

 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

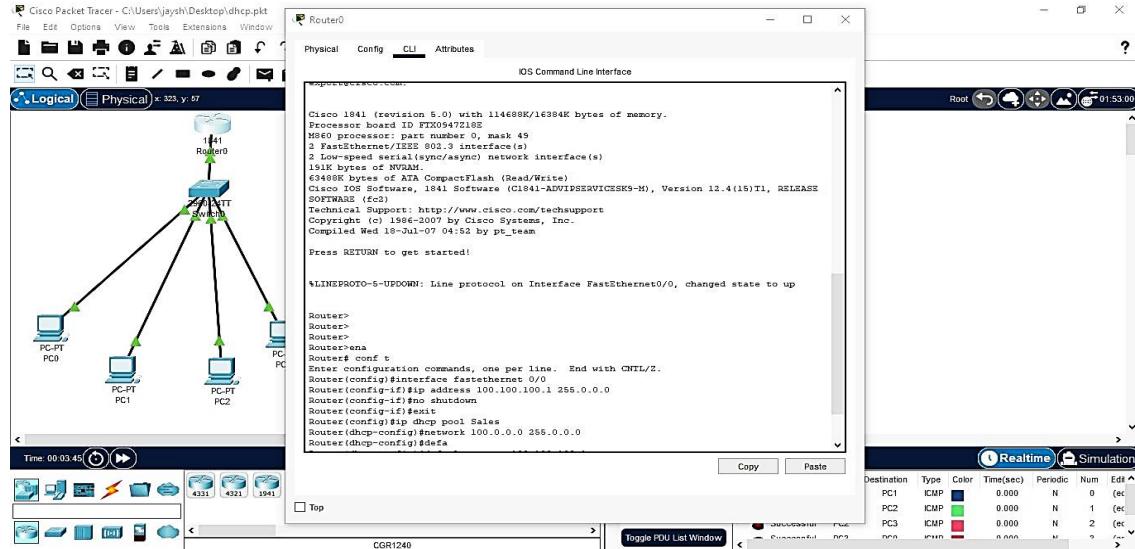
Tool/Technology	Purpose
CMD, PowerShell	Network Commands, Server
	Config
Services.msc	System Troubleshooting

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

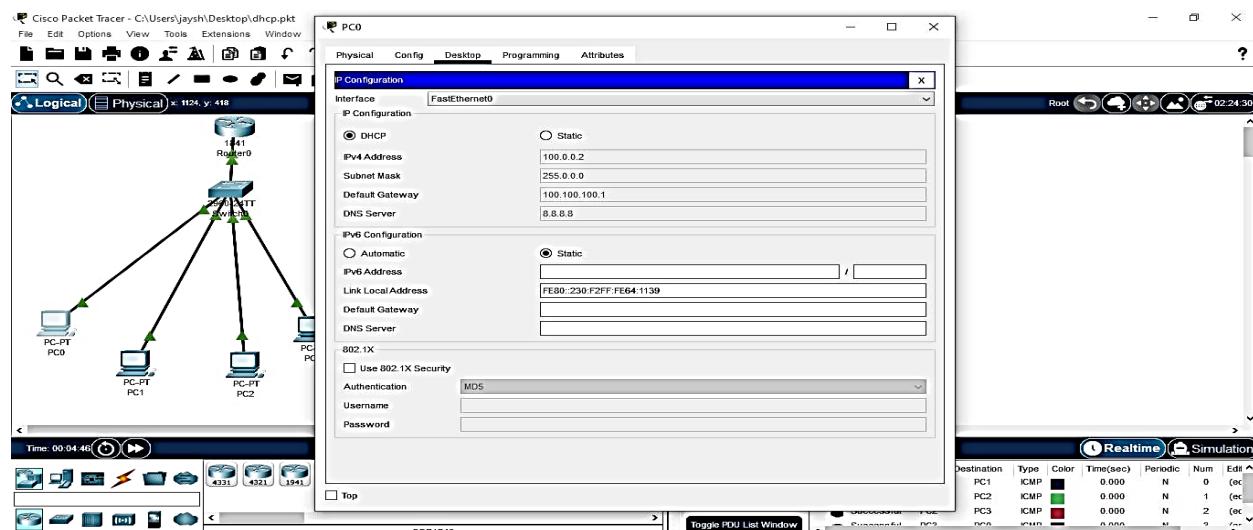
1. Check if the router interface is up: show ip interface brief
2. On client PCs, set IP to “Obtain automatically” and verify IP address with ipconfig.

```

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

