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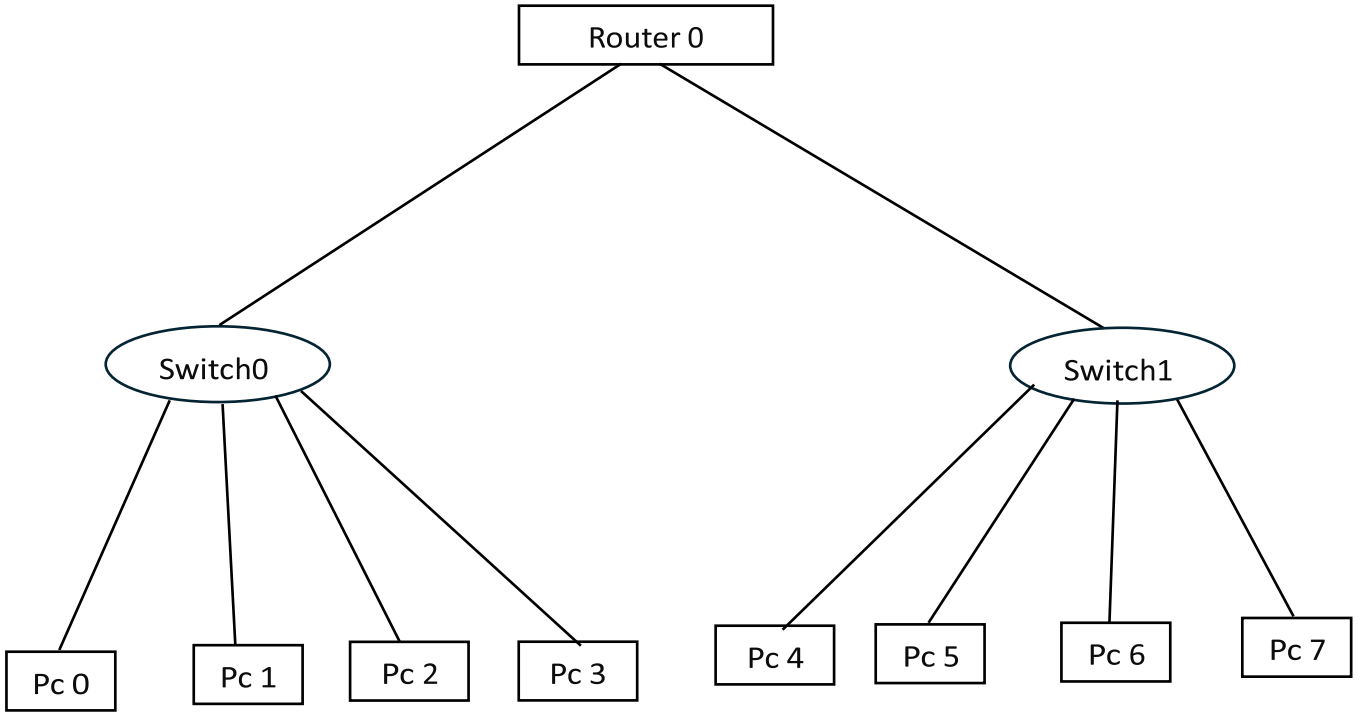
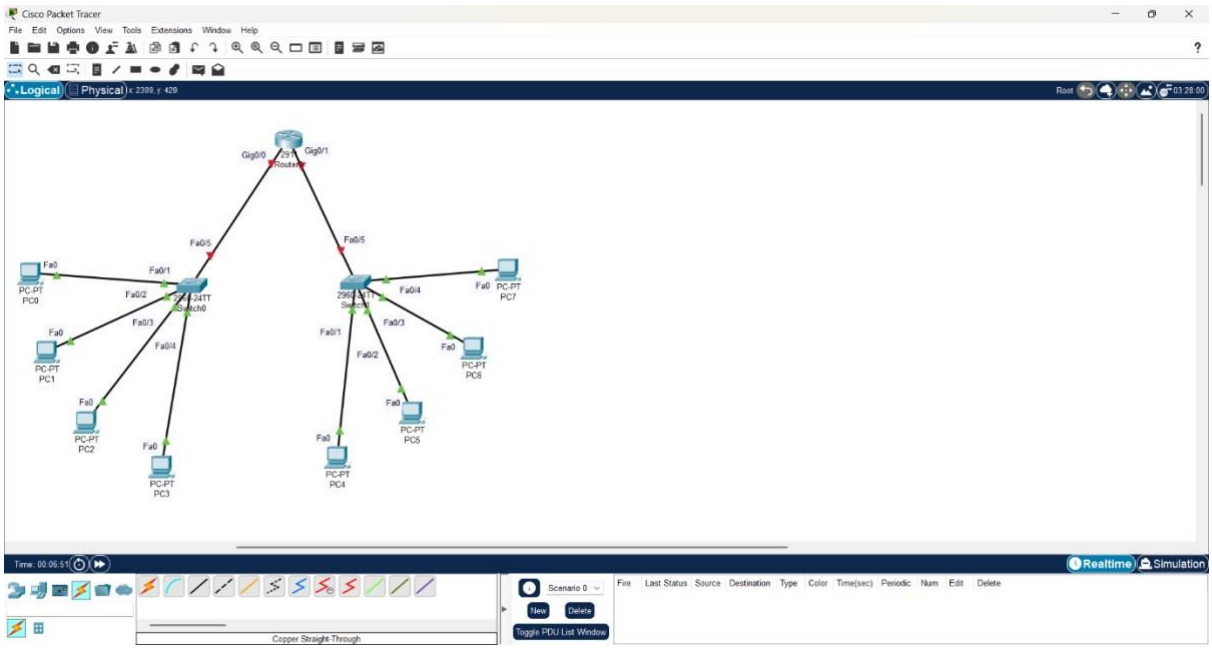
Class/Section	**8501A/S06**
Ex.No:	**9**
Date of Submission	**27.02.2025**
Name of the Experiment	**DHCP Configuration**
Google Drive link of the packet tracer file (give view permission):	https://drive.google.com/drive/folders/1QFZMTfqK2SrborDk6Jk0xn36xwRhArK?usp=sharing

