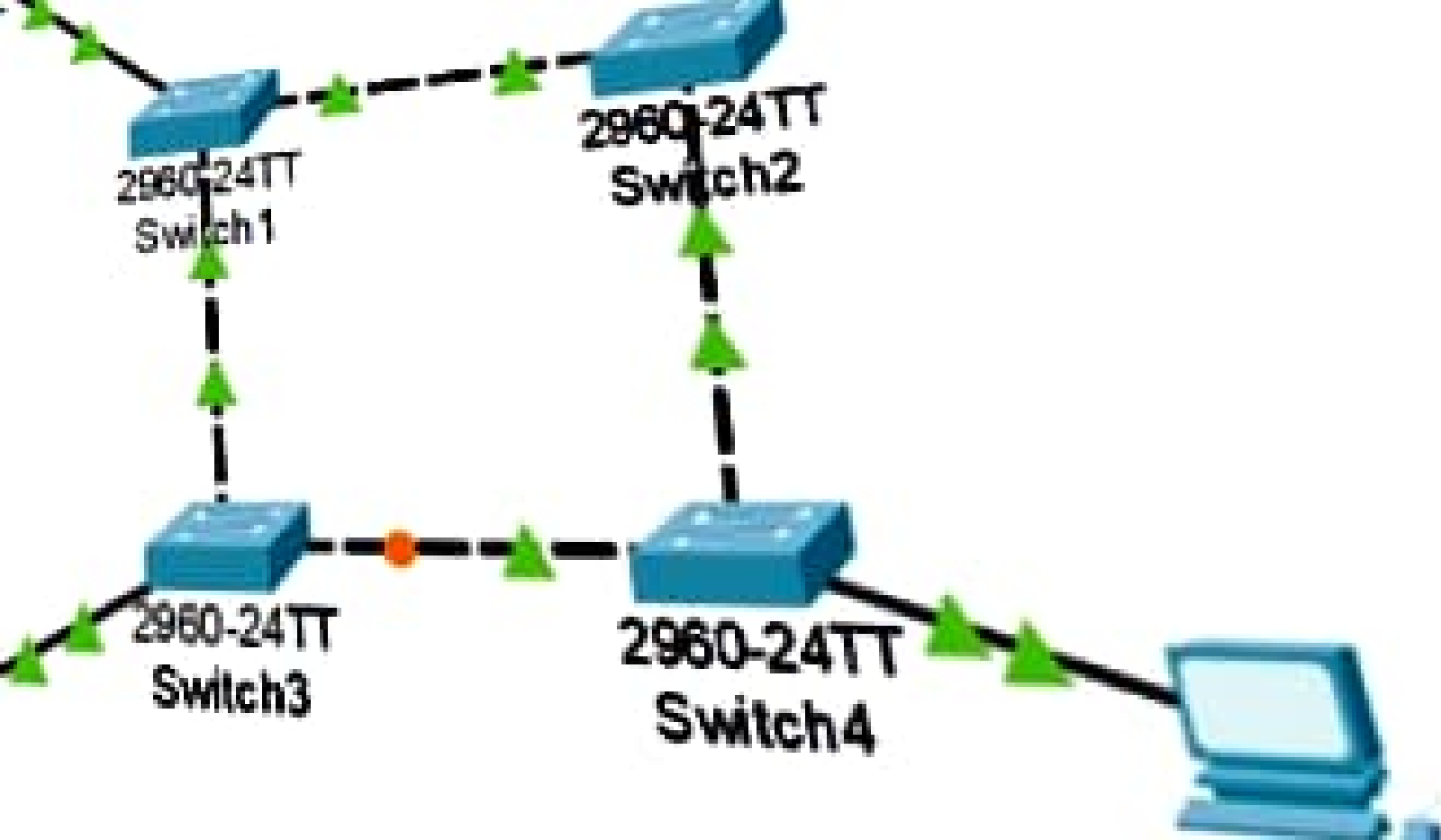


## Bus topology

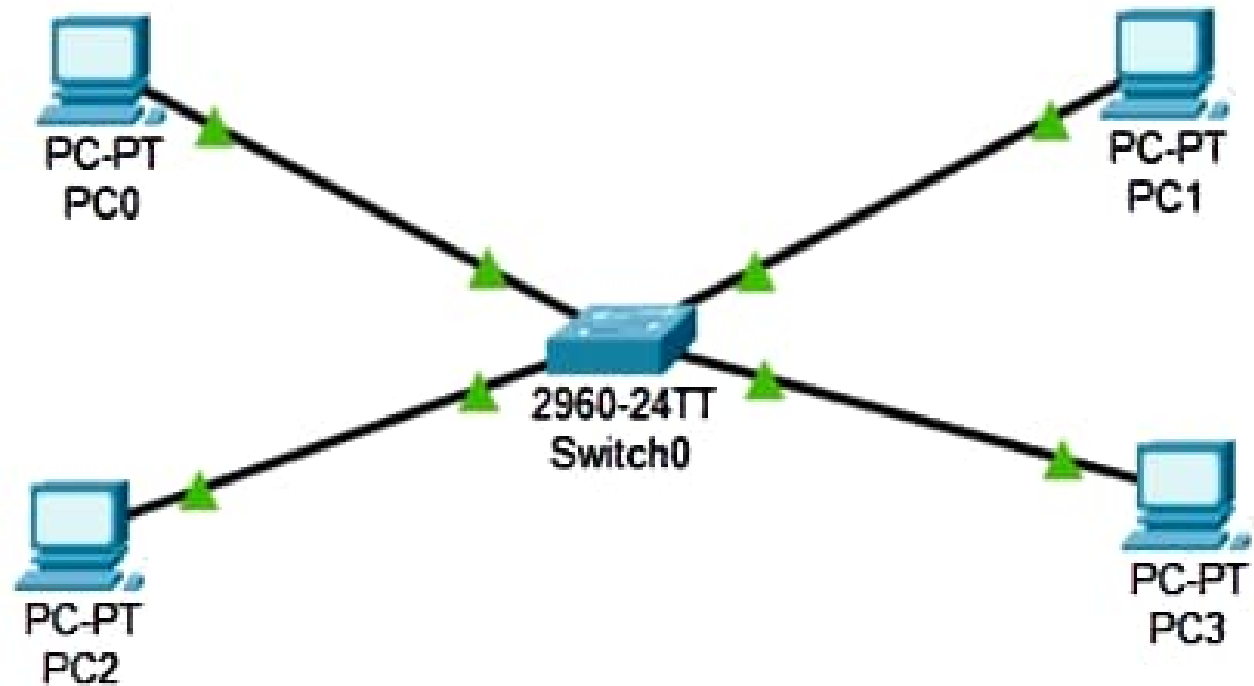


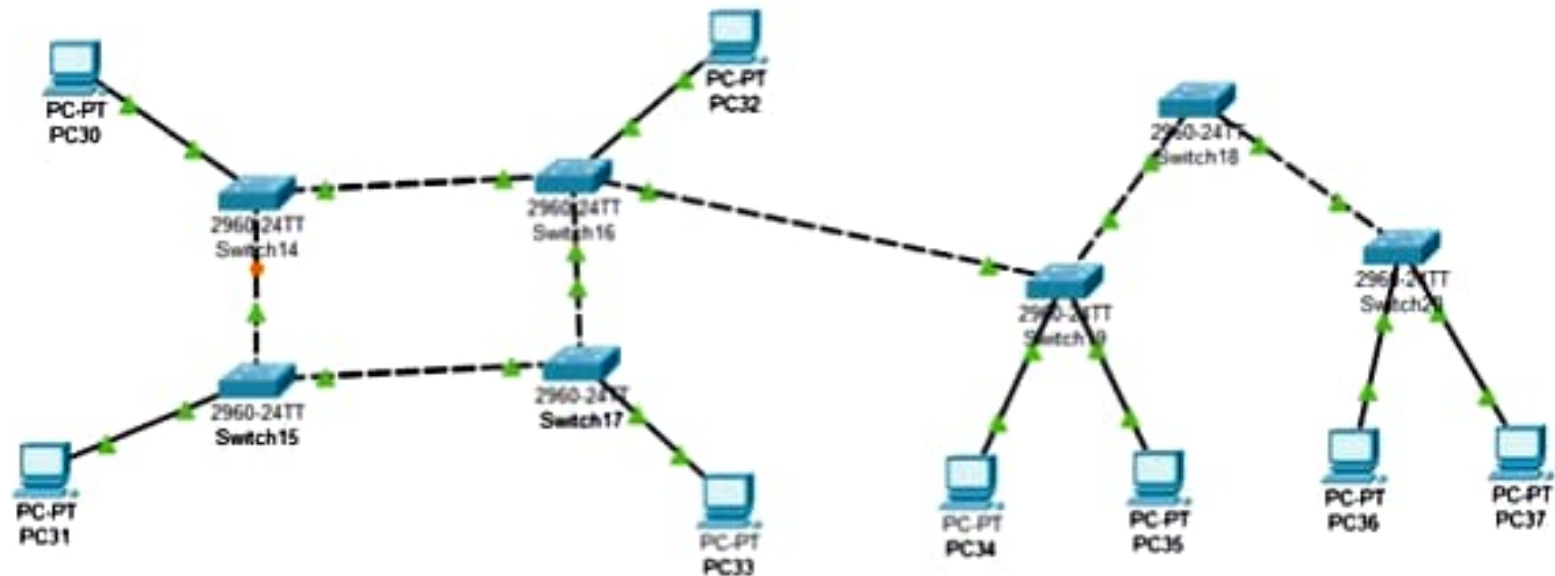
## configuration method



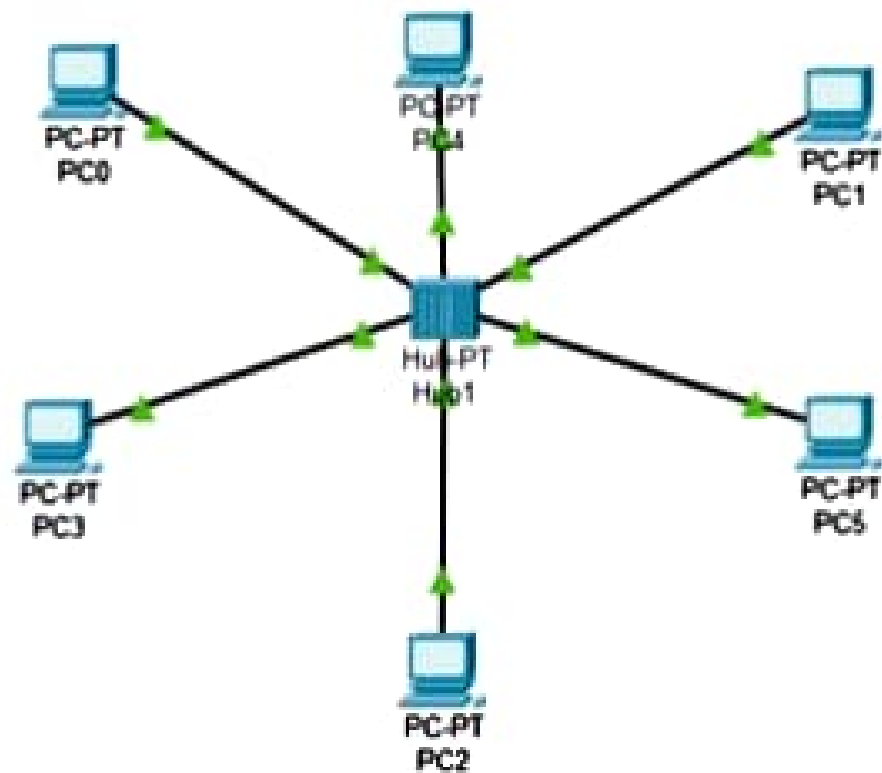


star topology





