📘 **IT PORTFOLIO**

📄 COVER PAGE

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Role Targeted: Entry-Level Network Support / IT System Support

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🛈 1. ABOUT ME

I am a career switcher with 5+ years of experience as a teacher and recently completed my training in Master of Cloud Computing. I have gained practical knowledge in hardware, operating systems, networking (CCNA level), and Windows Server. I am passionate about supporting IT systems in real-time environments and seeking a Network Support .

📊 2. SKILLS OVERVIEW

Technical Skills:

- PC Hardware Installation & Troubleshooting
- OS Installation (Windows), Disk Management, User Account Setup
- Network Fundamentals: OSI Model, IP Addressing, Subnetting
- Cisco Technologies: VLAN, DHCP, DNS, NAT, ACL, STP, Packet Tracer
- Windows Server: Domain Controller, DHCP/DNS Roles, FSMO, WDS, ITS
- VMware Workstation for Virtual Labs

Soft Skills:

- Problem-Solving and Analytical Thinking
- Communication and Team Collaboration
- Time Management and Reliability
- Willingness to Learn and Adapt

🛠️ 3. TOOLS & TECHNOLOGIES

Tool/Technology	Purpose
Cisco Packet Tracer	Network Simulation
VMware Workstation	Virtual OS & Server Labs
Windows Server	Server Roles, DHCP, DNS, FSMO

Tool/Technology	Purpose
CMD, PowerShell	Network Commands, Server Config
Services.msc	System Troubleshooting

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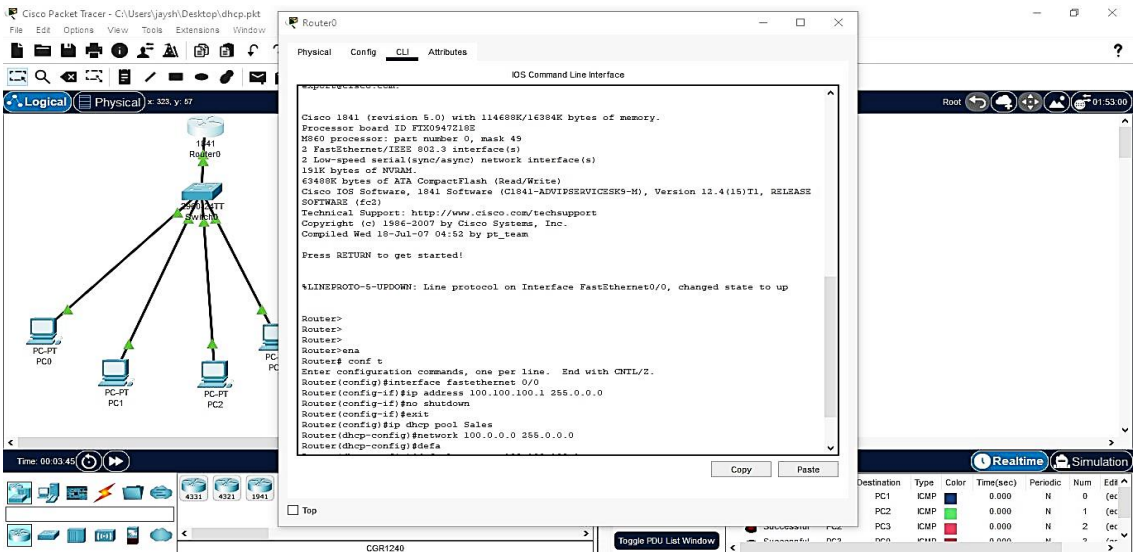
4. LAB WORK

Lab Topic: Configure DHCP on a Router

Objective: To configure a Cisco router to automatically assign IP addresses to client devices using DHCP.

Network Topology



Equipment Used:

Cisco Router, PCs, Ethernet cables

Commands & Configuration Steps

Router> enable

Router# configure terminal

Router(config)# interface FastEthernet0/0

Router(config-if) # ip address 100.100.100.1 255.0.0.0

Router(config-if) # no shutdown

Router(config-if) # exit

Router(config)# ip dhcp pool Sales

Router(dhcp-config) # network 100.0.0.0 255.0.0.0

Router(dhcp-config) # default-router 100.100.100.1

Router(dhcp-config) # dns-server 8.8.8.8

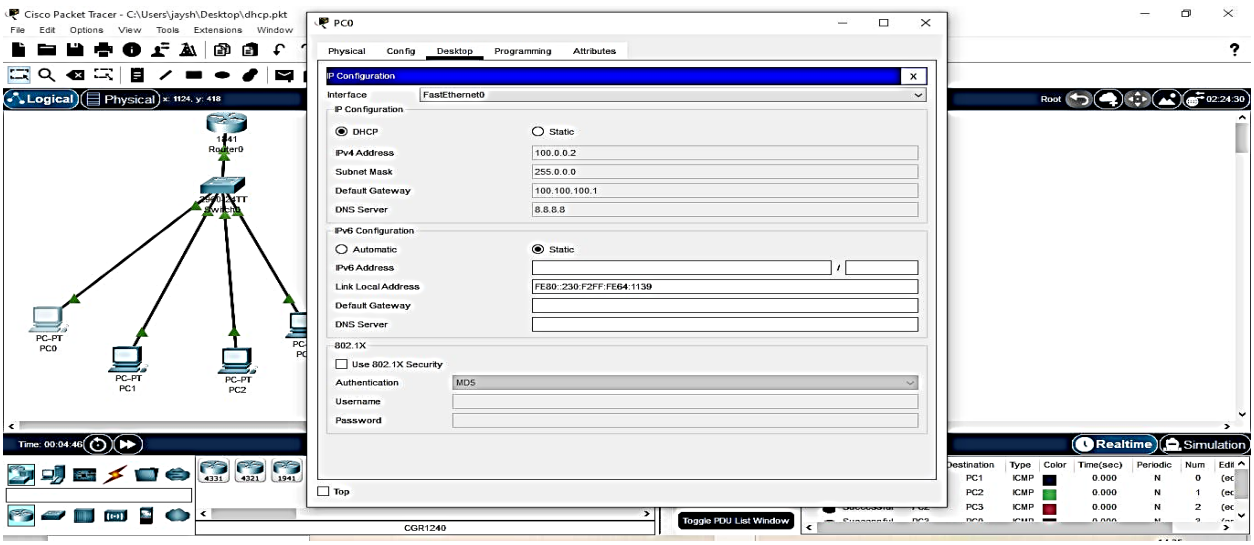
Router(dhcp-config) # exit

Verification

1. Check if the router interface is up: show ip interface brief
2. On client PCs, set IP to “Obtain automatically” and verify IP address with ipconfig.

```
Router$show ip interface brief
Interface              IP-Address      OK? Method Status                Protocol
FastEthernet0/0        100.100.100.1   YES manual up                    up
FastEthernet0/1        unassigned      YES unset  administratively down down
Serial0/0/0            unassigned      YES unset  administratively down down
Serial0/0/1            unassigned      YES unset  administratively down down
Vlan1                  unassigned      YES unset  administratively down down
```

