Computer Networks Lab

UE19CS256

Week 6

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Objective:

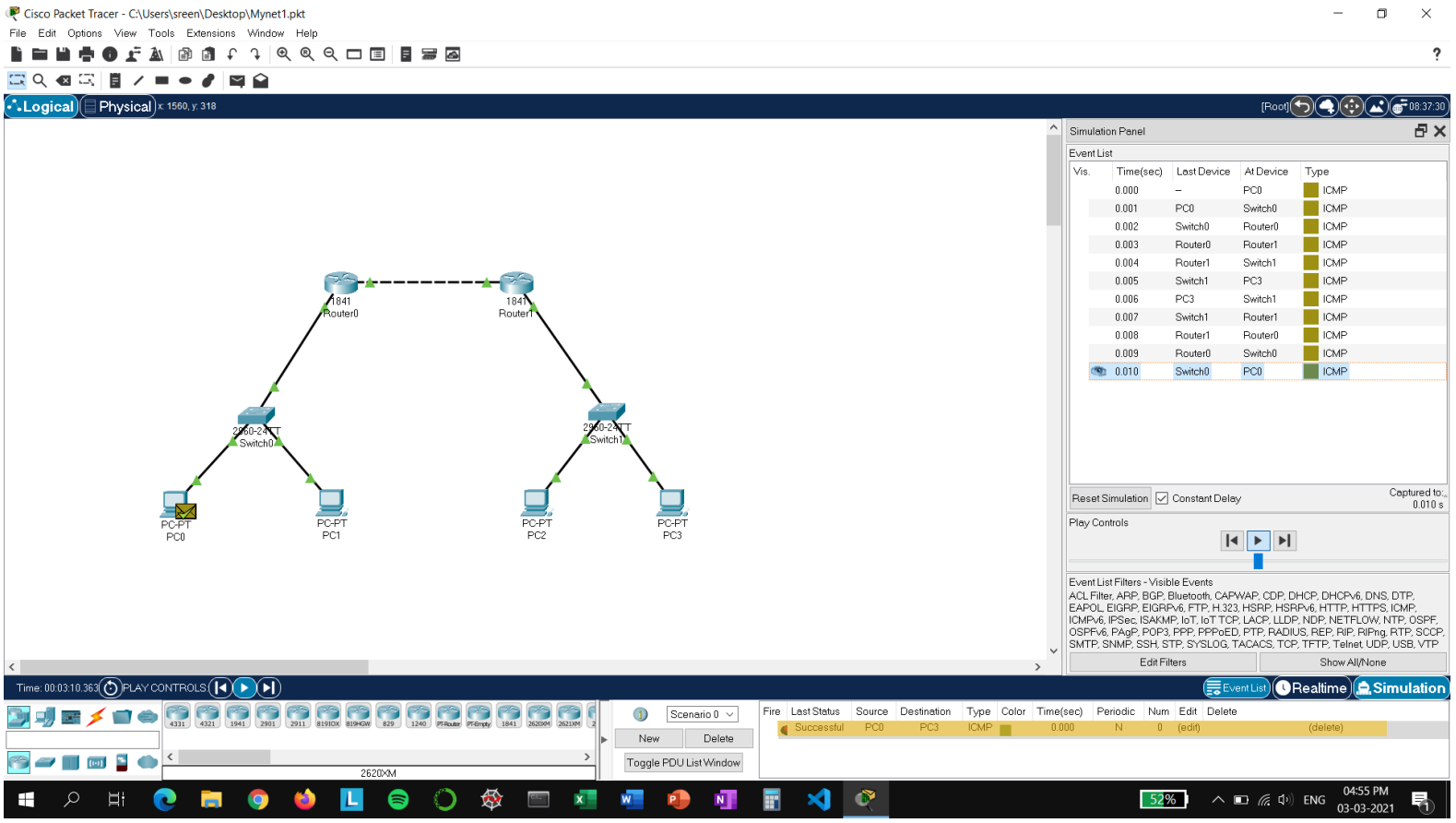
- To understand the purpose of Cisco Packet Tracer.
- To navigate, choose network and end devices and customize them.
- To interconnect devices and configure them using simple interface.
- To become familiar with building topologies in Packet Tracer.
- To simulate data interactions travelling through a network.

