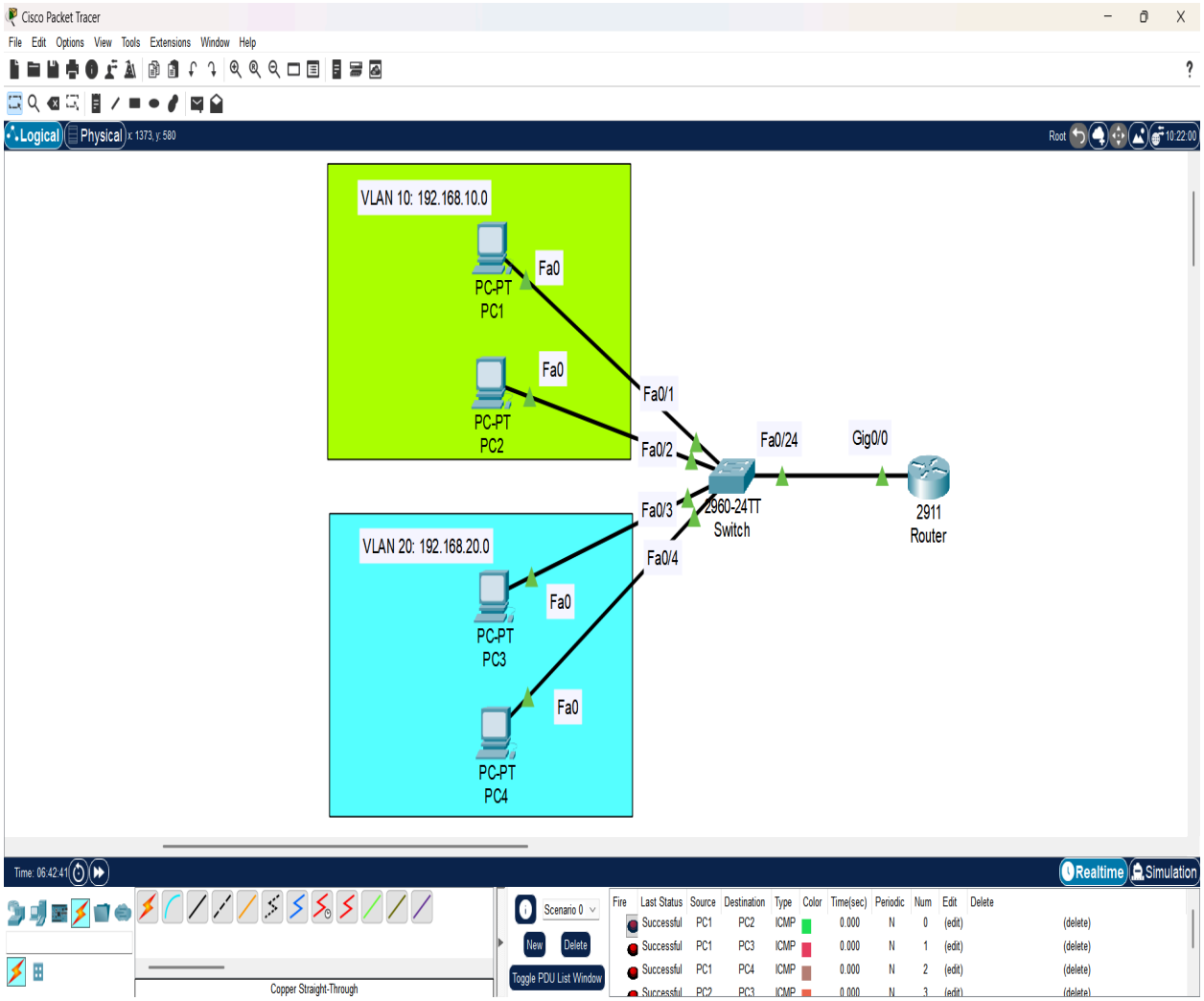
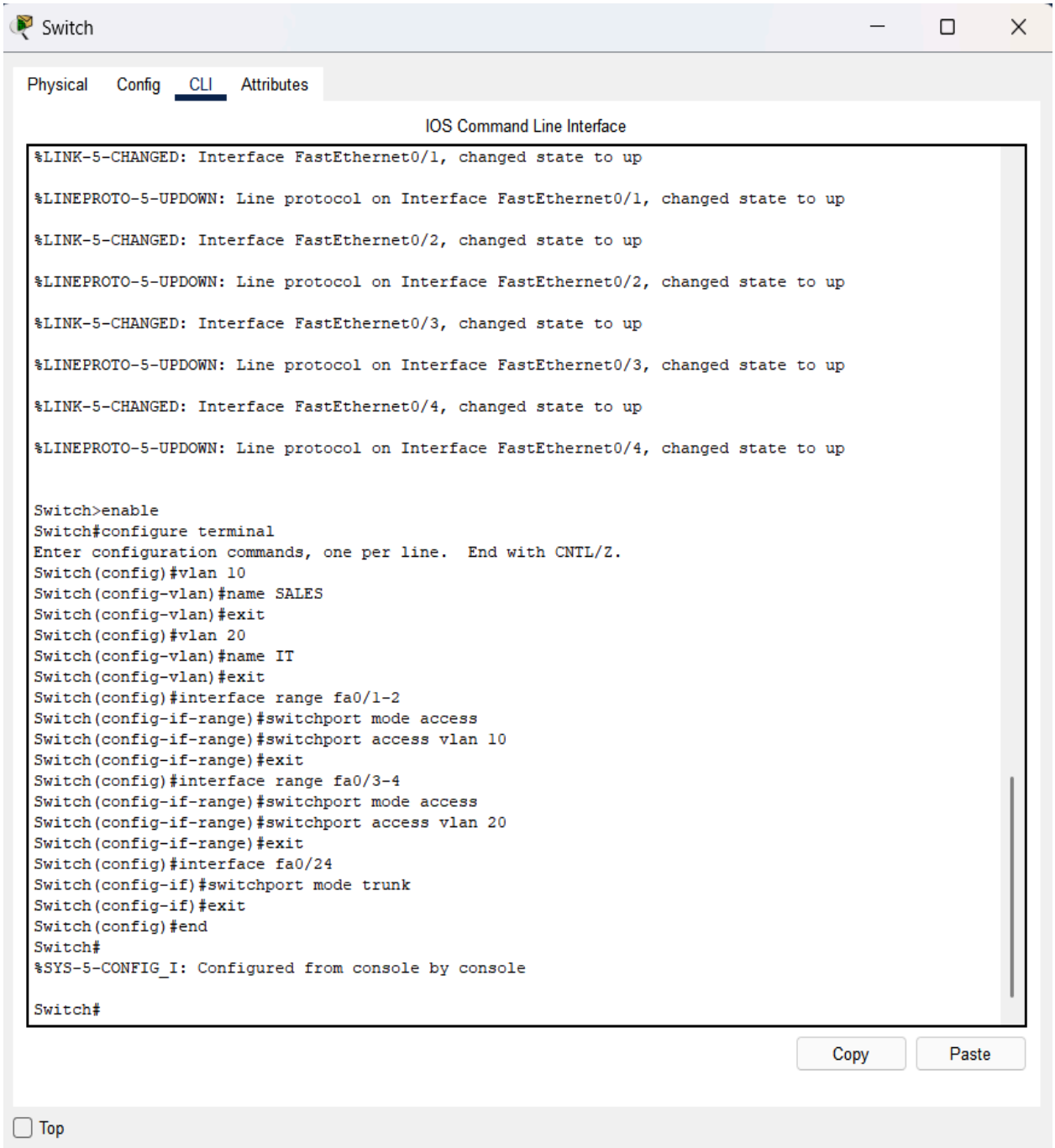
Objective:
Configure a router to provide DHCP services to multiple VLANs using router-on-a-stick.

Topology:
Router connected to switch via trunk port. Two VLANs on the switch.

