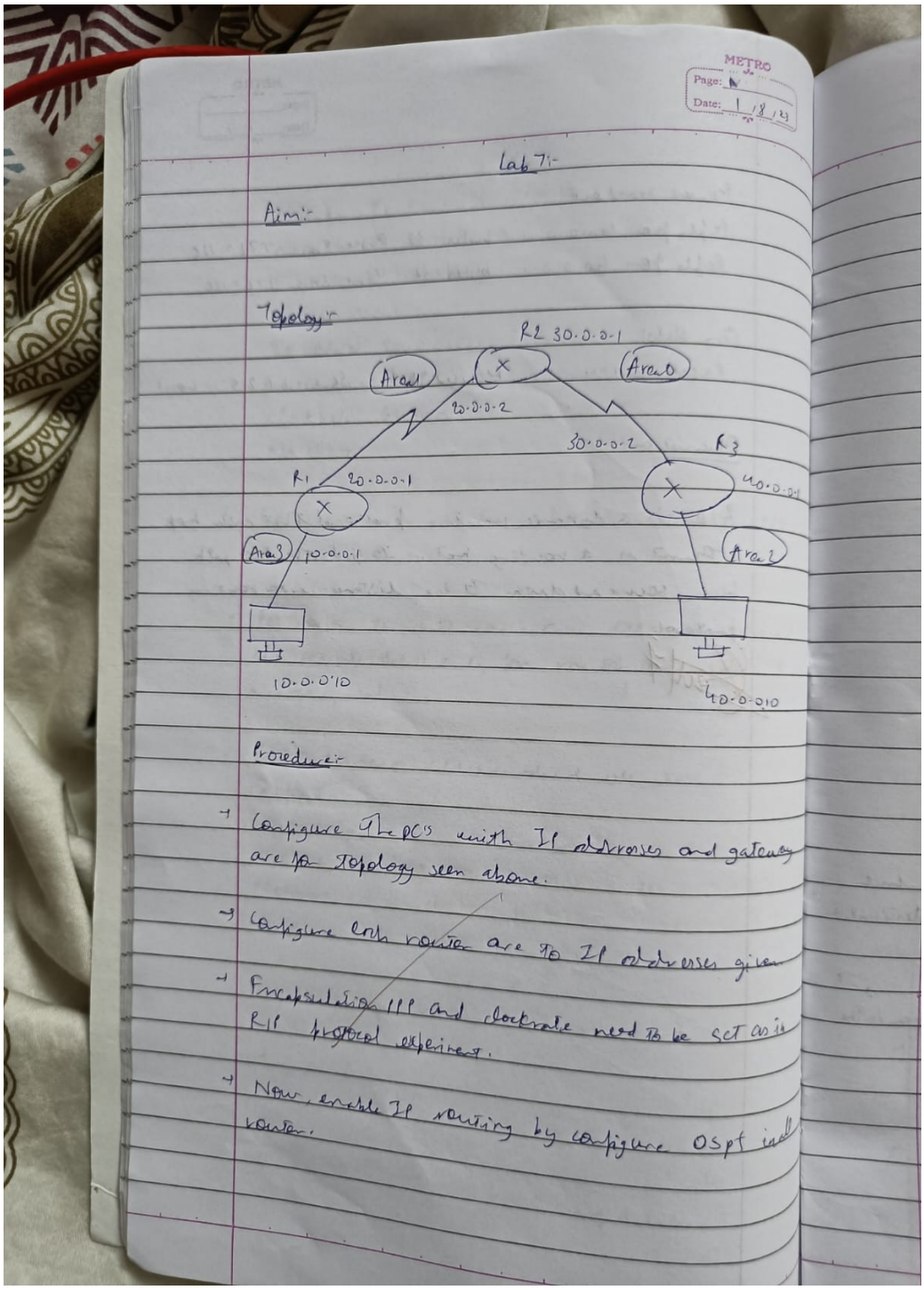
# WEEK 7

Configure OSPF routing protocol.