# CSMA/CD&CSMA/CA

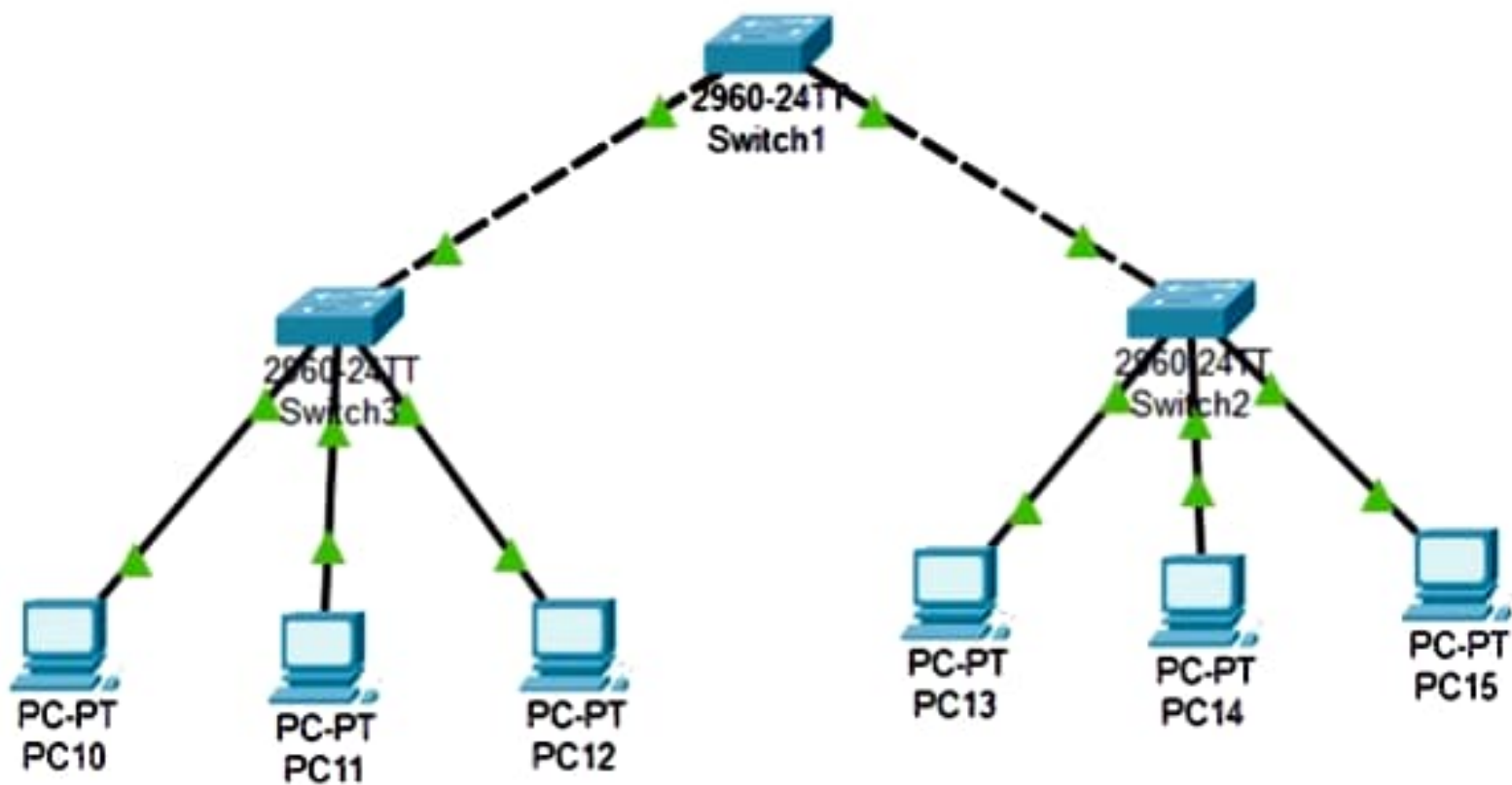


ario 0

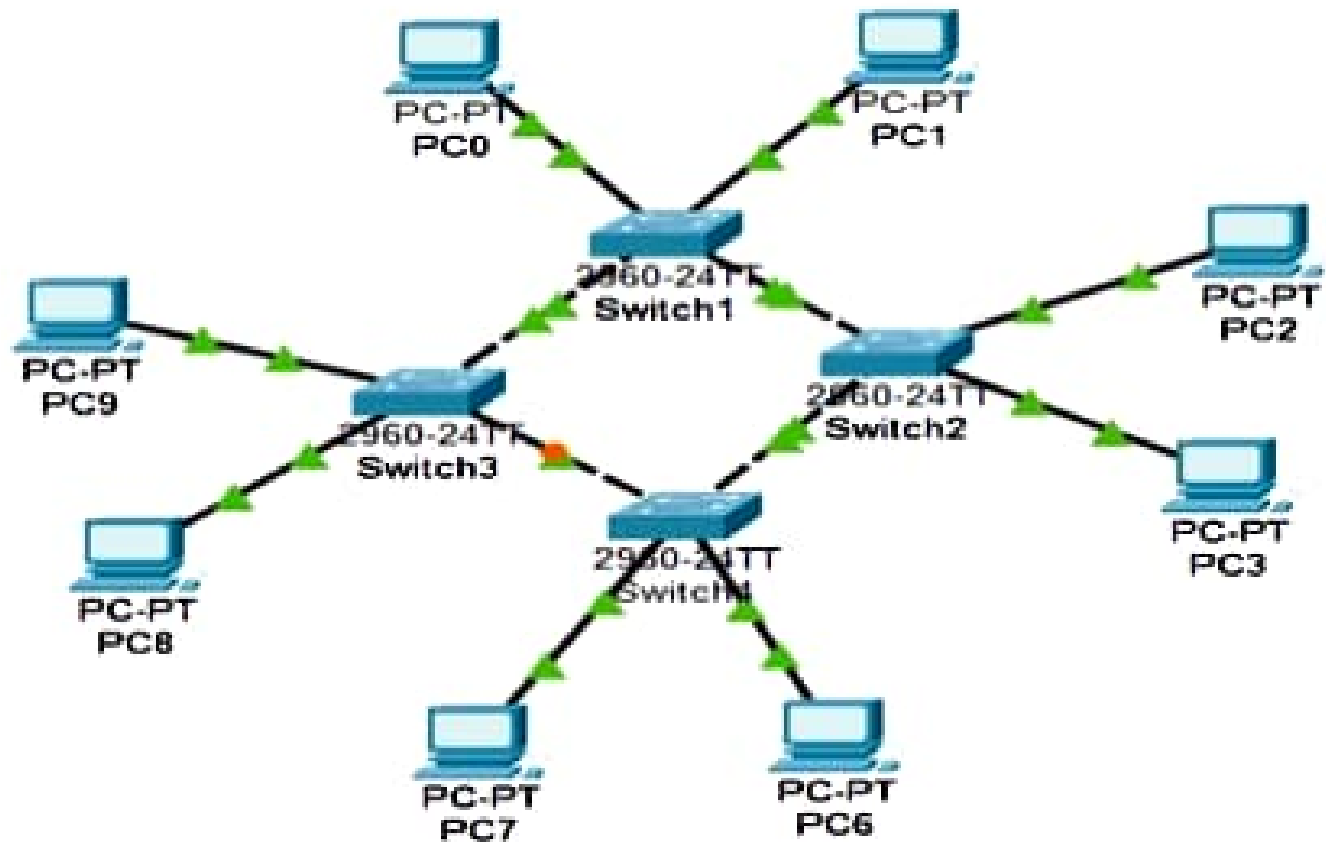
Delete

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	PC0	PC2	ICMP		0.000	N	0	(edit)	
	Successful	PC3	PC2	ICMP		0.000	N	1	(edit)	