1. **Device Requirements:**
   1. Router 0
   2. Switch 0
   3. Switch 1
   4. PC0,PC1,PC2,PC,PC4,PC5,PC6,PC7
   5. Wires

2. **Network Diagram for your experiment (draw the diagram either hand drawing/ms paint or any other drawing tools)**



3.Network Diagram (Packet Tracer diagram before configuration):



3. Configuration details:

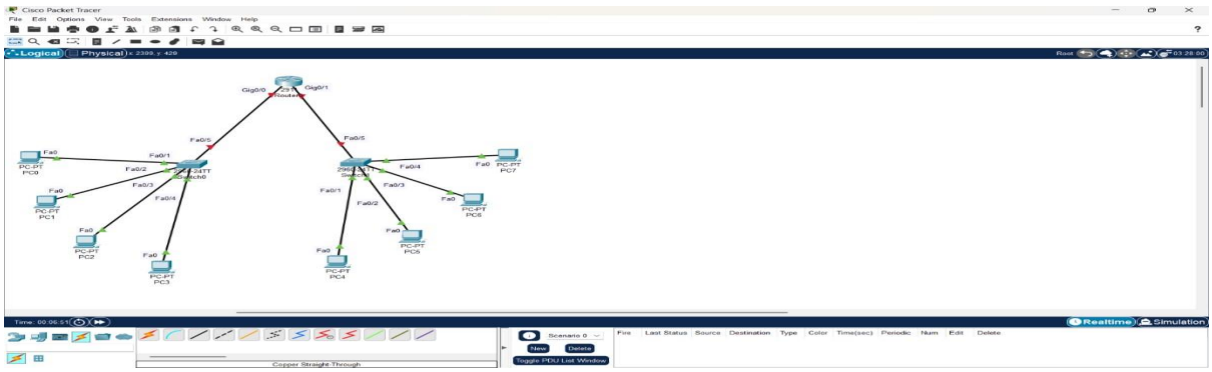
Device Name	Interface Name	IP Address	Subnet mask	Default Gateway
PC0	Fa0	192.168.10.2	255.255.255.0	192.168.10.1
PC1	Fa0	192.168.10.7	255.255.255.0	192.168.10.1
PC2	Fa0	192.168.10.8	255.255.255.0	192.168.10.1
PC3	Fa0	192.168.10.9	255.255.255.0	192.168.10.1
PC4	Fa0	192.168.20.2	255.255.255.0	192.168.20.1
PC5	Fa0	192.168.20.3	255.255.255.0	192.168.20.1
PC6	Fa0	192.168.20.4	255.255.255.0	192.168.20.1
PC7	Fa0	192.168.20.5	255.255.255.0	192.168.20.1
Router 0	Gig0/0, Gig0/1			
Switch 1	Fa0/5			
Switch 2	Fa0/5			