```

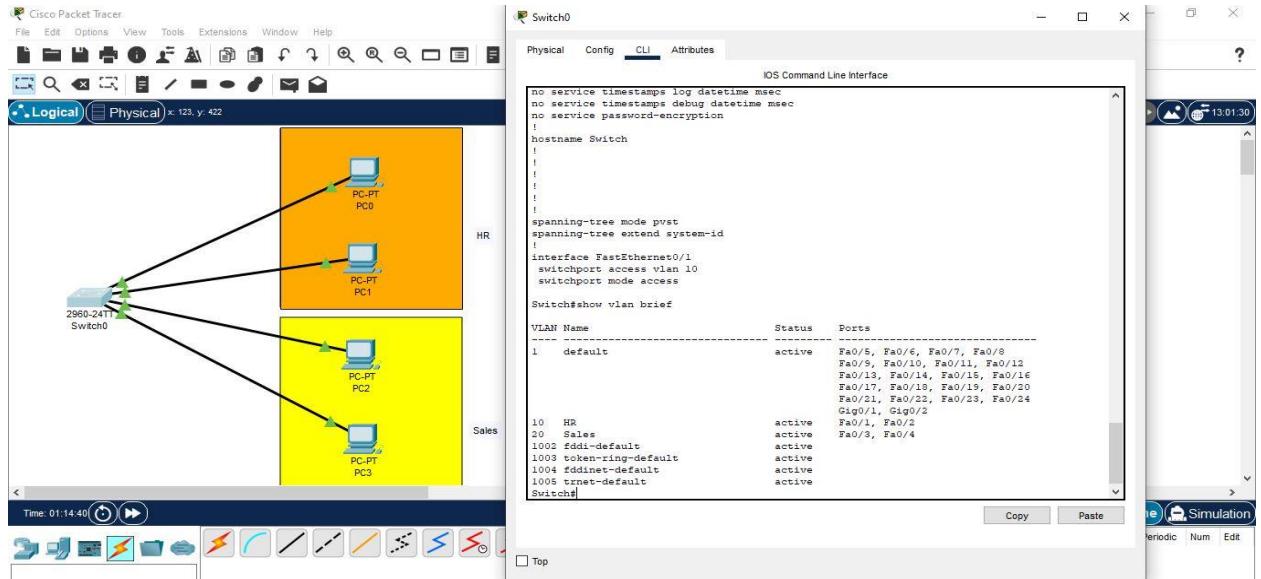
Result



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

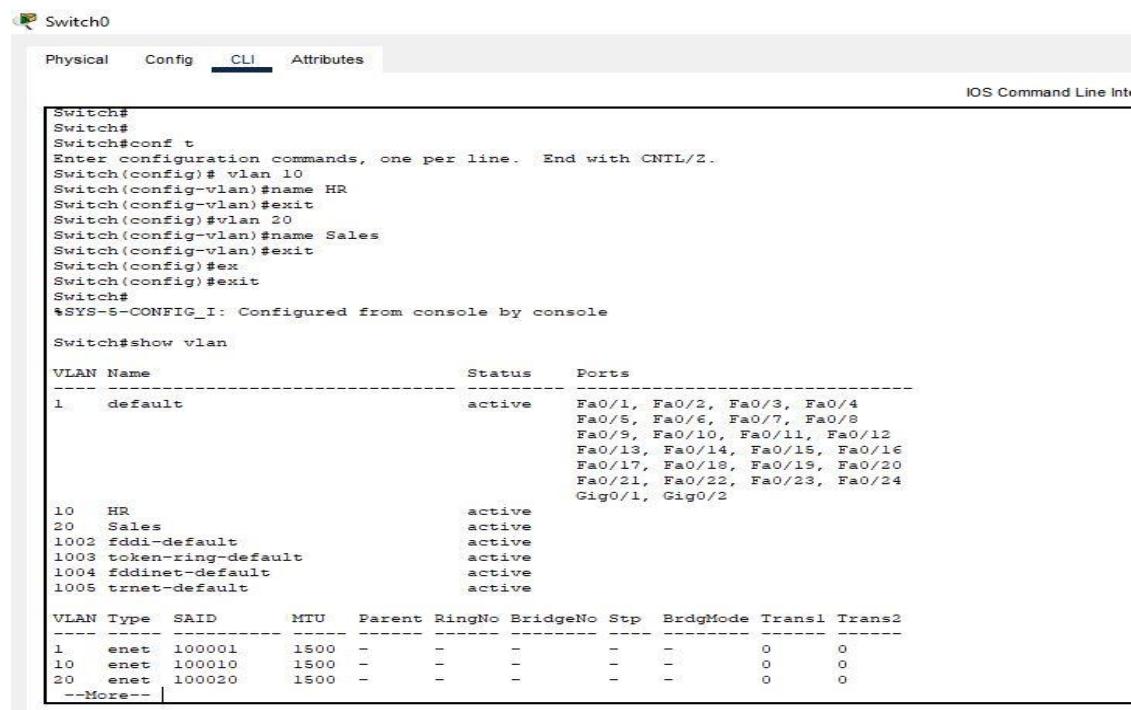
Switch(config-if)# exit

```

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:



The screenshot shows the CLI interface for a Cisco Switch. The tabs at the top are Physical, Config, CLI (which is selected), and Attributes. The command line area displays the configuration of VLANs 10, 20, and 1002-1005, setting names like HR, Sales, and various default types. Below this, the 'show vlan' command is run, displaying the current VLAN configuration. The output includes tables for VLANs and VLAN interfaces, detailing port assignments and status. The bottom part of the screen shows the detailed configuration for VLANs 1, 10, and 20, including Type, SAID, MTU, Parent, and various bridge parameters.