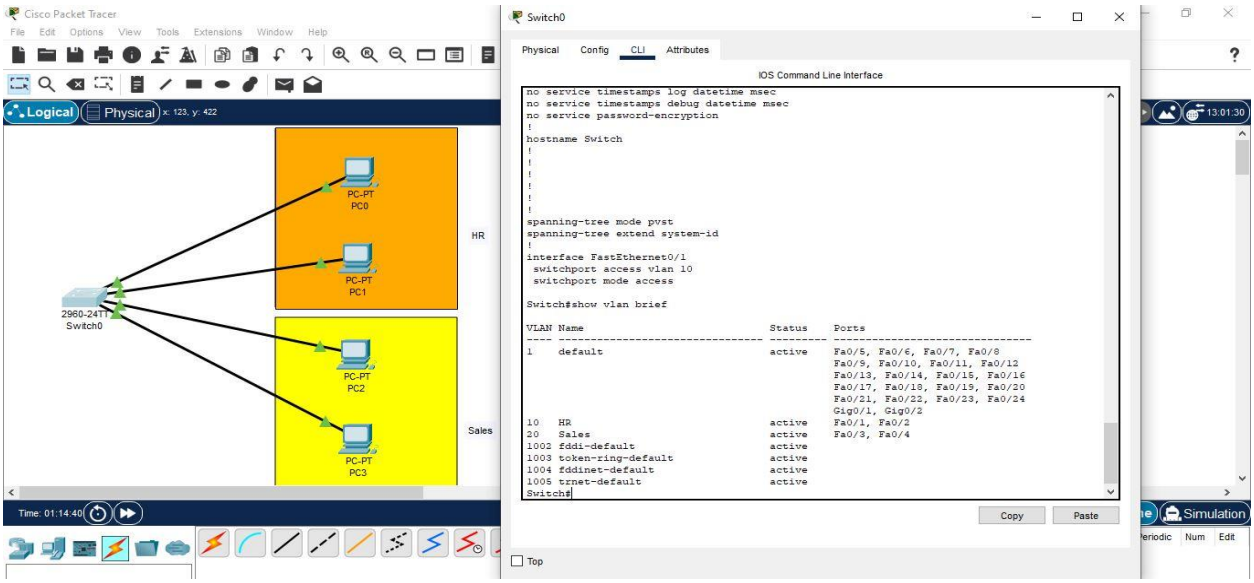
Result



Lab Topic: VLAN Configuration

Objective:To configure VLANs on a network switch for logical segmentation of devices.

Network Diagram



Commands Used:

Switch> enable

Switch# configure terminal

Switch(config)# vlan 10

Switch(config-vlan)# name Sales

Switch(config-vlan)# exit

Switch(config)# vlan 20

Switch(config-vlan)# name HR

Switch(config-vlan)# exit

Switch(config)# interface fastEthernet 0/1

Switch(config-if)# switchport mode access

Switch(config-if)# switchport access vlan 10

Switch(config-if)# exit

Switch(config)# interface fastEthernet 0/2

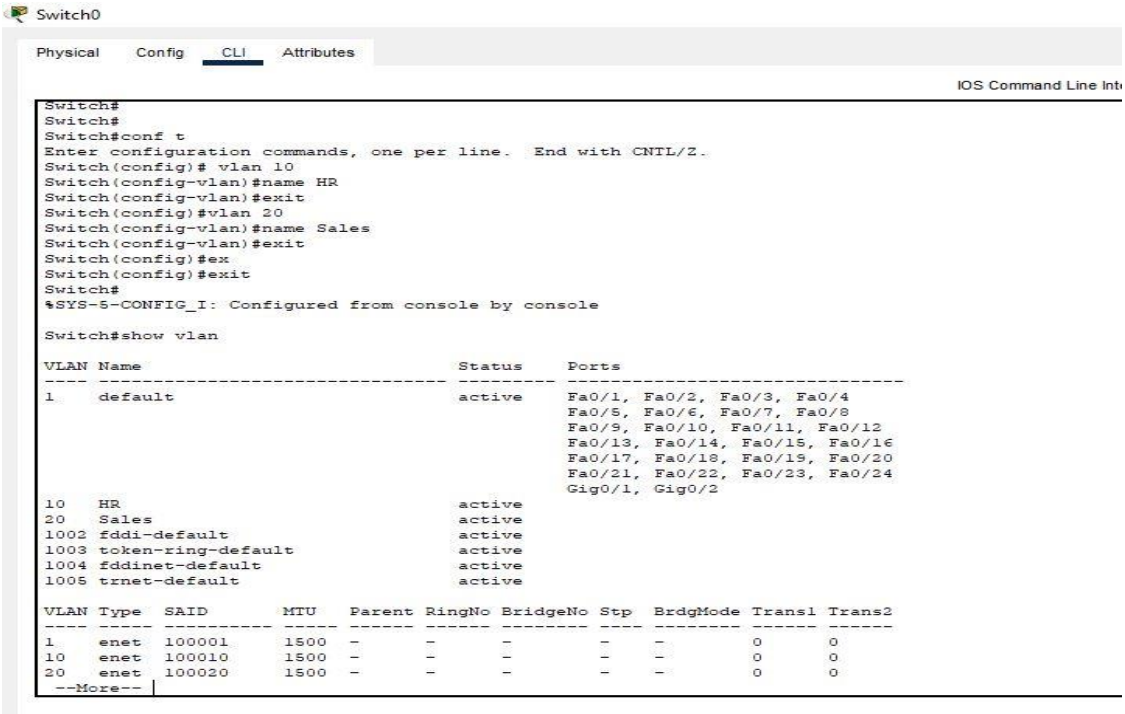
Switch(config-if)# switchport mode access

Switch(config-if)# switchport access vlan 20

Switch(config-if)# exit

Explanation**:**
VLAN (Virtual Local Area Network) allows logical grouping of devices on separate broadcast domains within the same physical switch. This improves security, reduces unnecessary traffic, and allows better management.