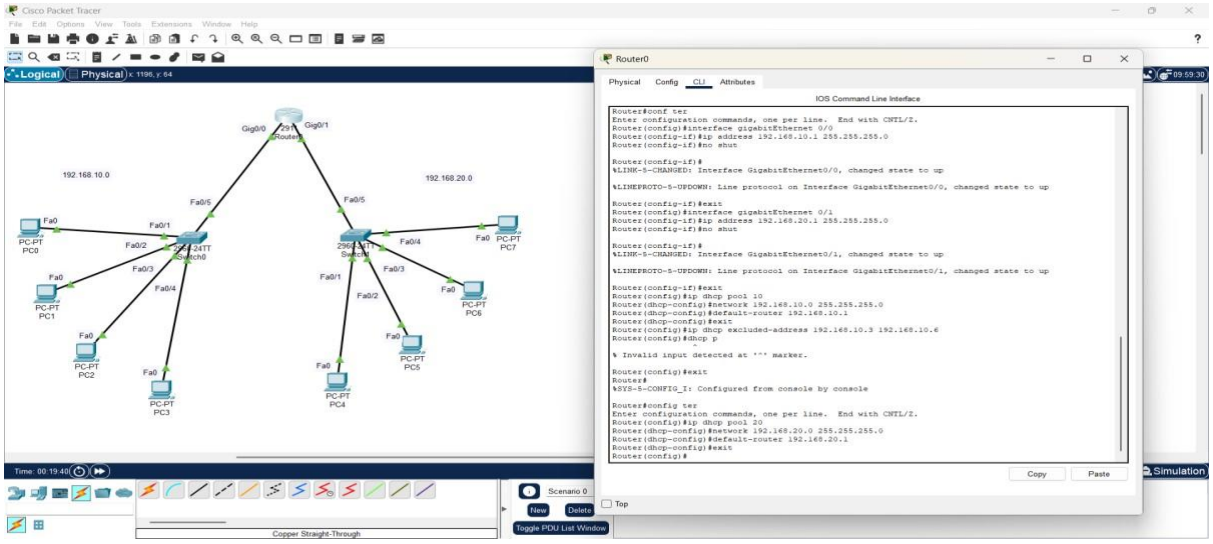
4. **Describe step by step configuration steps properly (you may copy the commands used in the configuration tab and paste it.)**

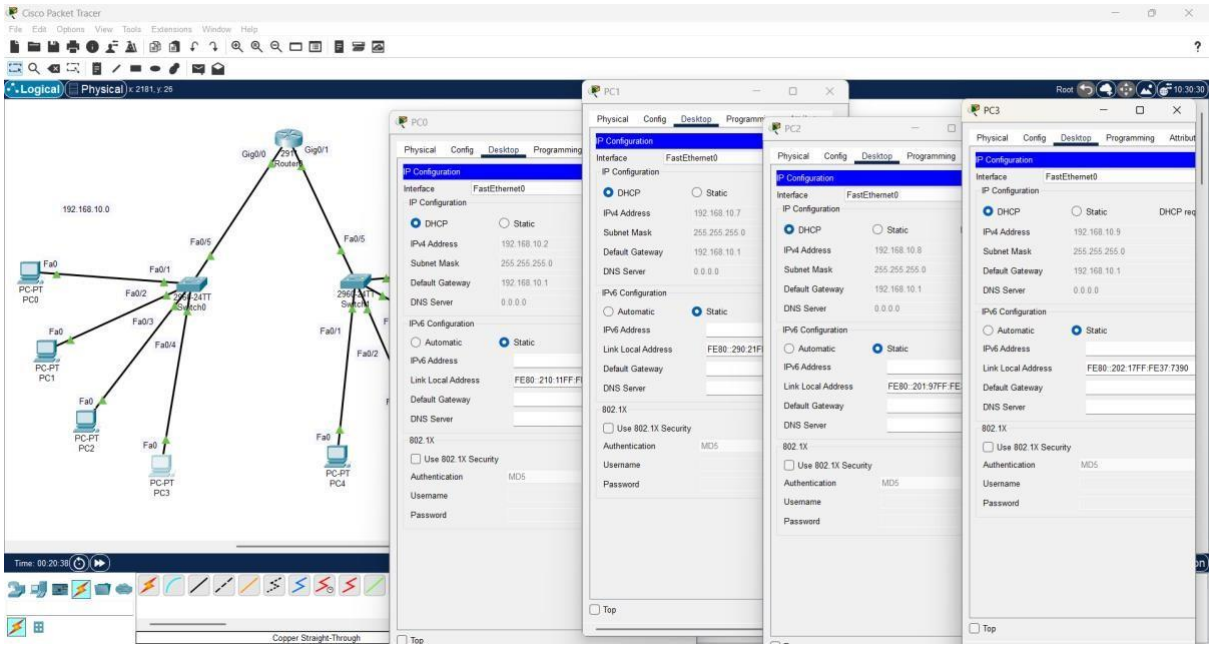
Router 0:

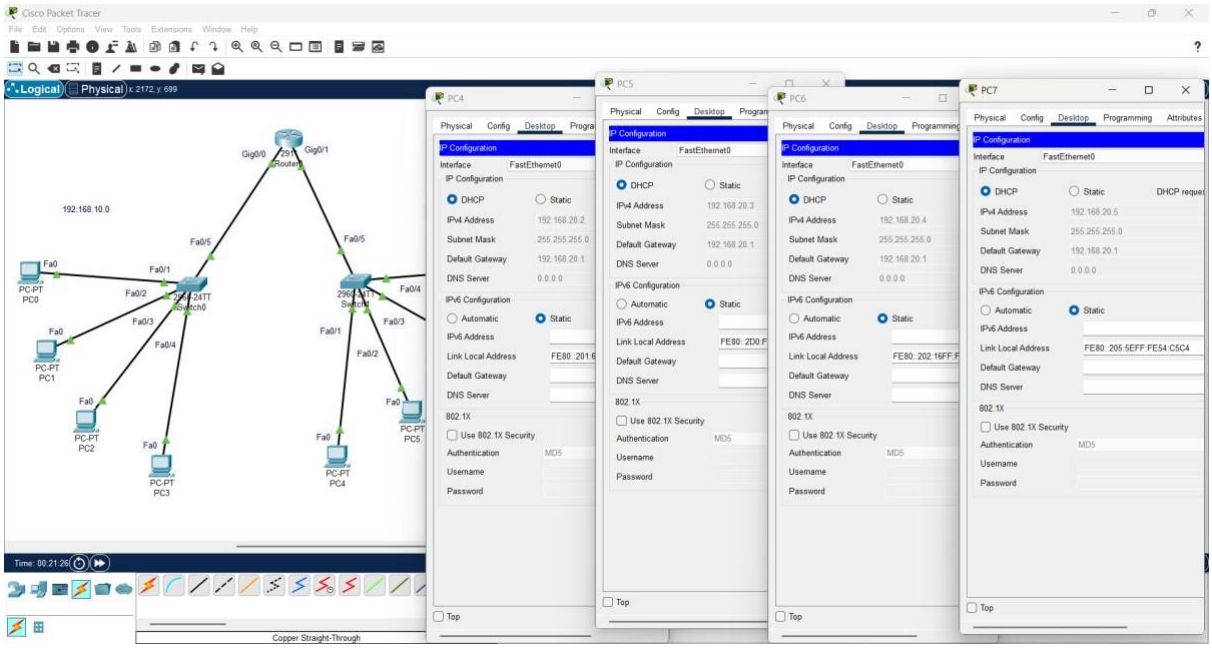
```
Router>en
Router#conf ter
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface gigabitEthernet 0/0
Router(config-if)#ip address 192.168.10.1 255.255.255.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0, changed state to up

Router(config-if)#exit
Router(config)#interface gigabitEthernet 0/1
Router(config-if)#ip address 192.168.20.1 255.255.255.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to up

Router(config-if)#exit
Router(config)#ip dhcp pool 10
Router(dhcp-config)#network 192.168.10.0 255.255.255.0
Router(dhcp-config)#default-router 192.168.10.1
Router(dhcp-config)#exit
Router(config)#ip dhcp excluded-address 192.168.10.3 192.168.10.6
Router(config)#dhcp p
^
% Invalid input detected at '^' marker.
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#config ter
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ip dhcp pool 20
Router(dhcp-config)#network 192.168.20.0 255.255.255.0
Router(dhcp-config)#default-router 192.168.20.1
Router(dhcp-config)#exit
```

6.Output Diagram (Minimum 3 screenshot):






Cisco Packet Tracer
Logical
Physical
192.168.10.0
PC0
PC1
PC2
PC3
PC4
Copper Straight-Through


Cisco Packet Tracer
Logical
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Link:

https://drive.google.com/drive/folders/1QFZMTfqK2SrborDk6Jk0xn36xwRhArK?usp=sharing

CONCLUSION (provide conclusion about this experiment):

Configuring DHCP is essential for automating IP address allocation and simplifying network management. By setting up a DHCP server, devices receive IP addresses dynamically, reducing manual configuration and minimizing errors. Proper implementation enhances network efficiency, ensures seamless connectivity, and optimizes resource utilization. DHCP configuration also improves scalability and simplifies administration in large networks.

Rubrics for Experiment Assessment:

Rubrics	Good	Normal	Poor	Marks
Creation of Topology (4)	Created the topology, Identify the proper devices and making the connections **(4)**	Created the topology, Identify the proper devices, making the connections But missing some features **(3)**	Created wrong topology, Failed to Identify the proper devices and making connections **(1)**	
Verify the connectivity (4)	Verified the connectivity in all the levels **(4)**	Verified the connectivity at some levels (only some nodes) **(2)**	Verified the connectivity is not done. **(1)**	
Timely Completion (2)	Completed the lab before the allotted time **(2)**	Completed the lab after the deadline **(1)**	Did not submitted before grading **(0)**	
			Total	

Result: Thus the Design a Configuring DHCP Protocol has been done successfully.