Tree topology

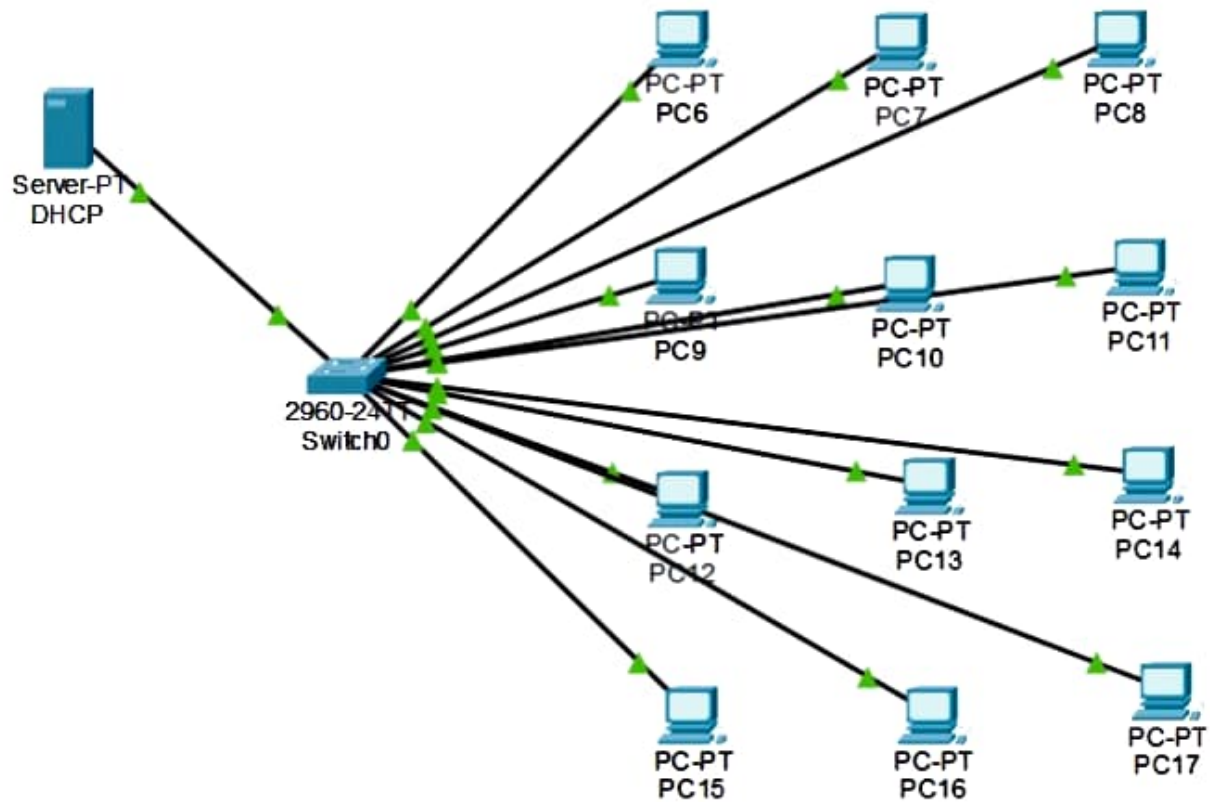


## Mesh topology

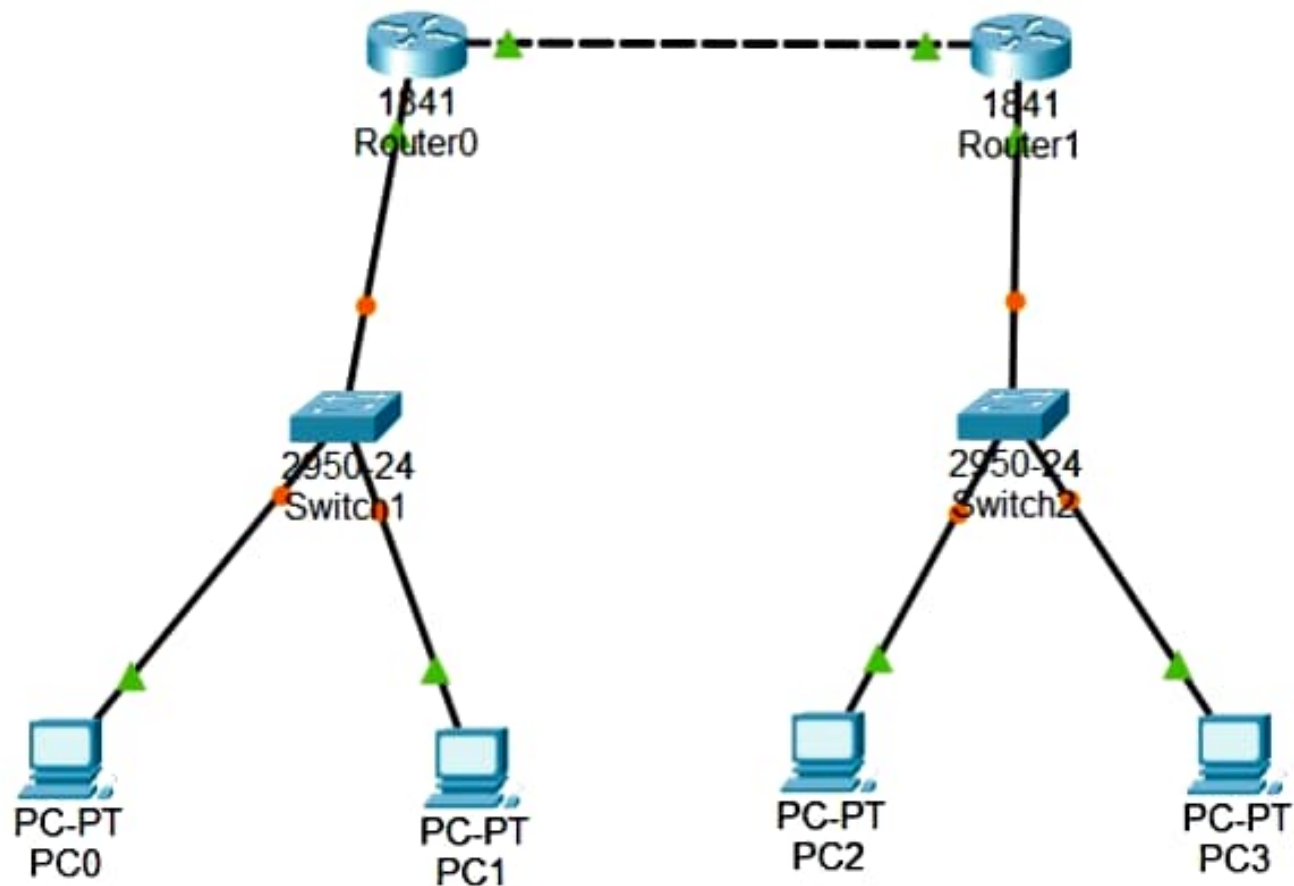


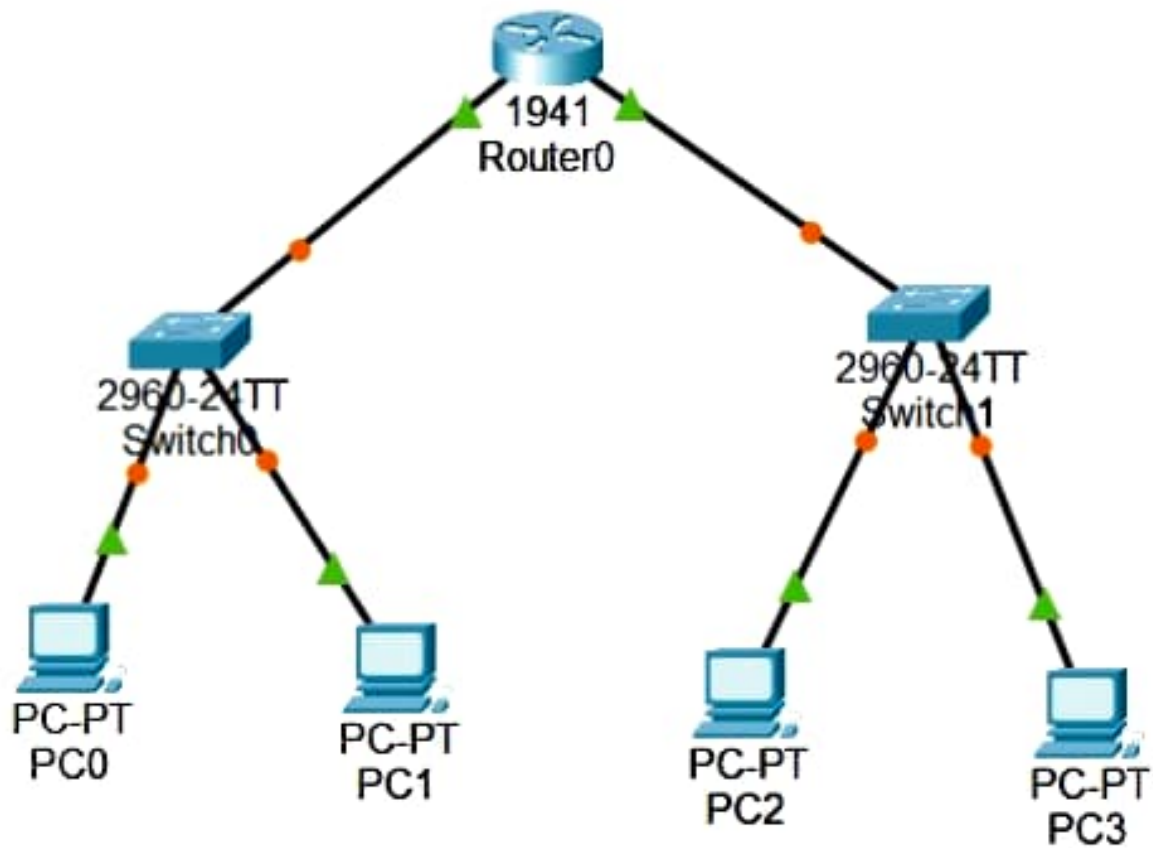


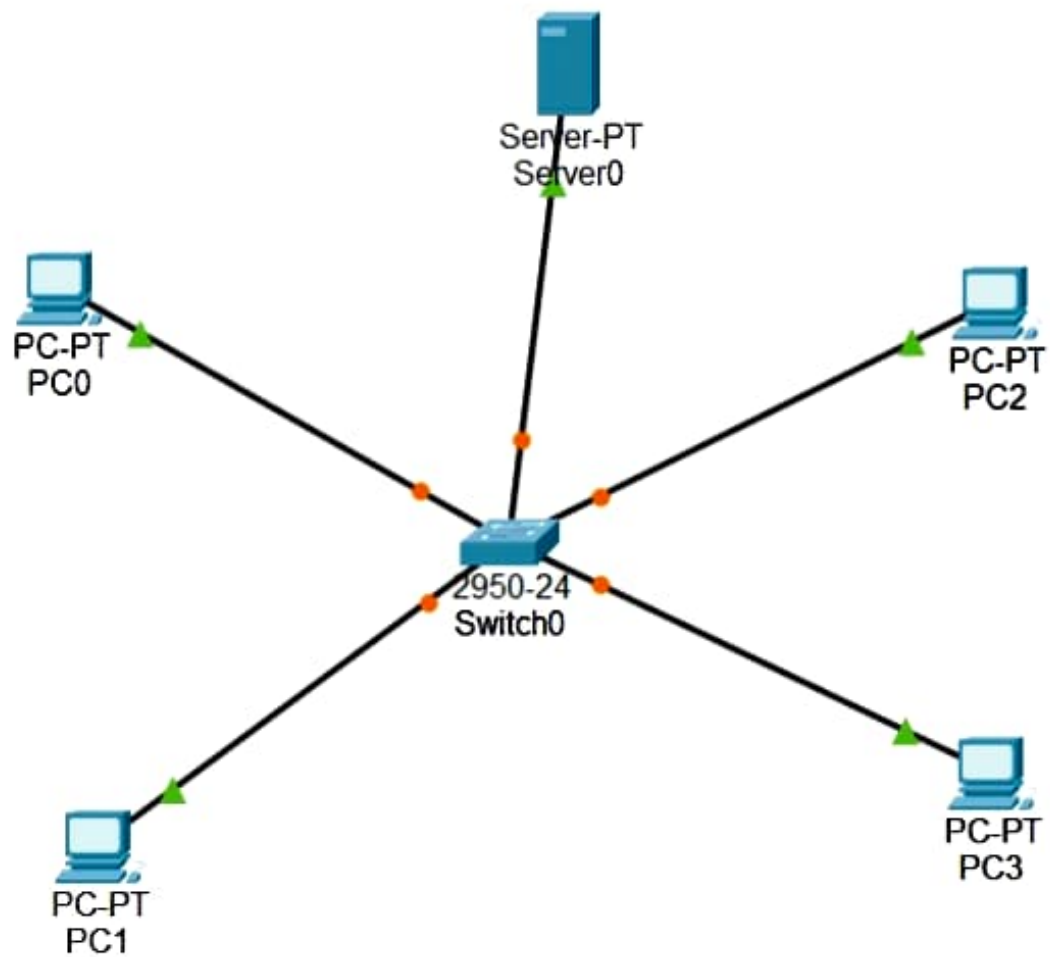
Computer lab

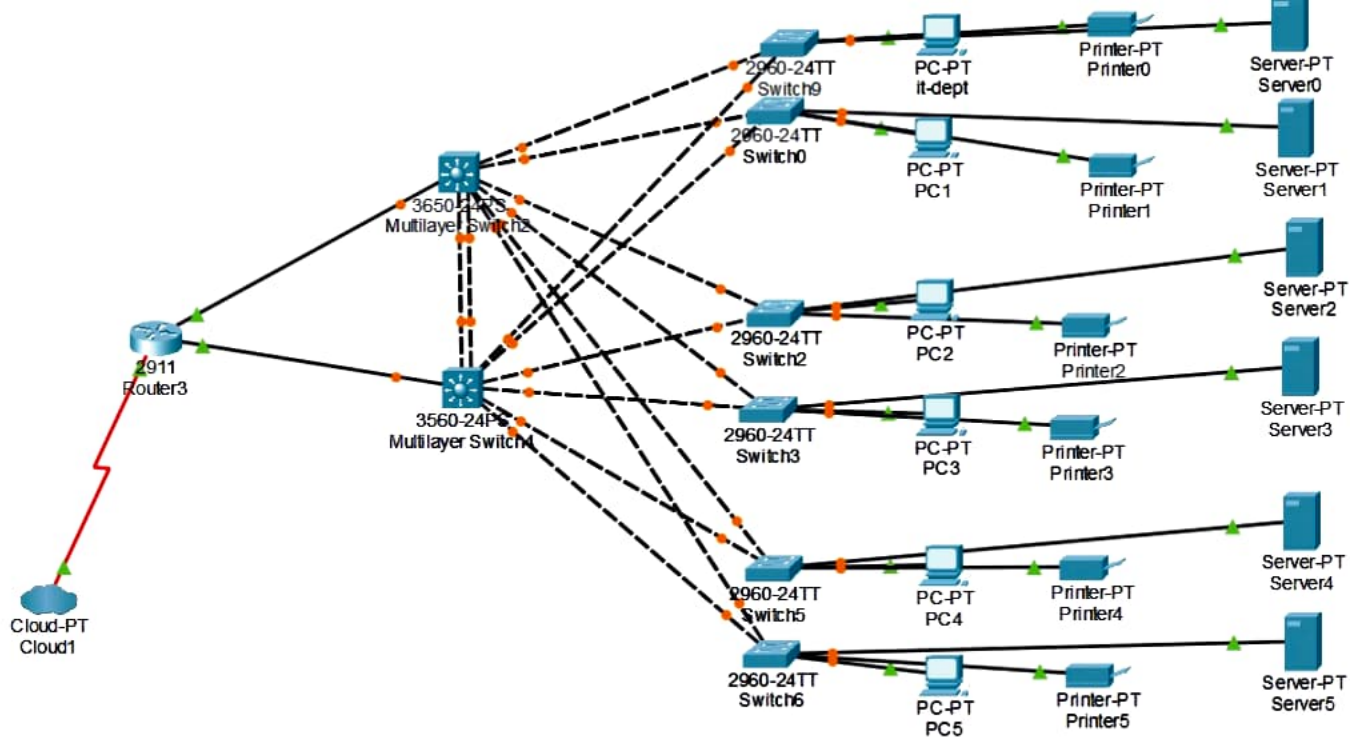


## static routing









DL€100  
Home Gateway0

SMARTPHONE-PT  
Smartphone0

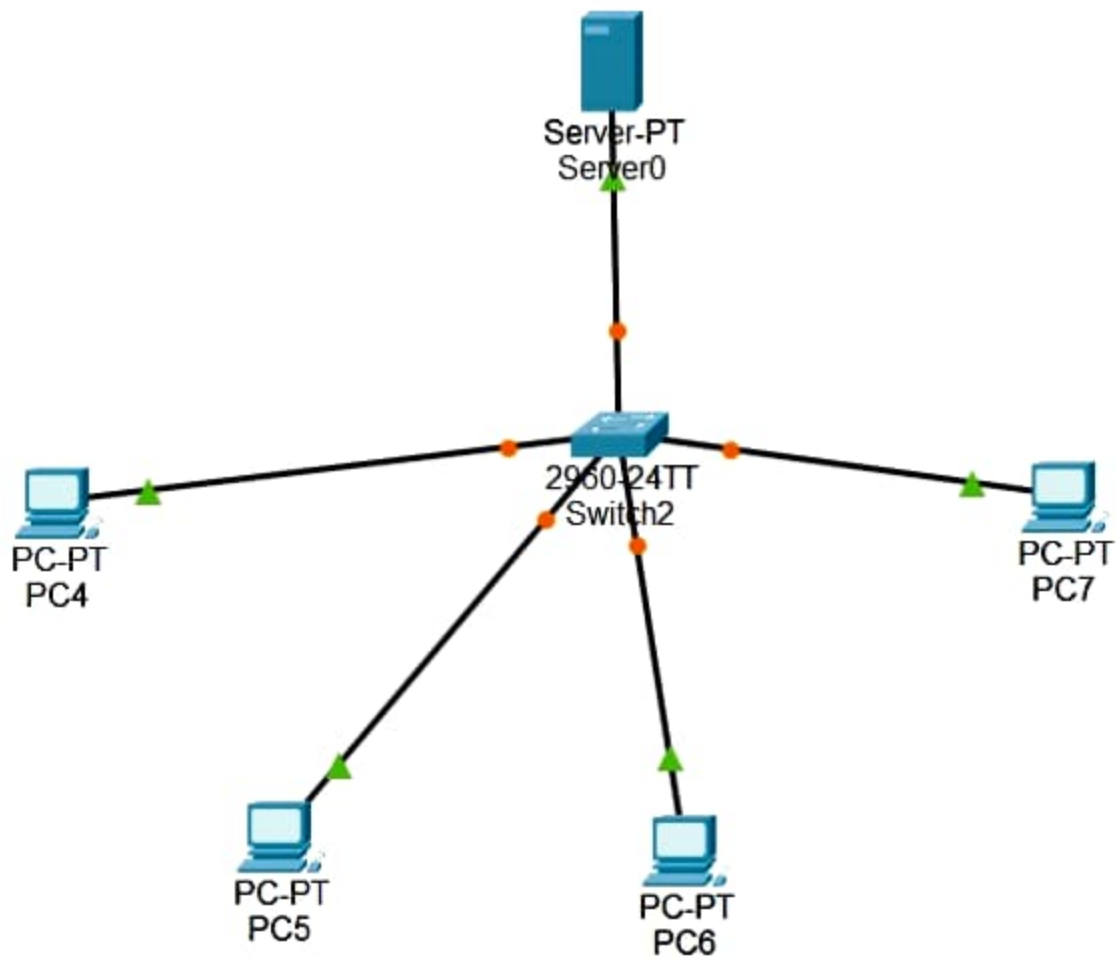


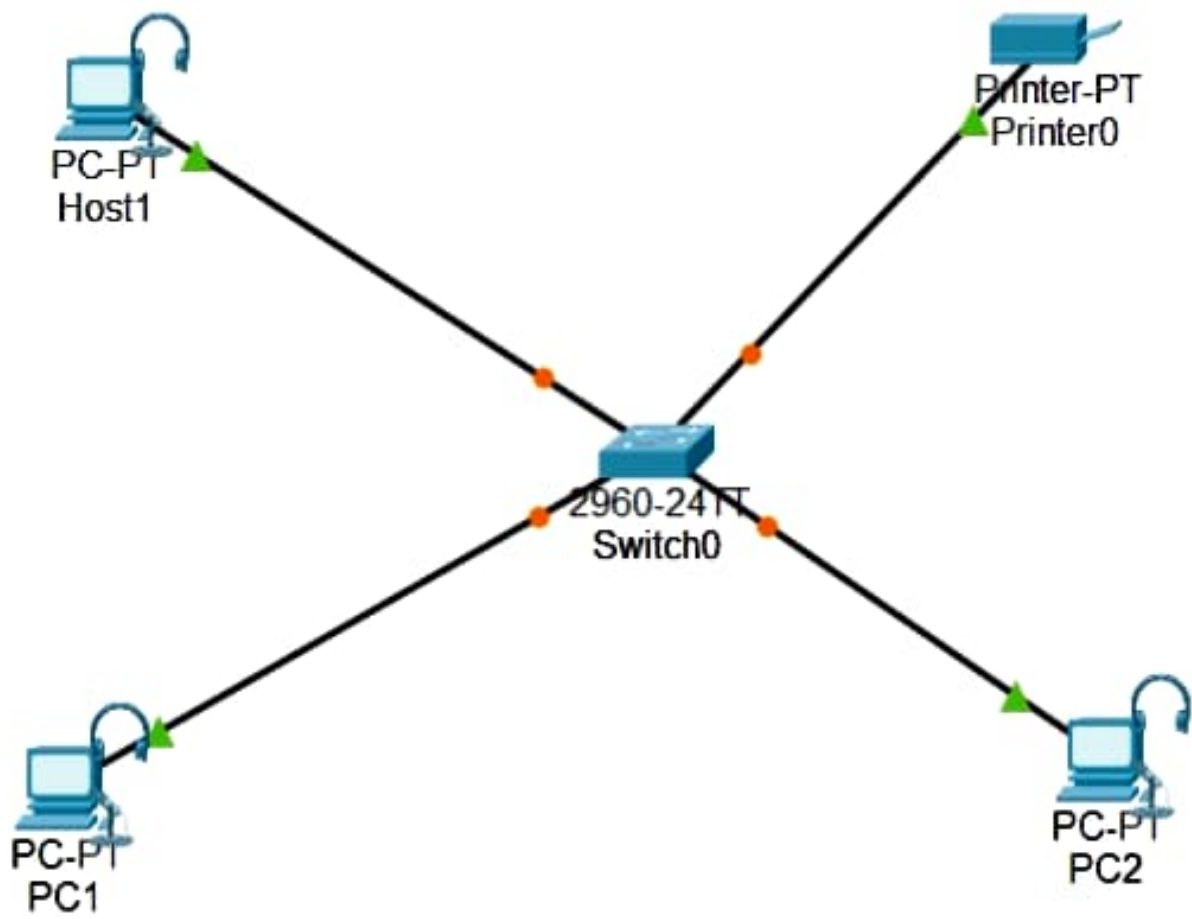