Task 1:

Network Topology:

To replicate given scenario in Cisco Packet Tracer.

- We organize the devices required as shown in the image below.
- We then assign IP Addresses to all the interfaces being utilized on the routers and end systems.
- We then configure the routing table manually and add in the required information.
- A PDU packet is then sent from one end system to another system on another network.
- We then follow the packet through the simulation and we get a ‘Successful’ message in the bottom right if the packet is successfully transferred.



The Network is setup as shown.

(Packet Transfer highlighted in Yellow)

Network Configuration

End Systems

End System	Interface Name	IP Address	Subnet Mask	Gateway
PC0	FastEthernet0	10.0.0.1	255.0.0.0	10.0.0.3
PC1	FastEthernet0	10.0.0.2	255.0.0.0	10.0.0.3
PC2	FastEthernet0	30.0.0.2	255.0.0.0	30.0.0.1
PC3	FastEthernet0	30.0.0.3	255.0.0.0	30.0.0.1

Routers

Router	Interface Name	IP Address	Subnet Mask
Router0	FastEthernet0/0	10.0.0.3	255.0.0.0
Router0	FastEthernet0/1	20.0.0.1	255.0.0.0

Router1	FastEthernet0/0	20.0.0.2	255.0.0.0
Router1	FastEthernet0/1	30.0.0.1	255.0.0.0

