Lab Worksheet 1

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1. Objective of the practical:

Connecting two network using routers. Also configure DHCP and DNS Server. Screenshot of the output must contain all the IP addressing in the given format.

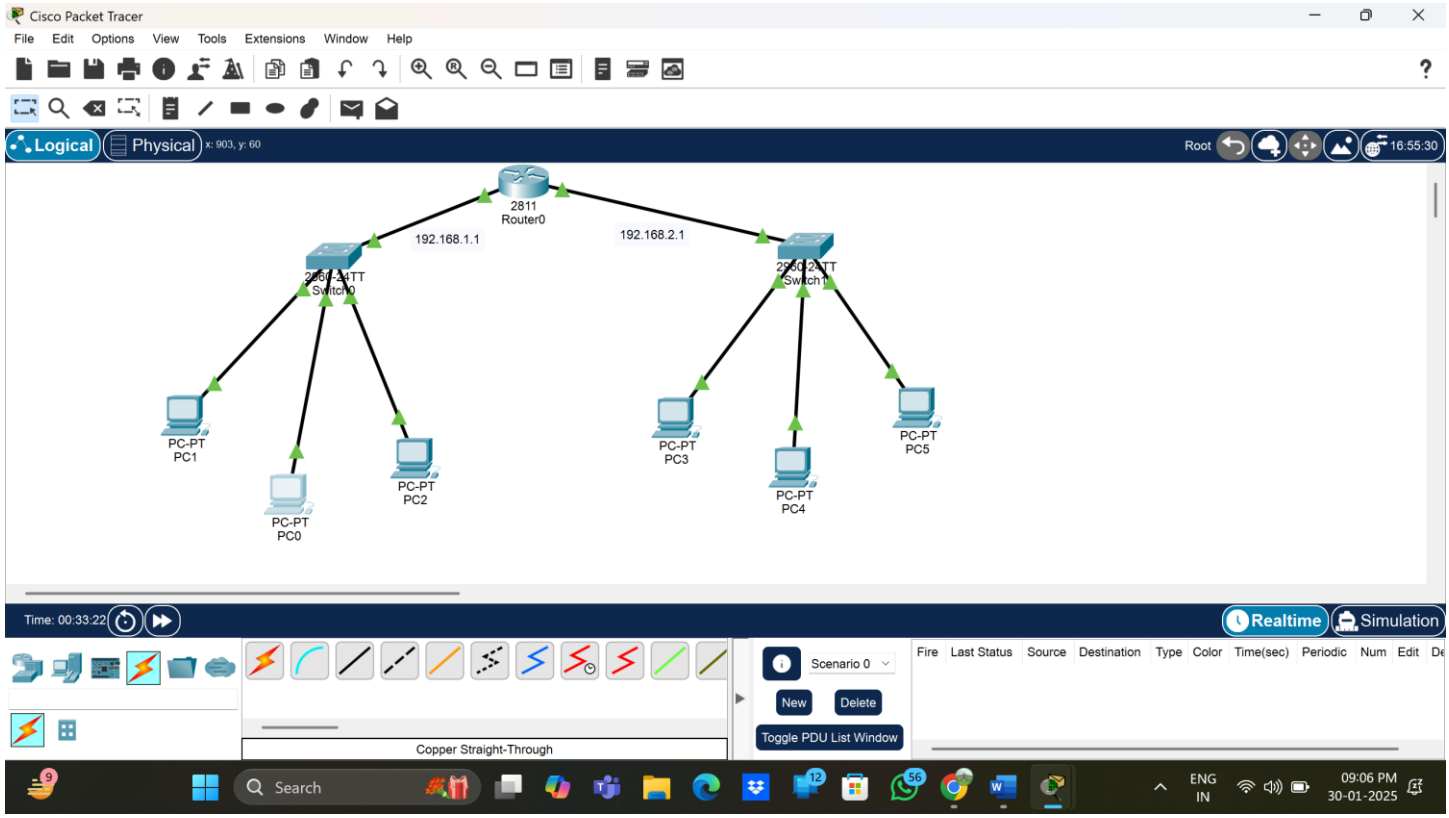
2. Coding/Description:

DHCP config:

```
Router>en
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#host
% Incomplete command.
Router(config)#hostname dhcp-server
dhcp-server(config)#int f0/0
dhcp-server(config-if)#ip add 192.168.1.1 255.255.255.0
dhcp-server(config-if)#no sh

dhcp-server(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

dhcp-server(config-if)#int f0/1
dhcp-server(config-if)#ip add 192.168.2.1 255.255.255.0
dhcp-server(config-if)#no sh
dhcp-server(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up
dhcp-server(config-if)#exit
dhcp-server(config)#do sh ip int br
Interface IP-Address OK? Method Status Protocol
```

FastEthernet0/0 192.168.1.1 YES manual up up
FastEthernet0/1 192.168.2.1 YES manual up up
Vlan1 unassigned YES unset administratively down down
dhcp-server(config)#ip dhcp excluded-address 192.168.1.1
dhcp-server(config)#ip dhcp excluded-address 192.168.2.1
dhcp-server(config)#ip dhcp pool
% Incomplete command.
dhcp-server(config)#ip dhcp pool 192.168.1.1
dhcp-server(dhcp-config)#network 192.168.1.0 255.255.255.0
dhcp-server(dhcp-config)#default-router 192.168.1.1
dhcp-server(dhcp-config)#dns-server 8.8.8.8
dhcp-server(dhcp-config)#exit
dhcp-server(config)#ip dhcp pool 192.168.2.1
dhcp-server(dhcp-config)#network 192.168.2.0 255.255.255.0
dhcp-server(dhcp-config)#default-router 192.168.2.1
dhcp-server(dhcp-config)#dns-server 8.8.8.8
dhcp-server(dhcp-config)#

3. Output (Screenshot):



4. Learning outcomes (What I have learnt):

By configuring two networks with routers, DHCP, and DNS, you learn the following key networking concepts:

1. Router Configuration & IP Addressing
2. DHCP (Dynamic Host Configuration Protocol)
3. DNS (Domain Name System) Configuration
4. Troubleshooting & Verification