Fan  
celing fan



Window  
window

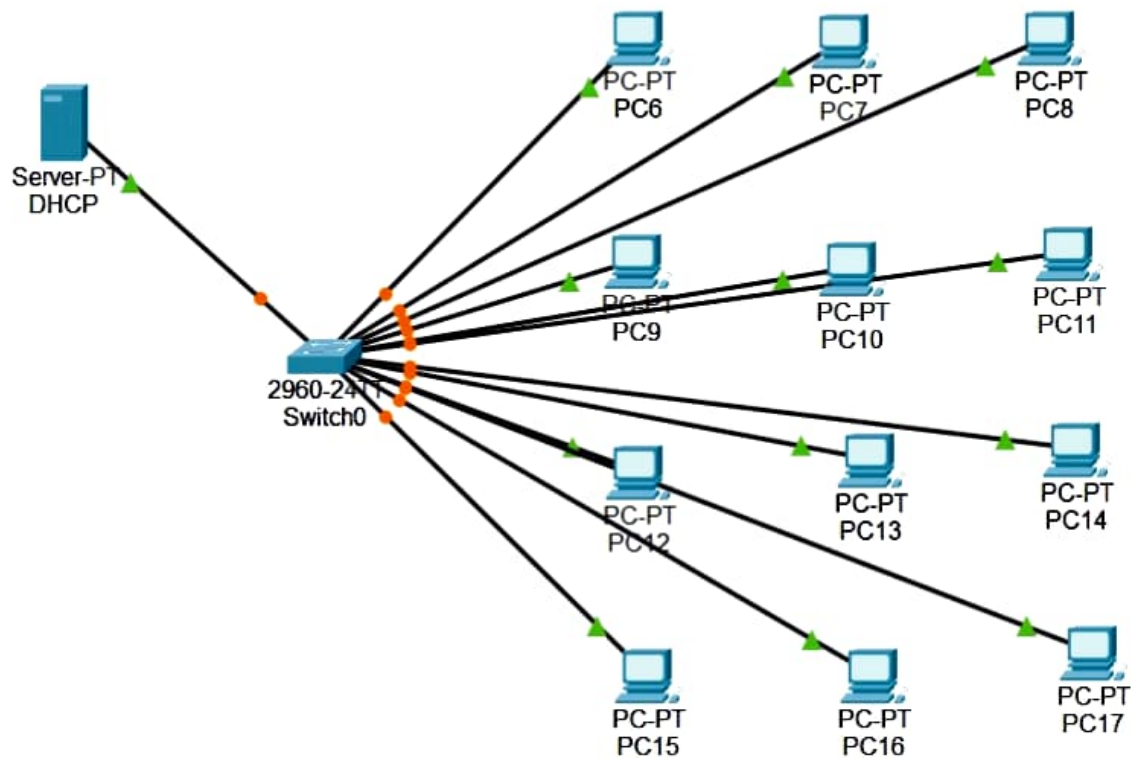
living room

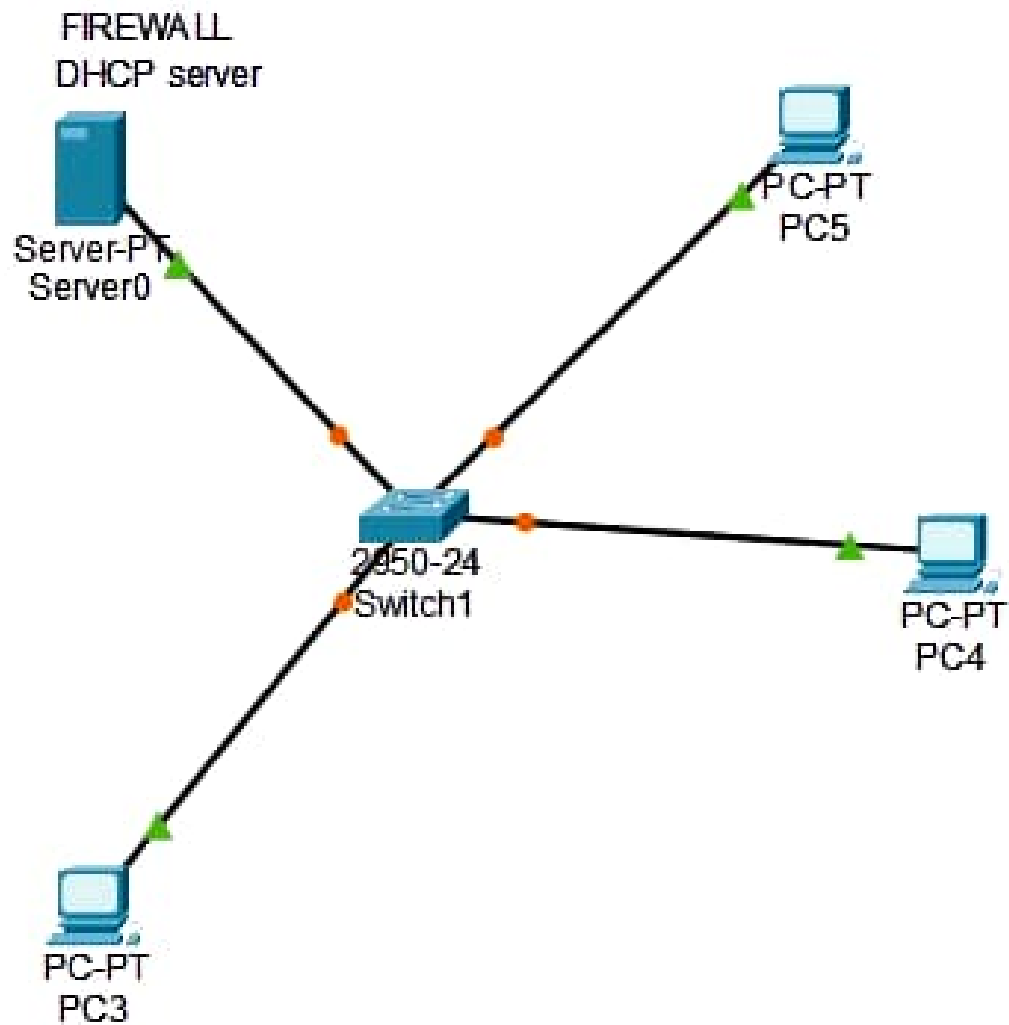


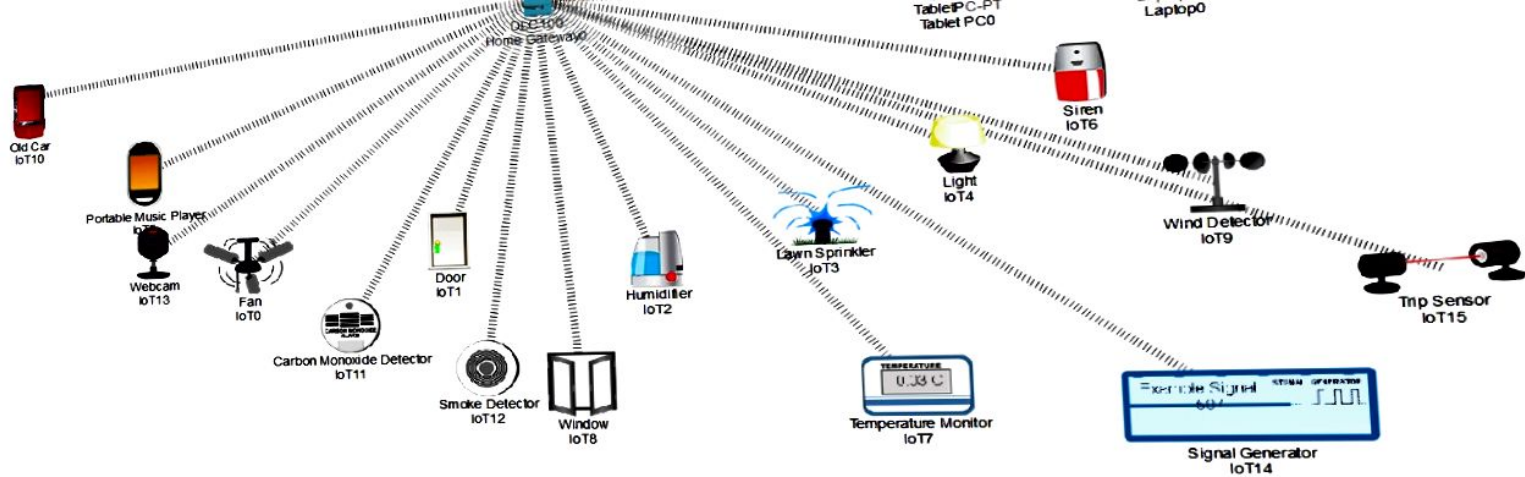




## Computer lab







▶ Source: AzureWaveTec\_a4:43:01 (a8:41:f4:a4:43:01)

Type: IPv4 (0x0800)

[Stream index: 0]

▼ Internet Protocol Version 4, Src: 192.168.186.197, Dst: 216.239.38.223

0100 .... = Version: 4

.... 0101 = Header Length: 20 bytes (5)