OBSERVATION:



In router R1

R1(config)# router ospf 1
" router-id 1.1.1.1
" network 10.0.0.0 0.255.255.255 area 3
" network 20.0.0.0 0.255.255.255 area 1
exit

In router R2

R2(config)# router ospf 1
R2(config-router)# route id 2.2.2.2
R1(config-router)# network 20.0.0.0 0.255.255.255 area 1
R2(config-router)# network 20.0.0.0 0.255.255.255 area 1
# exit 30.0.0.0 0.255.255.255 area 0

In Router R3:

R3(config)# router ospf 1
R3(config-router)# route-id 3.3.3.3
R3(config-router)# network 30.0.0.0 0.255.255.255 area 0
" network 40.0.0.0 0.255.255.255 area 2

R1(config-if)# interface loopback 0
R1(config-if)# ip address 172.161.252 255.255.0.0
R1(config-if)# no shut

R2(config-if)# interface loopback 0
R2(config-if)# ip address 172.66.1.253 255.255.0.0
R2(config-if)# no shut

R3(config-if)# inter fre loopback 0
R3(config-if)# ip address 172.16.1.254 255.255.0.0
R3(config-if)# no shut

In Router R1

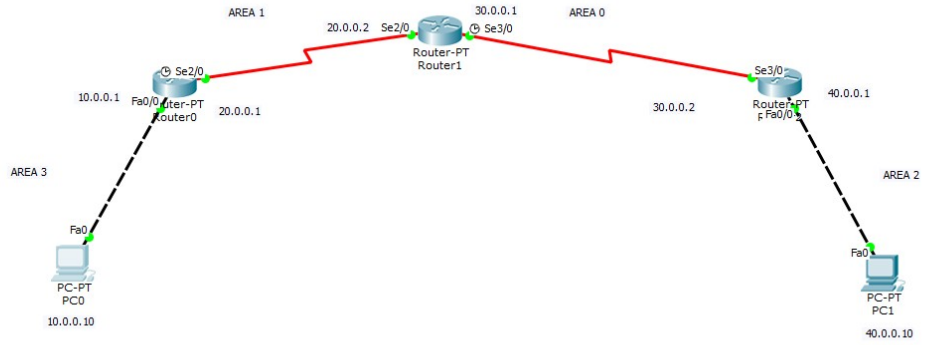
R1(config)# router ospf 1
R1(config router)# area 1 virtual link 2.2.2.2
R1(config-router)# no exit

In Router R2,
R2(config)# router ospf 1
R2(config-router)# area 1 virtual link 1.1.1.1
R2(config-router)# exit