Verification:



Use the following commands to verify VLAN configuration:

Switch# show vlan brief

Switch# show running-config

Lab Topic – Static Routing

Tools Used: Cisco Packet Tracer

Objective: Connect two separate LAN networks using static routing in Cisco Packet Tracer.

Steps Taken:

1. Configured Router 0 interfaces: Fast Ethernet 0/0 → 192.168.1.1, Serial 0/0/0 → 10.1.1.1
2. Configured Router 1 interfaces: Fast Ethernet 0/0 → 192.168.2.1, Serial 0/0/0 → 10.1.1.2
3. Added static route on Router 0 →

ip route 192.168.2.0 255.255.255.0 10.1.1.2

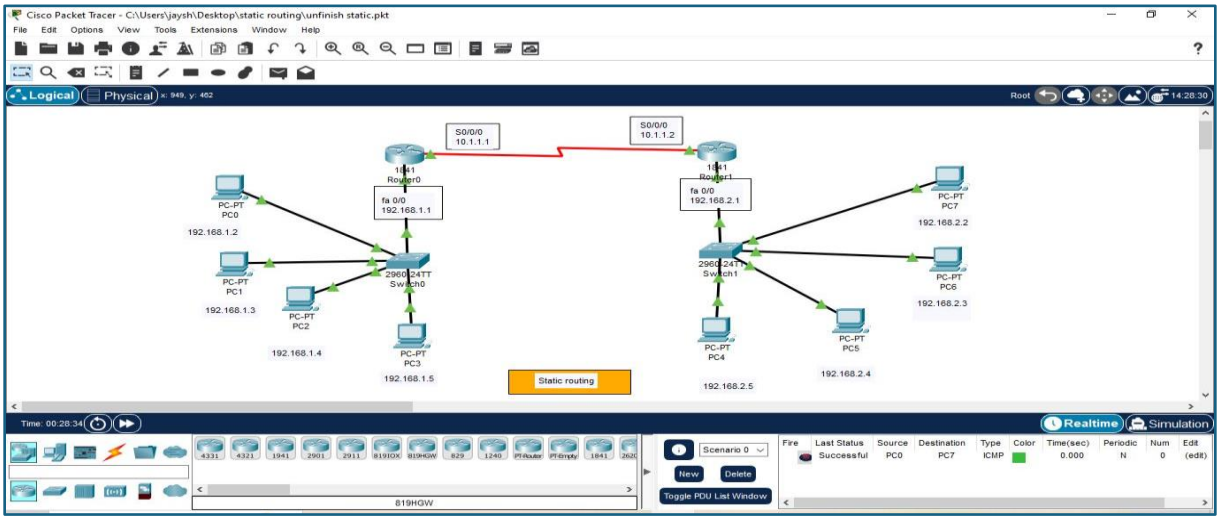
4. Added static route on Router 1 →

ip route 192.168.1.0 255.255.255.0 10.1.1.1

5. Verified connectivity with ping between networks.

Result:

Screenshot:




```
Lab#ping 192.168.2.1

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 192.168.2.1, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 6/6/8 ms

Lab# ping 192.168.1.1

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 192.168.1.1, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 2/7/16 ms

Lab#
```

Lab Topic: NAT Configuration

Objective:Configure NAT (Network Address Translation) to allow internal private IP addresses to communicate with external/public networks.

Network Topology:

- **Inside Network:** 192.168.1.0/24
- **Outside Network:** 203.1.0.0/24
- **Router:** Interfaces – Fa0/0 (Inside), Fa0/1 (Outside)

Configuration Steps

On Router:

Router> enable

Router# configure terminal

Router(config)# interface fa0/0

Router(config-if)# ip address 192.168.1.1 255.255.255.0

Router(config-if)# ip nat inside

Router(config-if)# no shutdown

Router(config)# interface fa0/1

Router(config-if)# ip address 203.1.0.1 255.255.255.0

Router(config-if)# ip nat outside

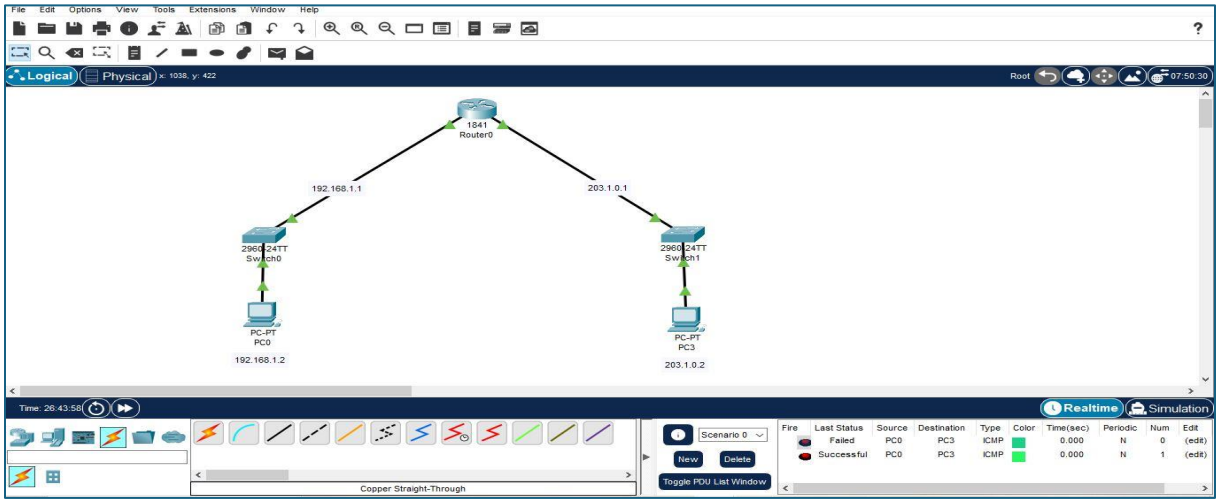
Router(config-if)# no shutdown

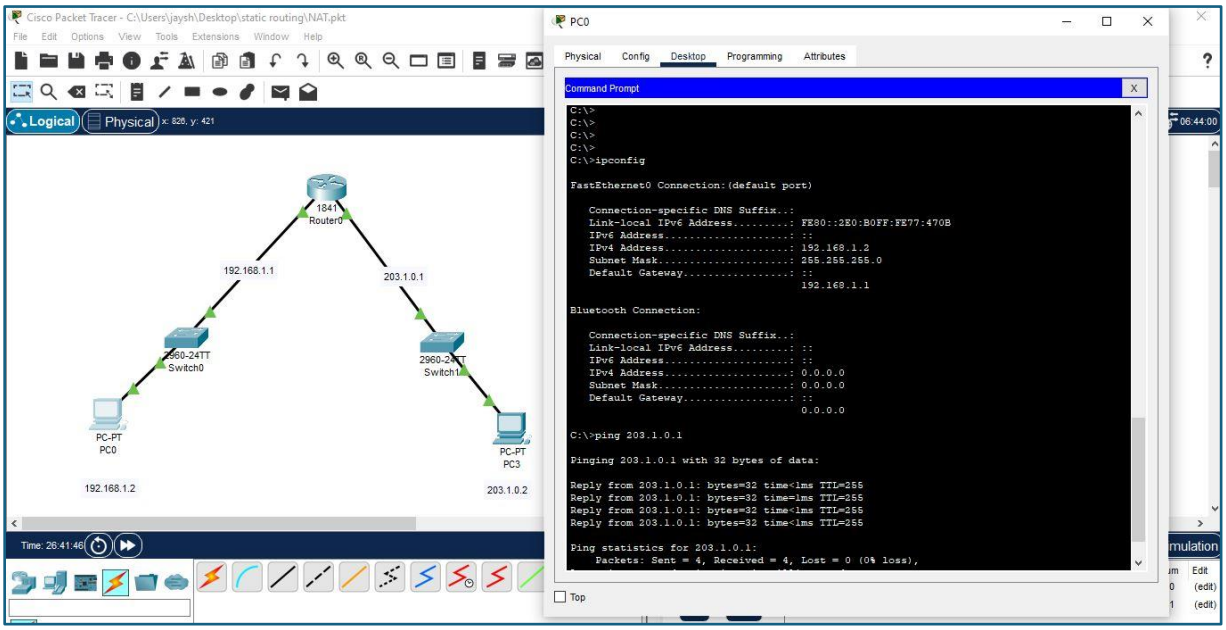
Router(config)# access-list 1 permit 192.168.1.0 0.0.0.255

Router(config)# ip nat inside source list 1 interface fa0/1 overload

Verification:

Ping from PC0 (192.168.1.2) to PC3 (203.1.0.2). NAT translates the private IP to the router's public IP.





6. MOTIVATION STATEMENT

As a career switcher passionate about IT infrastructure, I aim to contribute to a company that values hands-on knowledge and continuous learning.