```

Switch# 
Switch# 
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)# vlan 10
Switch(config-vlan)#name HR
Switch(config-vlan)#exit
Switch(config)#vlan 20
Switch(config-vlan)#name Sales
Switch(config-vlan)#exit
Switch(config)#exit
Switch(config)#exit
Switch#
%SYS-5-CONFIG_I: Configured from console by console

Switch#show vlan

VLAN Name          Status      Ports
----- -----
1    default        active     Fa0/1, Fa0/2, Fa0/3, Fa0/4
                           Fa0/5, Fa0/6, Fa0/7, Fa0/8
                           Fa0/9, Fa0/10, Fa0/11, Fa0/12
                           Fa0/13, Fa0/14, Fa0/15, Fa0/16
                           Fa0/17, Fa0/18, Fa0/19, Fa0/20
                           Fa0/21, Fa0/22, Fa0/23, Fa0/24
                           Gig0/1, Gig0/2

10   HR             active
20   Sales          active
1002 fddi-default  active
1003 token-ring-default  active
1004 fddinet-default active
1005 trnet-default  active

VLAN Type      SAID      MTU      Parent  RingNo  BridgeNo  Stp  BrdgMode  Trans1  Trans2
----- -----  -----  -----  -----  -----  -----  -----  -----  -----
1   enet  100001  1500      -      -      -      -      0      0
10  enet  100010  1500      -      -      -      -      0      0
20  enet  100020  1500      -      -      -      -      0      0
--More-- |
```

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

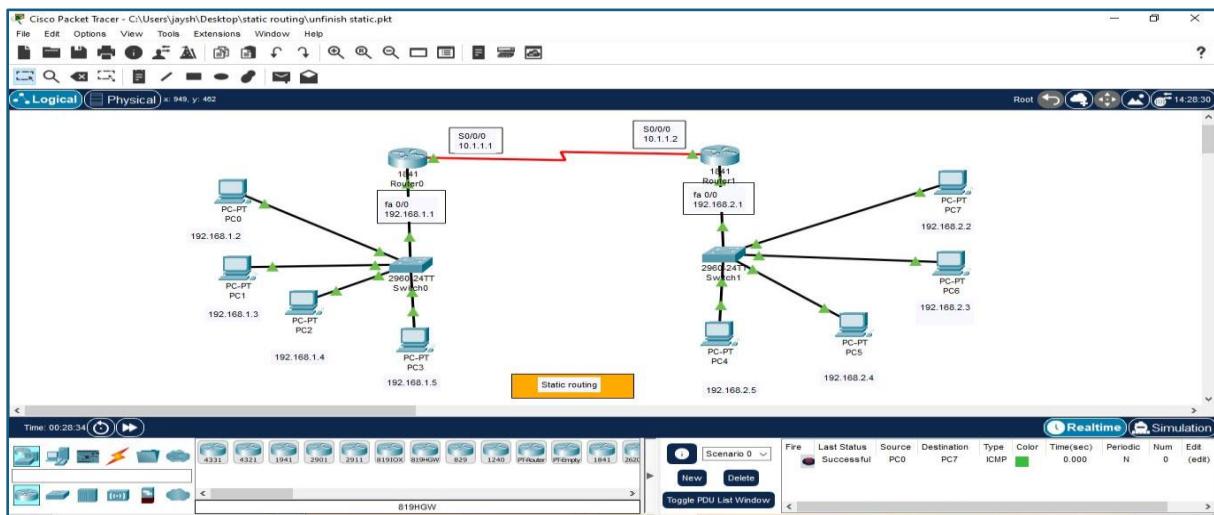
4. Added static route on Router 1 →

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
```

