Aim-11

11. To construct a WLAN and make the nodes communicate wirelessly

Topology:

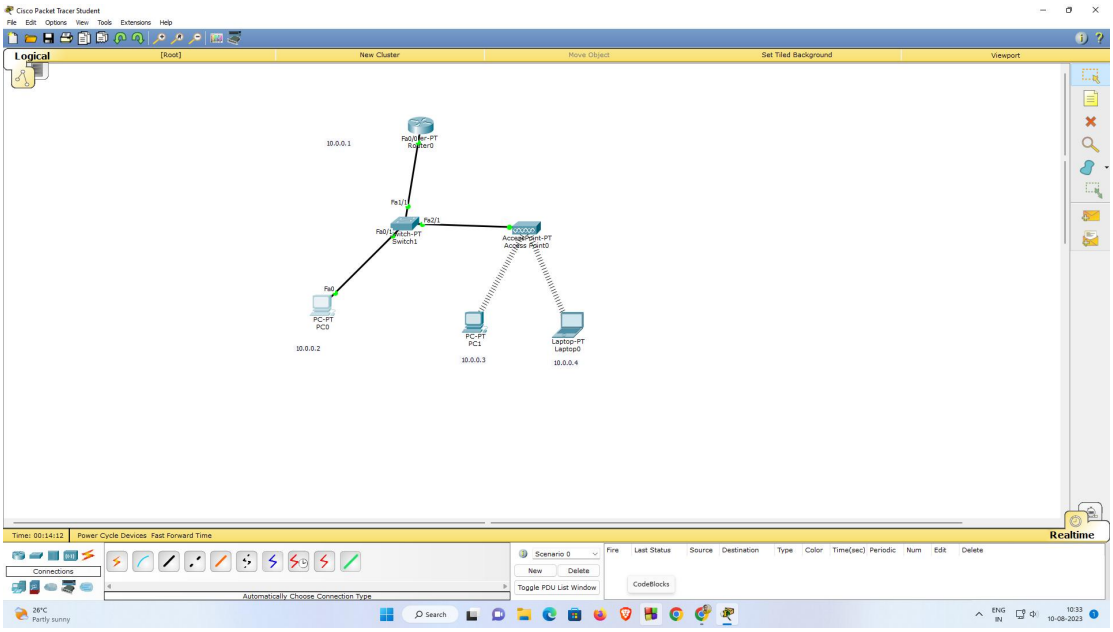


Fig 1: Topology

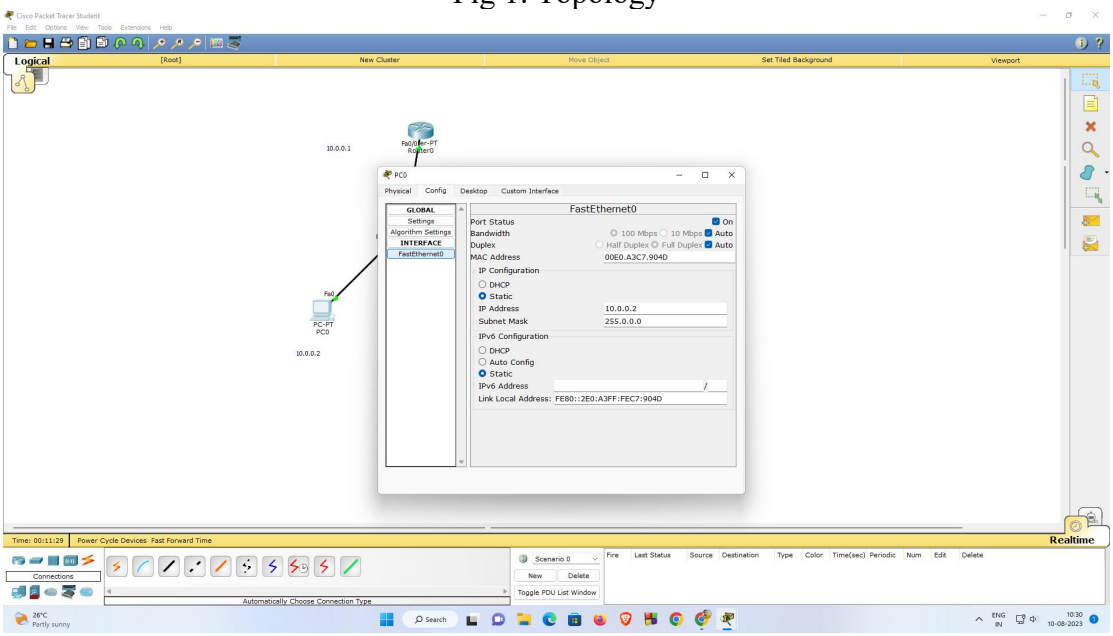