▶ Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

Total Length: 1195

Identification: 0x19cd (6605)

▶ 010. .... = Flags: 0x2, Don't fragment

...0 0000 0000 0000 = Fragment Offset: 0

Time to Live: 62

Protocol: UDP (17)

Header Checksum: 0xa338 [validation disabled]

[Header checksum status: Unverified]

Source Address: 192.168.186.197

Destination Address: 216.239.38.223

[Stream index: 0]

▼ User Datagram Protocol, Src Port: 62604, Dst Port: 443

Source Port: 62604

Destination Port: 443

Length: 1175

Checksum: 0xe7dc [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Stream Packet Number: 3]

▶ [Timestamps]

UDP payload (1167 bytes)

▼ Data (1167 bytes)

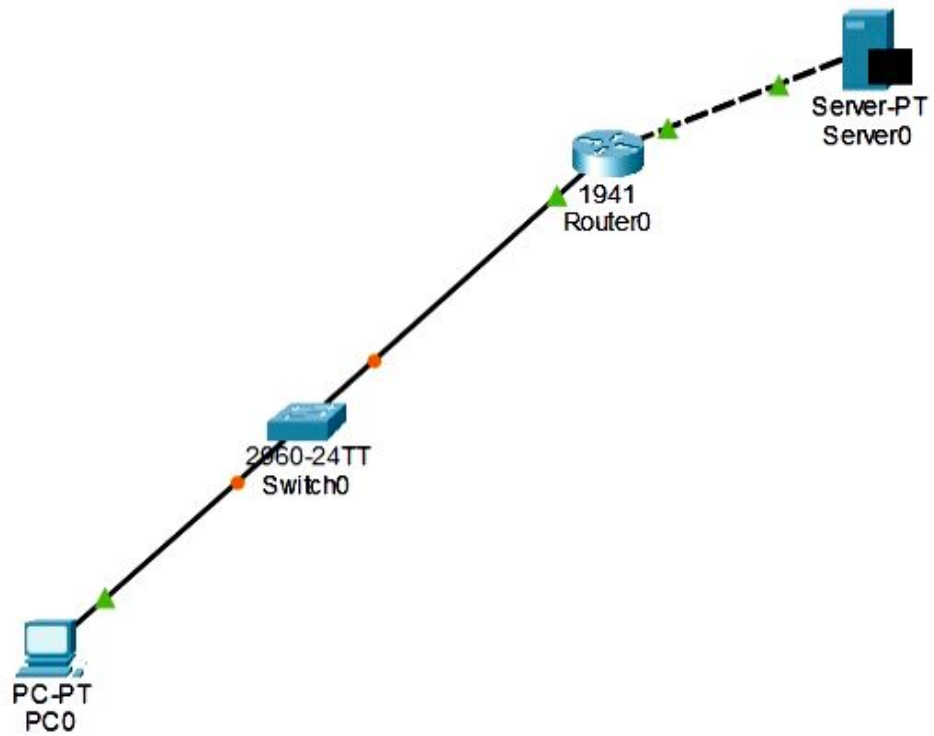
Data [...]: 45f48b9ec6180490719e858ebad1ae4f96227fd4808946eecf178cb9b7c4d4b7d0f6a5a5b1a9e9c6af67ae7a