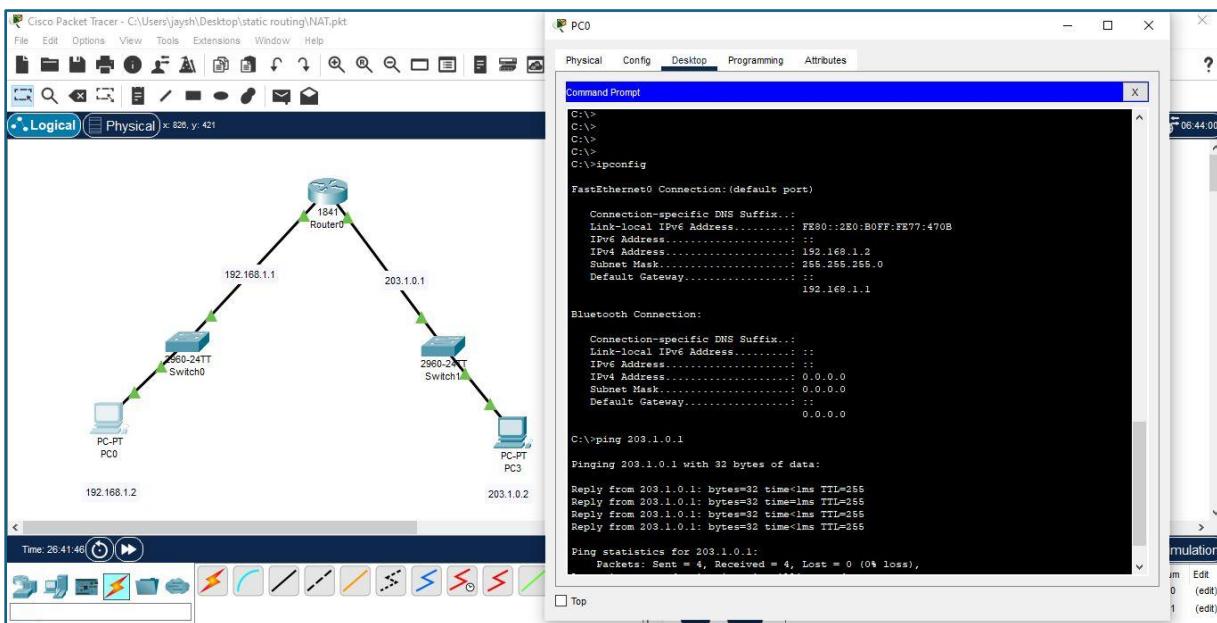
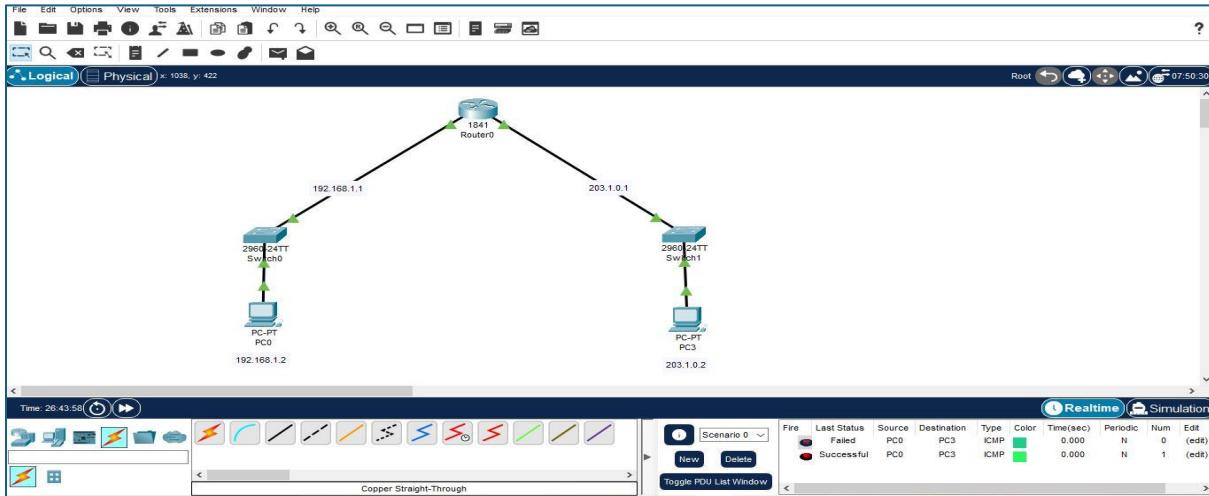
```
Router(config-if)# no shutdown
```

```
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.