Fig 2: Pco configuration

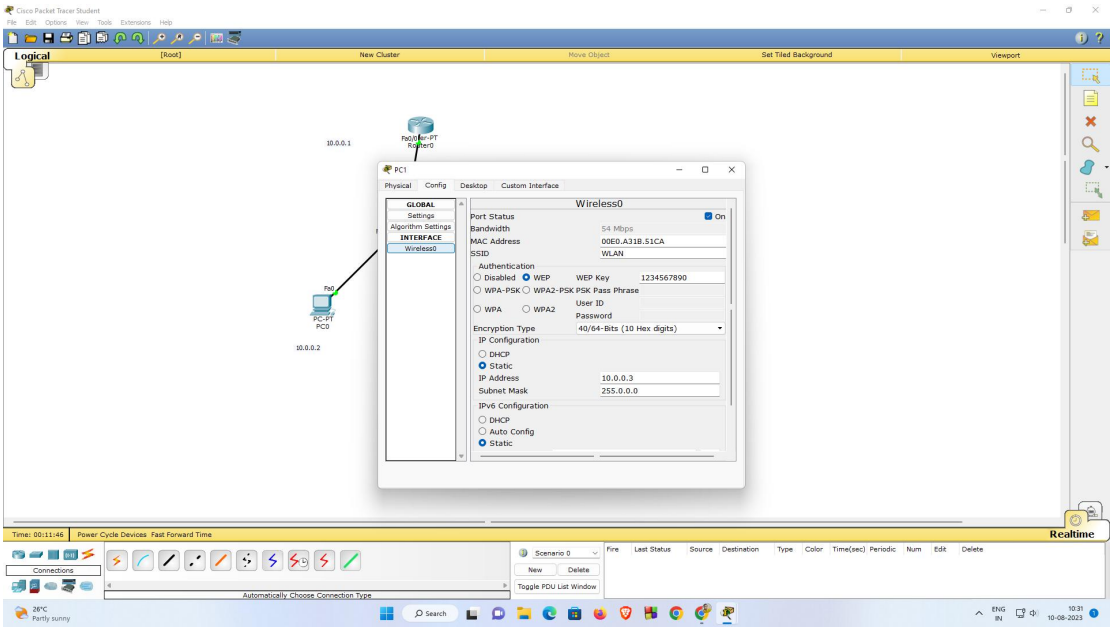


Fig 3: Pc1 configuration

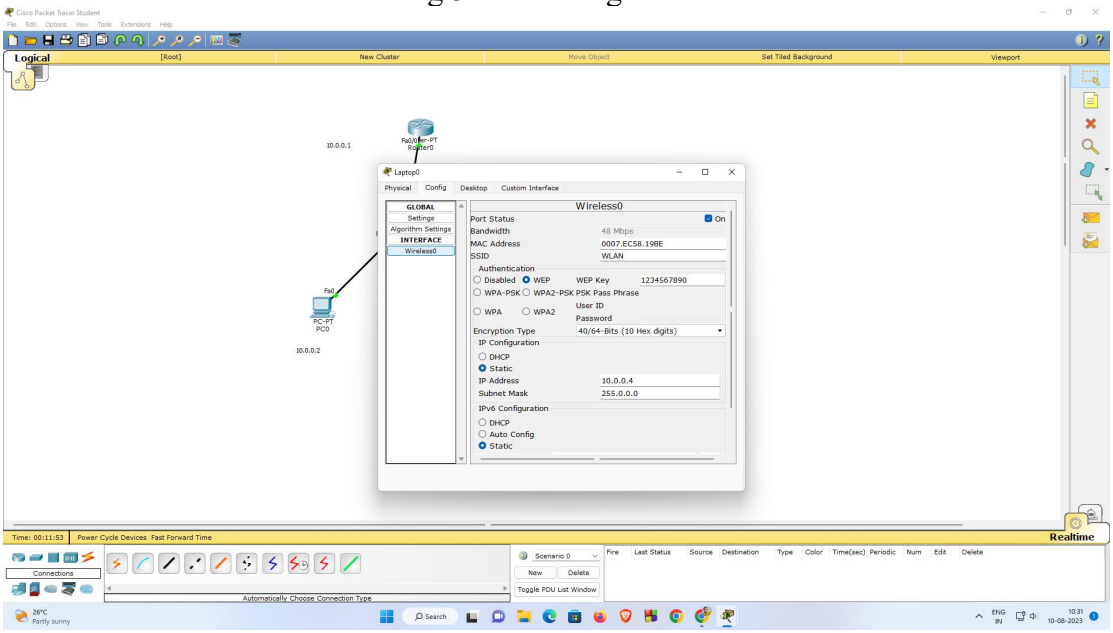