[Length: 1167]

22786	359.705142	43.174.32.337	192.168.19.15	TCP	66 80 + 51786 [ACK] Seq=0 Ack=1 Win=65535 Len=0 MSS=1000 SACK_PERM WS=128
22786	359.700993	192.168.19.15	43.174.32.337	TCP	58 51786 + 80 [ACK] Seq=1 Ack=1 Win=65280 Len=0
22786	359.800208	192.168.19.15	43.174.32.337	HTTP	136 GET /wp-content/uploads/1/statistics/rustade/am/authors+12,+ab-7155179944.jpg?w= HTTP/1.1
22787	359.804834	20.249.148.26	192.168.19.15	TLSv1.2	101 Application Data
22788	359.804834	43.174.32.337	192.168.19.15	TCP	58 80 + 51786 [ACK] Seq=1 Ack=283 Win=523904 Len=0
22789	359.804834	43.174.32.337	192.168.19.15	HTTP	357 HTTP/1.1 304 Not Modified
22800	359.804834	43.174.32.337	192.168.19.15	TCP	58 80 + 51786 [FIN, ACK] Seq=384 Ack=283 Win=523904 Len=0
22802	359.807638	192.168.19.15	43.174.32.337	TCP	58 51786 + 80 [FIN, ACK] Seq=283 Ack=384 Win=5024 Len=0
22802	359.915634	192.168.19.15	43.174.32.337	TCP	58 51786 + 80 [ACK] Seq=284 Ack=395 Win=5024 Len=0
22803	359.932032	43.174.32.337	192.168.19.15	TCP	55 [TCP Reset] Seq=2200292   51786 + 80 [ACK] Seq=387 Ack=383 Win=523904 Len=1
22804	359.947987	192.168.19.15	20.249.148.26	TCP	58 52818 + 443 [ACK] Seq=807 Ack=100 Win=256 Len=0
22806	359.947987	192.168.19.15	43.174.32.337	TCP	66 [TCP Dup ACK 2280291] 51786 + 80 [ACK] Seq=283 Ack=395 Win=5024 Len=0 SILENT SPI=383
22806	359.947987	43.174.32.337	192.168.19.15	TCP	55 [TCP Spurious Retransmission] 80 + 51786 [FIN, ACK] Seq=387 Ack=283 Win=523904 Len=1
22807	359.947991	43.174.32.337	192.168.19.15	TCP	58 80 + 51786 [ACK] Seq=395 Ack=284 Win=523904 Len=0
22808	359.948712	192.168.19.15	43.174.32.337	TCP	66 [TCP Dup ACK 2280292] 51786 + 80 [ACK] Seq=284 Ack=395 Win=5024 Len=0 SILENT SPI=381
27586	370.215072	2409:40f4:39::8add:2..	2409:40f4:39::8add:5:1::19	TLSv1.3	182 Application Data
27587	370.440417	2409:40f4:39::8add:5:1::19	2409:40f4:39::8add:2..	TCP	74 443 + 51776 [ACK] Seq=4884 Ack=7818 Win=44128 Len=0
27588	372.315798	2409:40f4:39::8add:2..	2409:40f4:39::8add:5:1::19	TLSv1.3	185 Application Data
27589	372.400182	2409:40f4:39::8add:5:1::19	2409:40f4:39::8add:2..	TCP	74 443 + 51776 [ACK] Seq=4884 Ack=7849 Win=44128 Len=0
27593	373.817793	2409:40f4:39::8add:5:1::19	2409:40f4:39::8add:2..	TLSv1.3	188 Application Data

68	E..794753	2404:4000:4002:815::	2409:40f4:39:8a25:2::	QUIC	182 Protected Payload (RPO)
69	E..794753	2404:4000:4002:815::	2409:40f4:39:8a25:2::	QUIC	87 Protected Payload (RPO)
70	E..732905	2409:40f4:39:8a25:2::	2404:4000:4002:815::	QUIC	94 Protected Payload (RPO), DCID=ea3a375f4dc129d25
71	E..896533	2404:4000:4002:815::	2409:40f4:39:8a25:2::	QUIC	1292 Protected Payload (RPO)
72	E..305482	2409:40f4:39:8a25:2::	2404:4000:4002:815::	QUIC	95 Protected Payload (RPO), DCID=ea3a375f4dc129d25
73	S..862811	192.168.19.15	13.107.173.14	TCP	55 53481 + 443 [ACK] Seq=1 Ack=1 Win=254 Len=1
74	S..728514	20.109.173.14	192.168.19.15	TCP	66 443 + 53481 [ACK] Seq=1 Ack=2 Win=25382 Len=0 Win=1 Win=1
75	S..705208	2409:40f4:39:8a25:2::	2403:1040:403:9::104	TLVv1.2	125 Application Data
76	S..909089	2409:1040:403:9::104	2409:40f4:39:8a25:2::	TLVv1.2	114 Application Data
77	T..831646	2409:40f4:39:8a25:2::	2403:1040:403:9::104	TCP	74 53481 + 443 [ACK] Seq=52 Ack=42 Win=253 Len=0
78	T..828688	f400::f032:91ff:fe00::f032::1		ICMPv6	143 Router Advertisement from f2:02:01:40:00:00:5f
79	S..053312	2409:1040:2202:14::3	2409:40f4:39:8a25:2::	TLVv1.2	107 Application Data
80	S..104234	2409:40f4:39:8a25:2::	2403:1040:2202:14::3	TCP	74 52938 + 443 [ACK] Seq=1 Ack=47 Win=255 Len=0
81	S..007704	2409:200:1407:1731::	2409:40f4:39:8a25:2::	UDP	61 443 + 53481 Len=71
82	S..678494	2409:40f4:39:8a25:2::	2409:200:1407:1731::	UDP	64 42487 + 443 Len=12
83	T..316944	192.168.19.15	13.107.42.12	TCP	66 53481 + 443 [SYN] Seq=0 Win=65535 Len=0 Win=1440 Win=254 SACK_PERM
84	T..309111	192.168.19.15	13.107.42.12	TCP	66 53482 + 443 [SYN] Seq=0 Win=65535 Len=0 Win=1440 Win=254 SACK_PERM
85	T..377174	13.107.42.12	192.168.19.15	TCP	66 443 + 53482 [SYN, ACK] Seq=0 Ack=1 Win=65535 Len=0 Win=1440 Win=254 SACK_PERM
86	T..177646	192.168.19.15	13.107.42.12	TCP	54 53481 + 443 [ACK] Seq=1 Ack=1 Win=65280 Len=0
87	T..179155	2405:200:1407:1731::	2409:40f4:39:8a25:2::	UDP	60 443 + 53481 Len=14

1 0.000000	2403:2000:f34f:121::2400:40f4:19:8a05:2::TCP	14 88 + 52825 [ACK] Seq=1 Ack=53 win=821 Len=0
2 0.000000	2403:2000:f34f:121::2400:40f4:19:8a05:2::TCP	14 88 + 52825 [ACK] Seq=1 Ack=53 win=821 Len=0
3 0.200000	F2:12:91:40:38:57 ::AcureMediaFac_F0:14::ARP	42 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
4 0.200000	2403:2000:f34f:121::2400:40f4:19:8a05:2::TCP	203 88 + 52825 [FIN, ACK] Seq=1 Ack=53 win=821 Len=207
5 0.200000	AcureMediaFac_F0:14::F2:12:91:40:38:57 ::ARP	42 150.148.19.15 14 at F0:14:F0:F0:14:03
6 0.247000	2400:40f4:19:8a05:2::2400:2000:f34f:121::TCP	14 52825 + 89 [ACK] Seq=53 Ack=200 win=500 Len=0
7 0.320200	2400:40f4:19:8a05:2::2400:2000:5:3::5B::TLV1..2	102 Application Data
8 0.427000	2400:40f4:19:8a05:2::2400:40f4:19:8a05:::ICMPv6	86 Neighbor Solicitation for 2400:40f4:19:8a05::: from F0:14:F0:F0:14:03
9 0.470000	2400:40f4:19:8a05:2::2400:2000:5:3::5B::TCP	100 [TCP Retransmission] 52825 + 401 [FIN, ACK] Seq=1 Ack=53 win=250 Len=0
10 1.004200	2403:2000:5:3::19::2400:40f4:19:8a05:2::TCP	14 443 + 52889 [ACK] Seq=1 Ack=78 win=589 Len=0
11 1.400000	2400:40f4:19:8a05:2::2400:40f4:19:8a05:::ICMPv6	86 Neighbor Solicitation for 2400:40f4:19:8a05::: from F0:14:F0:F0:14:03
12 1.471700	2400:40f4:19:8a05:::2400:40f4:19:8a05:2::ICMPv6	78 Neighbor Advertisement 2400:40f4:19:8a05::: (prio, val)
13 2.764700	F000::F012:91FF:F00::2400:40f4:19:8a05:2::ICMPv6	86 Neighbor Solicitation for 2400:40f4:19:8a05:2000:11f8:95e4:f42d from F2:12:91:40:38:57
14 2.764800	2400:40f4:19:8a05:2::F000::F012:91FF:F00::ICMPv6	86 Neighbor Advertisement 2400:40f4:19:8a05:2000:11f8:95e4:f42d (val, prio) 14 at F0:14:F0:F0:14:03
15 3.092000	2400:2000:5:3::19::2400:40f4:19:8a05:2::TLV1..2	100 Application Data
16 3.534200	2400:40f4:19:8a05:2::2403:2000:5:3::19::TCP	14 52889 + 401 [ACK] Seq=29 Ack=28 win=253 Len=0
17 5.565000	292:268:19:15::20:209:573:26::TLV1..2	1100 Application Data
18 5.567000	292:268:19:15::20:209:573:26::TCP	1704 52887 + 401 [ACK] Seq=1128 Ack=3 win=3821 len=3300 [TCP FIN reassembled in 21]
19 5.567000	292:268:19:15::20:209:573:26::TCP	1704 52887 + 401 [ACK] Seq=1128 Ack=3 win=3821 len=3300 [TCP FIN reassembled in 21]
20 5.567000	292:268:19:15::20:209:573:26::TCP	1704 52887 + 401 [ACK] Seq=1128 Ack=3 win=3821 len=3300 [TCP FIN reassembled in 21]