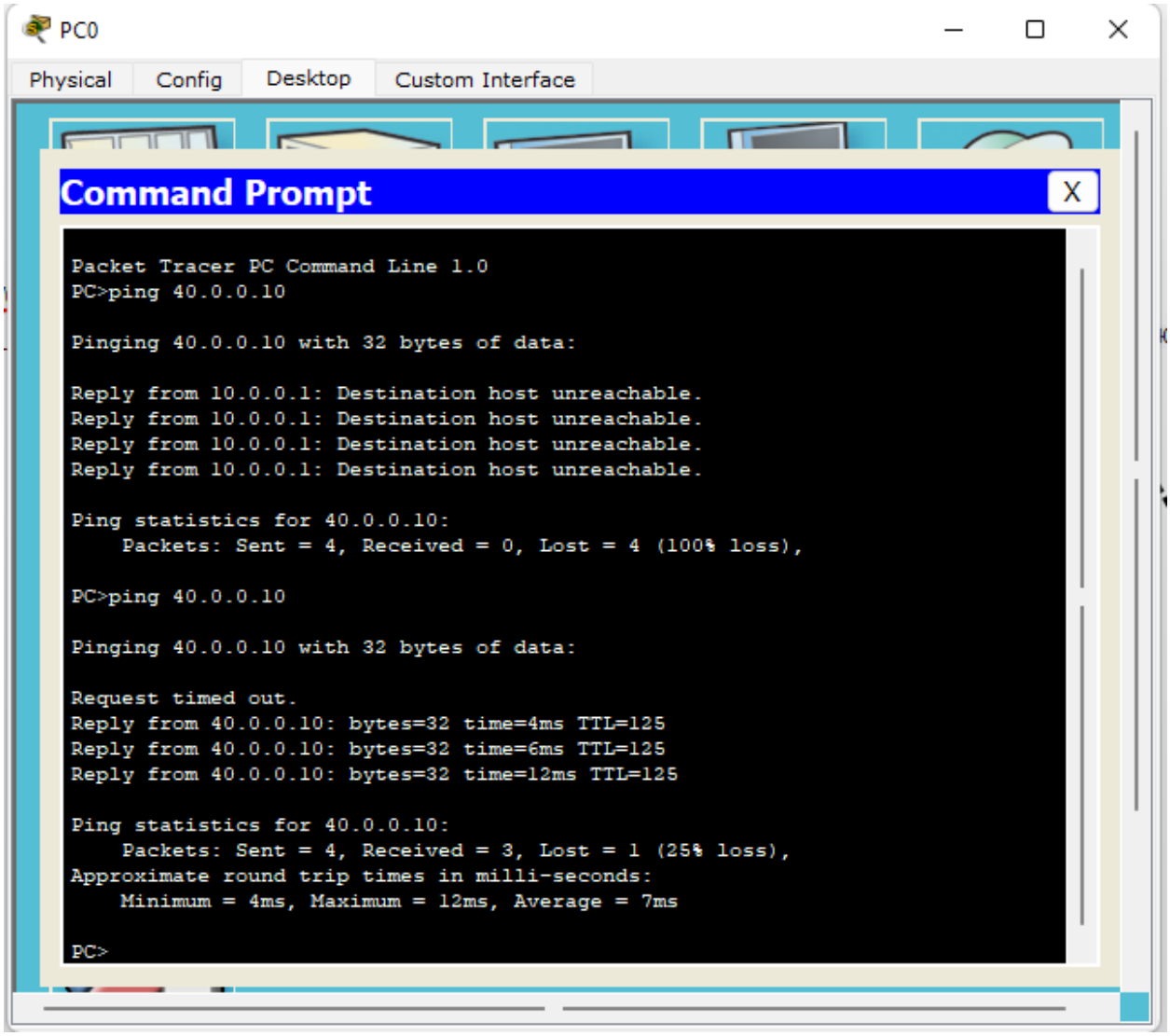
Show ip route

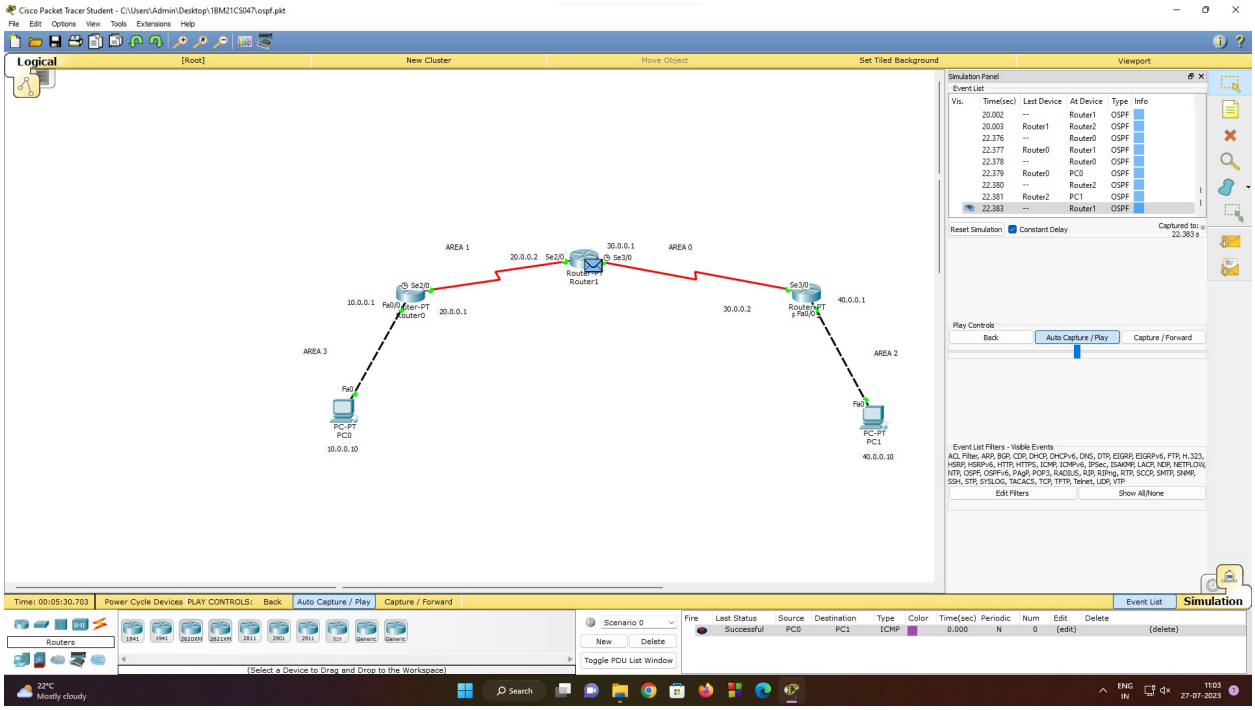
Observation:

- OSPF is a link state routing protocol which is used to find the best path btw source and destination router using it's own SPF algo.
- This network is divided into 4 areas where area is the backbone.


AREA 1
20.0.0.2
Se2/0
30.0.0.1
Se3/0
AREA 0
Router-PT
Router1
Se2/0
10.0.0.1
Fa0/0
Router-PT
Router0
20.0.0.1
30.0.0.2
Se3/0
Router-PT
Fa0/0
40.0.0.1
AREA 3
AREA 2
Fa0
PC-PT
PC0
10.0.0.10
Fa0
PC-PT
PC1
40.0.0.10

OUTPUT:


PC0
Physical
Config
Desktop
Custom Interface
Command Prompt
X
Packet Tracer PC Command Line 1.0
PC>ping 40.0.0.10
Pinging 40.0.0.10 with 32 bytes of data:
Reply from 10.0.0.1: Destination host unreachable.
Reply from 10.0.0.1: Destination host unreachable.
Reply from 10.0.0.1: Destination host unreachable.
Reply from 10.0.0.1: Destination host unreachable.
Ping statistics for 40.0.0.10:
Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
PC>ping 40.0.0.10
Pinging 40.0.0.10 with 32 bytes of data:
Request timed out.
Reply from 40.0.0.10: bytes=32 time=4ms TTL=125
Reply from 40.0.0.10: bytes=32 time=6ms TTL=125
Reply from 40.0.0.10: bytes=32 time=12ms TTL=125
Ping statistics for 40.0.0.10:
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
Minimum = 4ms, Maximum = 12ms, Average = 7ms
PC>


Cisco Packet Tracer Student - C:\Users\Admin\Desktop\1BM21CS047\ospf.pkt
File Edit Options View Tools Extensions Help
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
AREA 1
AREA 0
AREA 3
AREA 2
20.0.0.2
Se2/0
30.0.0.1
Se3/0
Router-PT
Router1
Router0
10.0.0.1
Fa0/0
20.0.0.1
30.0.0.2
40.0.0.1
Fa0/1
PC-PT
PC0
10.0.0.10
PC1
40.0.0.10
Simulation Panel
Event List
Vis.
Time(sec)
Last Device
At Device
Type
Info
Reset Simulation
Constant Delay
Captured to:
22.383 s
Play Controls
Back
Auto Capture / Play
Capture / Forward
Event List Filters - Visible Events
Edit Filters
Show All/None
Time: 00:05:30.703
Power Cycle Devices PLAY CONTROLS:
Back
Auto Capture / Play
Capture / Forward
Event List
Simulation
Routers
Scenario 0
New
Delete
Toggle PDU List Window
(Select a Device to Drag and Drop to the Workspace)
Fire
Last Status
Source
Destination
Type
Color
Time(sec)
Periodic
Num
Edit
Delete
Successful
PC0
PC1
ICMP
0.000
N
0
(edit)
(delete)
22°C
Mostly cloudy
Search
ENG
IN
11:03
27-07-2023