Fig 4: Laptop0 Configuration

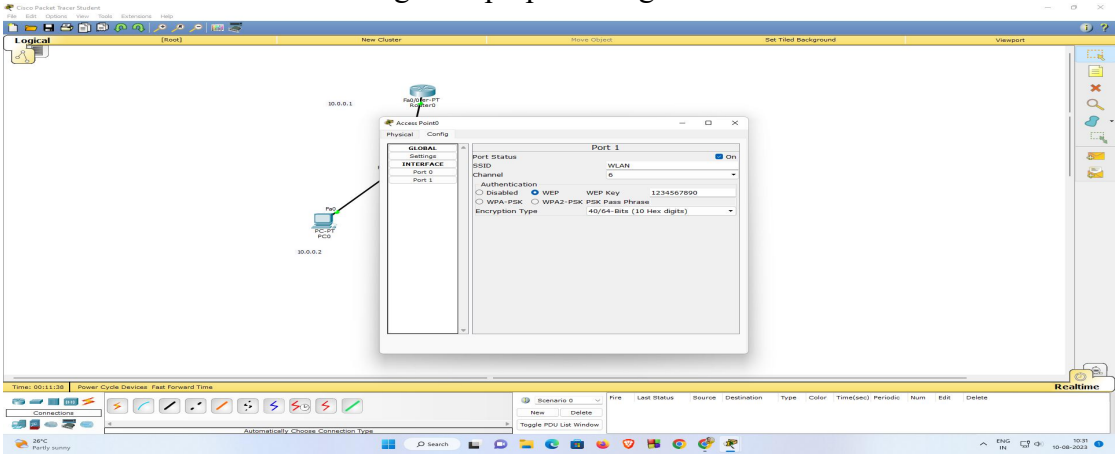


Fig 4: Access point0 Configuration

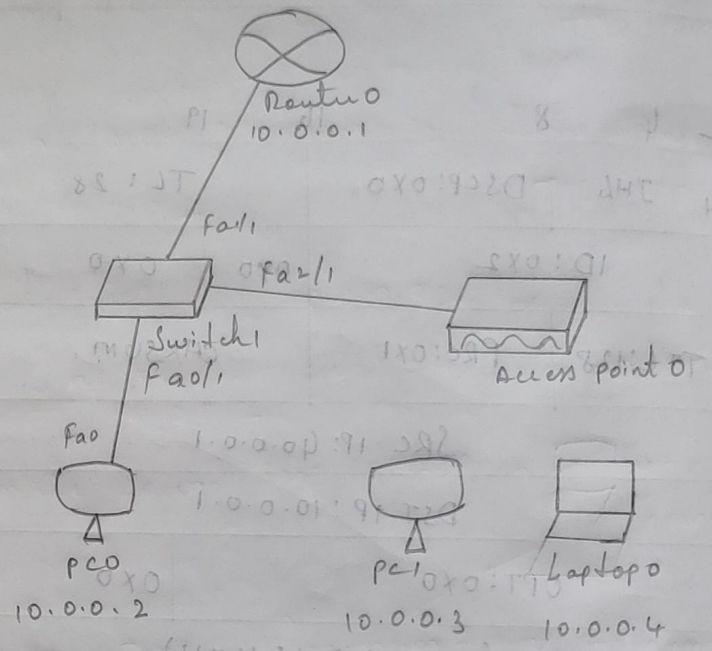
Procedure and Observation:

10/8/23

Aim-11

11. To construct a WLAN and make the nodes communicate wirelessly.

Topology



Procedure

=> Create a topology of a router 2 PCs and a laptop and a access point.

=> Configure PC1 and the router0 as is normally done.

-> Configure Access point 1 - port 1 -> SSID Name - any name (for example WLAN).

-> Select WEP and give any 10 digit hex key - (for example 1234567890).

-> Configuring PC0 and laptop with wireless standards.

-> Switch off the device. Drag the existing PT-HOST-NM-1AM to the component listed in the LHS. Drag WMP300N wireless interface to the empty port. Switch on the device.

-> In the config tab of both pc1 and laptop a new wireless interface would've been added. Now configure SSID, WEP, WEP key, IP (same as access points). address and Gateway (as normally done) to the device.

Output

Pinging from pc0 to pc1

PC> Ping 10.0.0.3

Pinging 10.0.0.3 with 32 bytes of data:

Reply from 10.0.0.3: bytes=32 time=8 ms
TTL = 128

Reply from 10.0.0.3: bytes=32 time=11ms
TTL=128

Reply from 10.0.0.3: bytes=32 time=7 ms
TTL=128

Reply from 10.0.0.3: bytes=32 time=8ms
TTL=128

Ping statistics for 10.0.0.3:
Packets: Sent=4, Received=4, Lost=0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 7ms, Maximum = 11 ms, Average = 8ms

-> Pinging from pc1 to laptop

pc> Ping 10.0.0.4

Pinging 10.0.0.4 with 32 bytes of data

Reply from 10.0.0.4: bytes=32 time=9ms
TTL=128

-> Reply from 10.0.0.4: bytes=32 time=11ms
TTL=128

Reply from 10.0.0.4: bytes=32 time=8ms
TTL=128

Reply from 10.0.0.4: bytes=32 time=6ms
TTL=128

Ping statistics for 10.0.0.4:
Packets: Sent=4, Received=4, Lost=0 (0% loss)
Approximate round trip times in milli-seconds:
Minimum=6ms, Maximum=11ms, Average=8ms.

-> Now pinging from laptop0 to pc1

pc> Ping 10.0.0.3

Pinging 10.0.0.3 with 32 bytes of data:

Reply from 10.0.0.3: bytes=32 time=33ms
TTL=128

Reply from 10.0.0.3: bytes=32 time=21ms TTL=128

Reply from 10.0.0.3 bytes=32 time=12ms TTL=128

Reply from 10.0.0.3 bytes=32 time=12ms TTL=128

Ping statistics for 10.0.0.3:

Packets: Sent=4, Received=4, Lost=0 (0% loss)

Approximate round trip times in milli-seconds:

Minimum = 12 ms, Maximum = 33 ms, Average = 19 ms

=> Pinging from laptop 0 to PC0

PC> Ping 10.0.0.2

Pinging 10.0.0.2 with 32 bytes of data:

Reply from 10.0.0.2: bytes=32 time=23 ms TTL=128

Reply from 10.0.0.2: bytes=32 time=9 ms TTL=128

Reply from 10.0.0.2: bytes=32 time=12 ms TTL=128

Reply from 10.0.0.2: bytes=32 time=14 ms TTL=128

Ping statistics for 10.0.0.2:

Packets: Sent=4, Received=4, Lost=0 (0% loss)

Approximate round trip times in milli-seconds:

Minimum = 9 ms, Maximum = 23 ms, Average = 14 ms

=> Now Pinging from pc1 to laptop 4

pc1 Ping 10.0.0.4

Pinging 10.0.0.4 with 32 bytes of data:

Reply from 10.0.0.4: bytes=32 time=16 ms TTL=128

Reply from 10.0.0.4: bytes=32 time=18 ms TTL=128

Reply from 10.0.0.4: bytes=32 time=13 ms TTL=128

Reply from 10.0.0.4: bytes=32 time=14 ms TTL=128

Ping Statistics for 10.0.0.4:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 13 ms, Maximum = 18 ms, Average = 15 ms

=> Now ping from pc1 to pc0

pc1 Ping 10.0.0.2

Pinging from 10.0.0.2 with 32 bytes of data

Reply from 10.0.0.2: bytes=32 time=27 ms TTL=128

Reply from 10.0.0.2: bytes=32 time=13 ms
TTL=128

Reply from 10.0.0.2: bytes=32 time=8 ms
TTL=128

Reply from 10.0.0.2: bytes=32 time=8 ms
TTL=128

Ping Statistics for 10.0.0.2:

Packets: Sent=4, Received=4, Lost=0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum=0 ms, Maximum=27 ms, Average=
15 ms.

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Output

Using the concept of VLAN we've
setup a wireless communication with
the help of access point device.

Output:

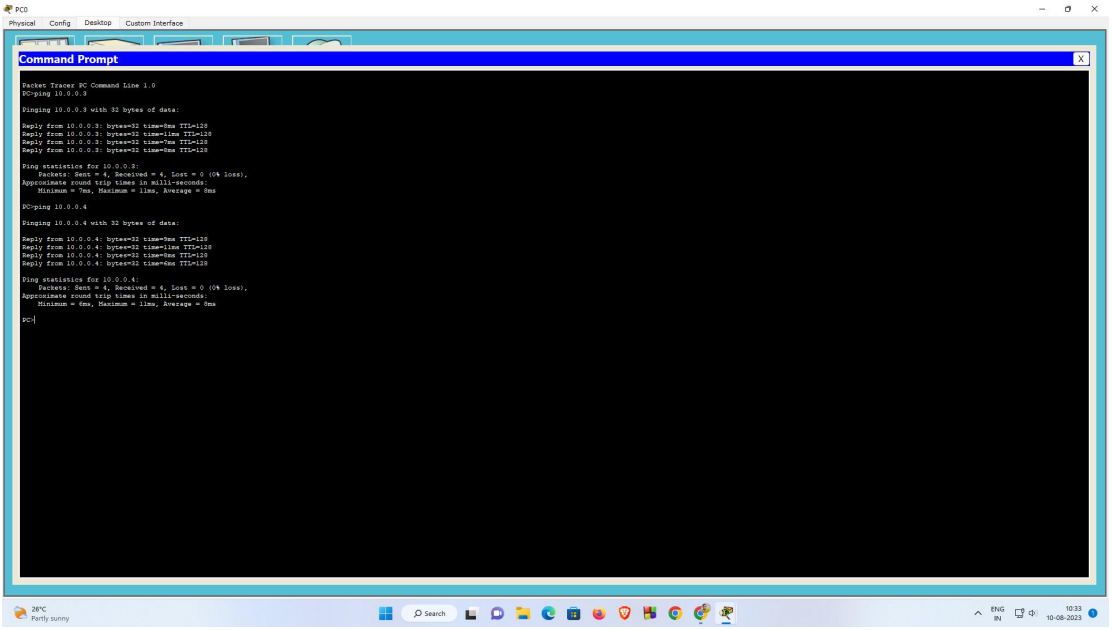

Fig 5: Ping responses from pc1 and laptop0

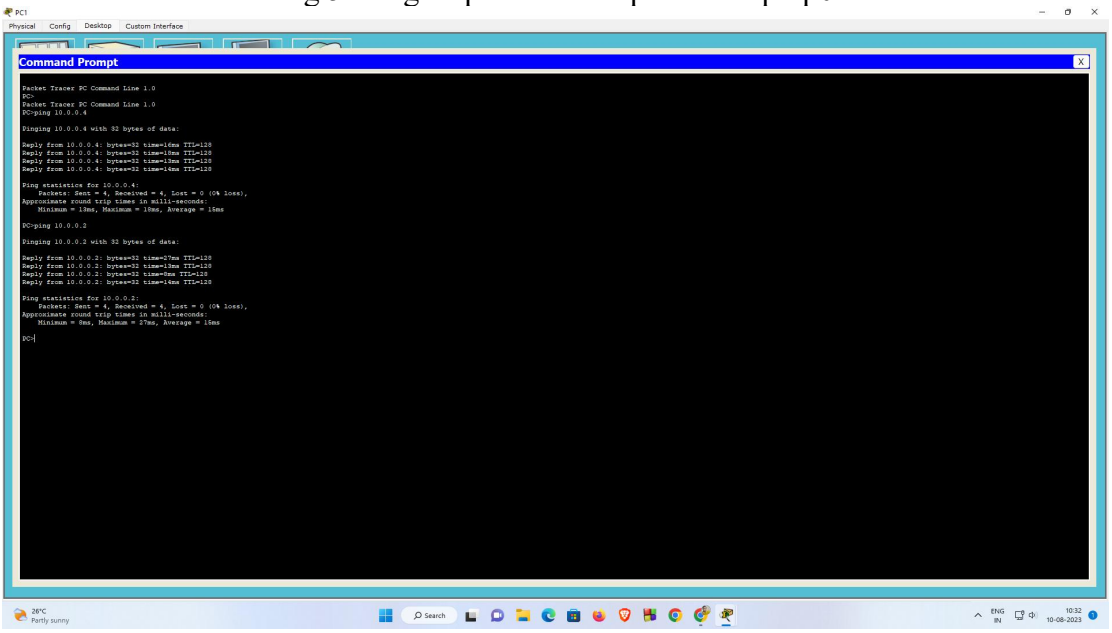

Fig 6: Ping responses from pc0 and laptop0

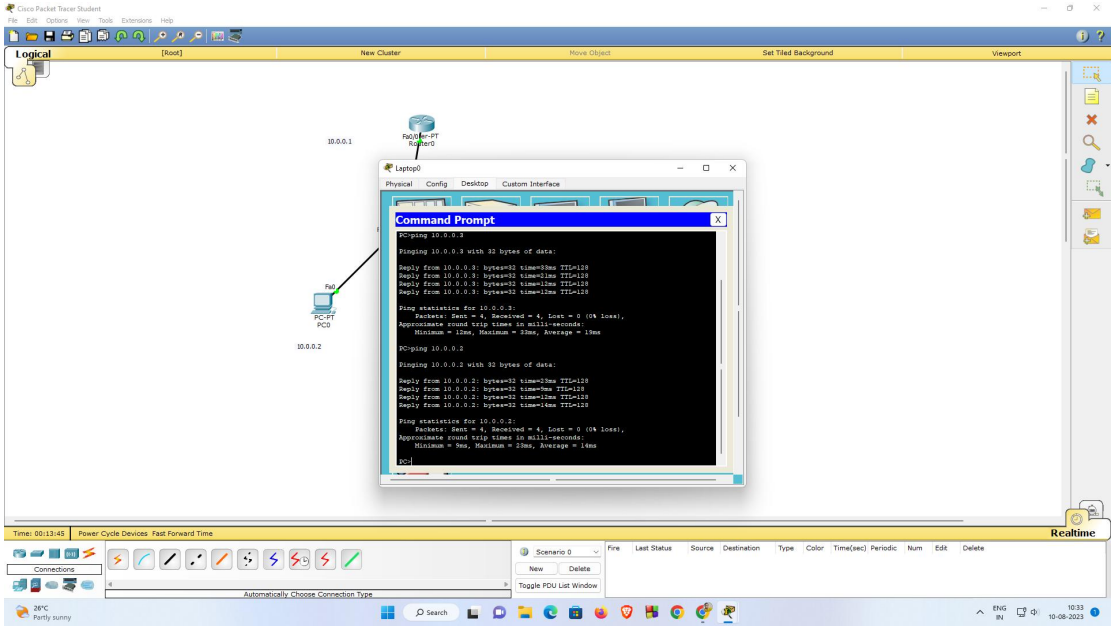

Fig 7: Ping responses from pc0 and pc1