Capturing from Wi-Fi

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

Address Resolution Protocol

No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000	192.168.1.123...	192.168.1.1	TCP	74	80 → 8080 [ACK] Seq=1 Win=0 Len=0
2	0.000000	192.168.1.123...	192.168.1.1	TCP	74	80 → 8080 [ACK] Seq=1 Win=0 Len=0
3	0.204186	192.168.1.123...	192.168.1.1	TCP	42	Win=0 Len=0 Seq=1
4	0.204186	192.168.1.123...	192.168.1.1	TCP	200	80 → 8080 [ACK] Seq=1 Win=0 Len=0
5	0.204186	192.168.1.123...	192.168.1.1	TCP	42	Win=0 Len=0 Seq=1
6	0.204186	192.168.1.123...	192.168.1.1	TCP	74	8080 → 80 [ACK] Seq=1 Win=0 Len=0
7	0.204186	192.168.1.123...	192.168.1.1	TCP	74	8080 → 80 [ACK] Seq=1 Win=0 Len=0
8	0.204186	192.168.1.123...	192.168.1.1	TCP	74	8080 → 80 [ACK] Seq=1 Win=0 Len=0
9	0.204186	192.168.1.123...	192.168.1.1	TCP	74	8080 → 80 [ACK] Seq=1 Win=0 Len=0
10	1.004274	192.168.1.123...	192.168.1.1	TCP	74	8080 → 80 [ACK] Seq=1 Win=0 Len=0
11	1.004274	192.168.1.123...	192.168.1.1	TCP	74	8080 → 80 [ACK] Seq=1 Win=0 Len=0
12	1.004274	192.168.1.123...	192.168.1.1	TCP	74	8080 → 80 [ACK] Seq=1 Win=0 Len=0
13	2.764768	192.168.1.123...	192.168.1.1	TCP	74	8080 → 80 [ACK] Seq=1 Win=0 Len=0
14	2.764768	192.168.1.123...	192.168.1.1	TCP	74	8080 → 80 [ACK] Seq=1 Win=0 Len=0
15	3.004812	192.168.1.123...	192.168.1.1	TCP	74	8080 → 80 [ACK] Seq=1 Win=0 Len=0
16	3.004812	192.168.1.123...	192.168.1.1	TCP	74	8080 → 80 [ACK] Seq=1 Win=0 Len=0
17	3.004812	192.168.1.123...	192.168.1.1	TCP	74	8080 → 80 [ACK] Seq=1 Win=0 Len=0
18	3.004812	192.168.1.123...	192.168.1.1	TCP	74	8080 → 80 [ACK] Seq=1 Win=0 Len=0
19	3.004812	192.168.1.123...	192.168.1.1	TCP	74	8080 → 80 [ACK] Seq=1 Win=0 Len=0
20	3.004812	192.168.1.123...	192.168.1.1	TCP	74	8080 → 80 [ACK] Seq=1 Win=0 Len=0

Frame 5: 42 bytes on wire (336 bits), 42 bytes captured (336 bits) on interface Wi-Fi (00:00:00:00:00:00) ...

Ethernet II, Src: AsustekNet\_F0:5A:83 (F0:5A:83:00:00:00), Dst: 192.168.1.1 (F0:5A:83:00:00:00) ...

Address Resolution Protocol (reply)

Hardware type: Ethernet (1)

Protocol type: IPv4 (0x0800)

Hardware size: 4

Protocol size: 4

Opcode: reply (3)

Sender MAC address: AsustekNet\_F0:5A:83 (F0:5A:83:00:00:00)

Sender IP address: 192.168.1.1

Target MAC address: 192.168.1.123 (F2:32:3E:3E:3E:3E)

Target IP address: 192.168.1.123

Address Resolution Protocol

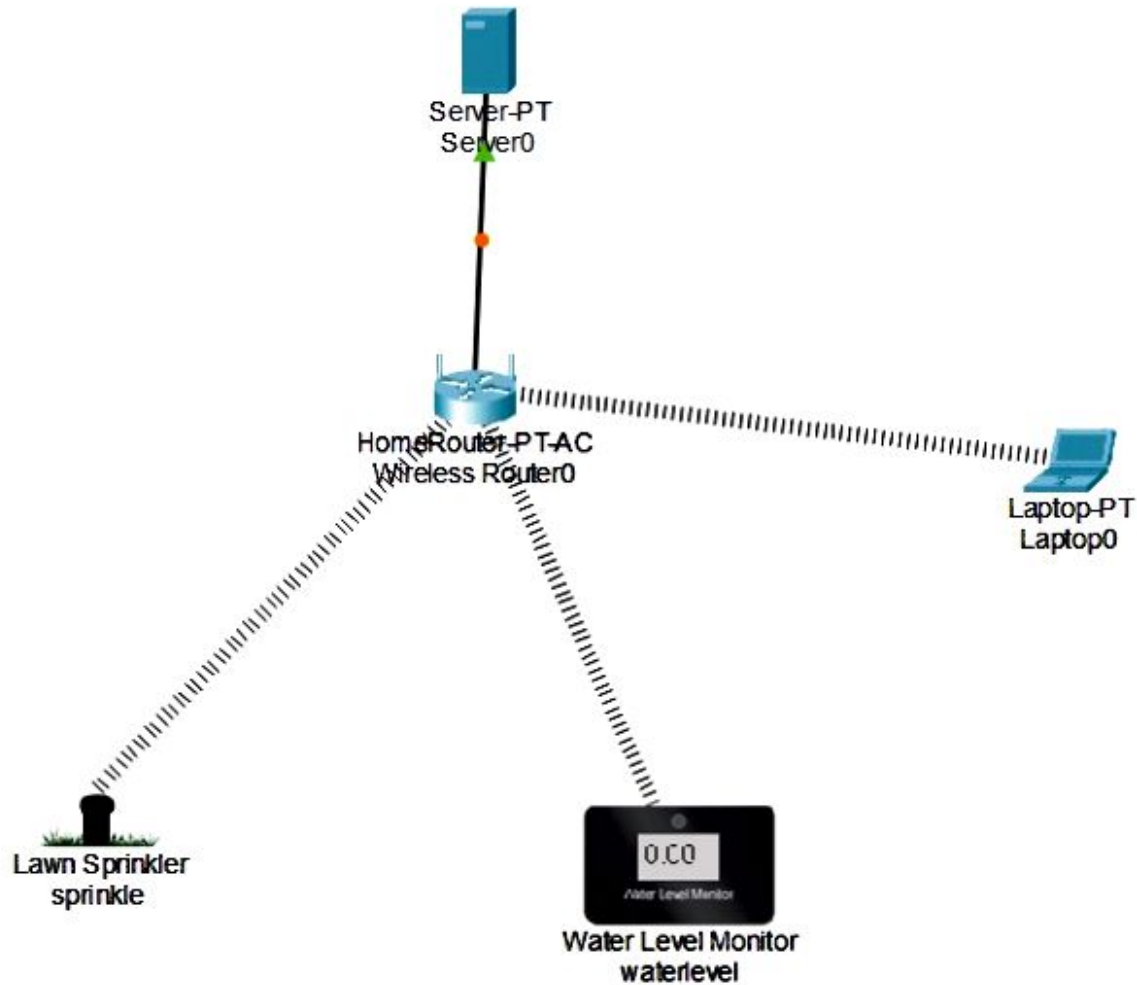
Packets: 1000

Profile: Default

JRC Mostly empty

Search

17:24:31 26-02-2025



[illegible]

3080...

Default: C:\Users\pusa\OneDrive\Documents\29c.exe  
*ctrl+alt+1*

 C:\Users\pusa\OneDrive\Doc X

```
Connected to server!  
Enter message: hii  
Echoed back: hii  
Enter message: how are u  
Echoed back: how are u  
Enter message: |
```



C:\Users\pusa\OneDrive\Doc X



Usage: C:\Users\pusa\OneDrive\Documents\28.exe <hostname>

-----

Process exited after 0.2221 seconds with return value 1  
Press any key to continue . . . |



C:\Users\pusal\OneDrive\Doc X



Enter target IP address: 192.168.1.1

MAC Address of 192.168.1.1: 24:D5:E4:6D:C0:D7

-----

Process exited after 4.804 seconds with return value 0

Press any key to continue . . . |