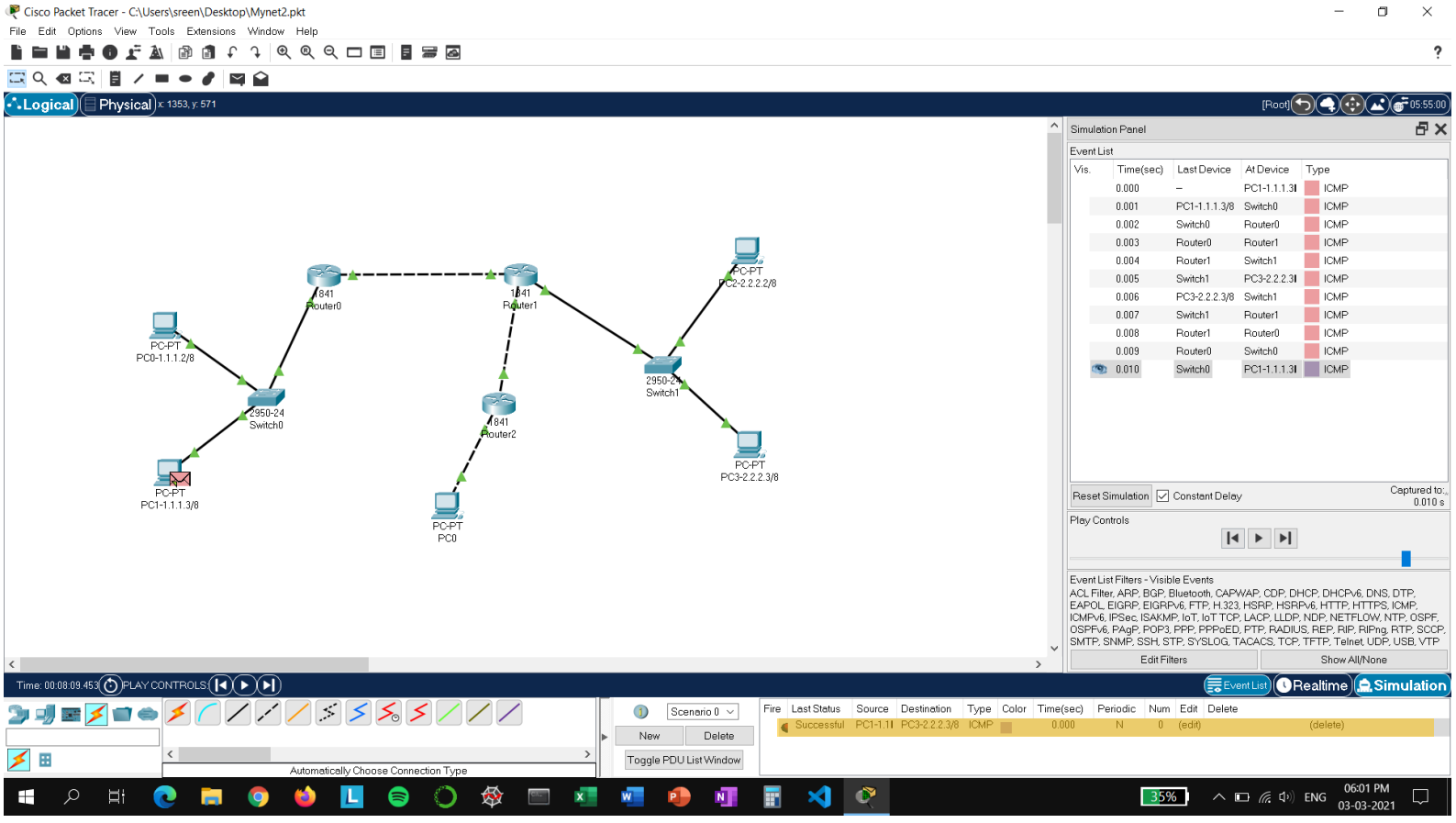
Routing Table

Router	Destination Network	Next Hop	Mask
Router0	30.0.0.0	20.0.0.2	255.0.0.0
Router1	10.0.0.0	20.0.0.1	255.0.0.0

Task 2:

Network Topology:

We perform the same steps as Task 1 but with a different network configuration as shown below.



Network setup for Task 2

(Packet Transfer highlighted in Yellow)

Network Configuration:

End Systems

End System	Interface Name	IP Address	Subnet Mask	Gateway
PC0-1.1.1.2/8	FastEthernet0	1.1.1.2	255.0.0.0	1.1.1.1
PC1-1.1.1.3/8	FastEthernet0	1.1.1.3	255.0.0.0	1.1.1.1
PC0	FastEthernet0	6.6.6.2	255.0.0.0	6.6.6.1
PC2-2.2.2.2/8	FastEthernet0	2.2.2.2	255.0.0.0	2.2.2.1
PC3-2.2.2.3/8	FastEthernet0	2.2.2.3	255.0.0.0	2.2.2.1

Routers

Router	Interface Name	IP Address	Subnet Mask
Router0	FastEthernet0/0	1.1.1.1	255.0.0.0
Router0	FastEthernet0/1	3.3.3.1	255.0.0.0
Router1	FastEthernet0/0	3.3.3.2	255.0.0.0
Router1	FastEthernet0/1	5.5.5.2	255.0.0.0
Router1	Ethernet0/0	2.2.2.1	255.0.0.0
Router2	FastEthernet0/0	5.5.5.1	255.0.0.0
Router2	FastEthernet0/1	6.6.6.1	255.0.0.0

Routing Table

Router	Destination Network	Next Hop	Mask
Router0	2.2.2.0	3.3.3.2	255.255.255.0
Router0	5.5.5.0	3.3.3.2	255.255.255.0
Router0	6.6.6.0	3.3.3.2	255.255.255.0
Router1	1.1.1.0	3.3.3.1	255.255.255.0
Router1	6.6.6.0	5.5.5.1	255.255.255.0
Router2	3.3.3.0	5.5.5.2	255.255.255.0
Router2	1.1.1.0	5.5.5.2	255.255.255.0
Router2	2.2.2.0	5.5.5.2	255.255.255.0