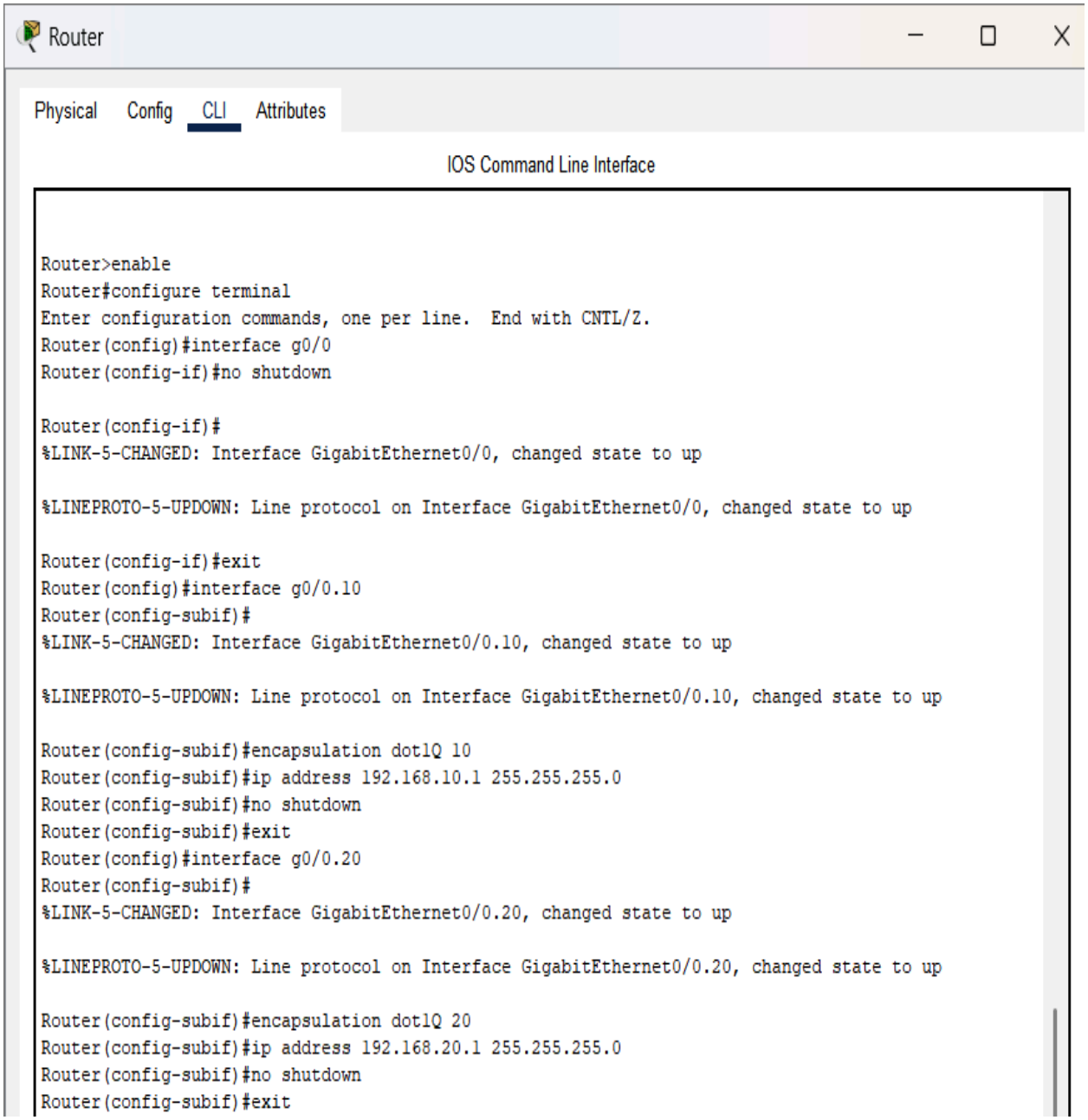


VLAN Design:
VLAN 10 (SALES)
VLAN 20 (IT)



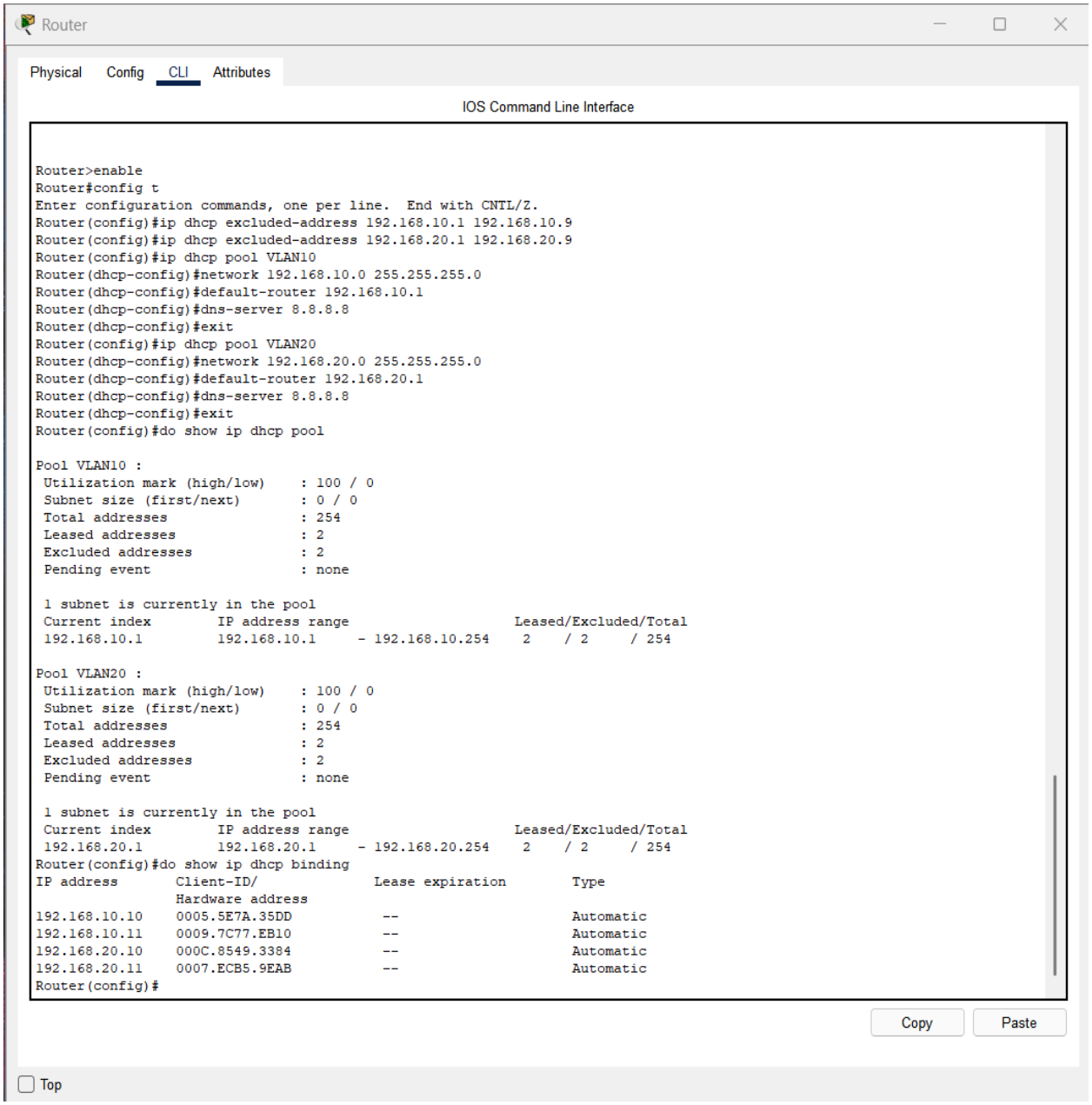
Router Sub-Interface Configuration

- The router interface port is configured into subinterfaces to serve as VLAN gateways
- All these VLANS are contained in the TRUNK



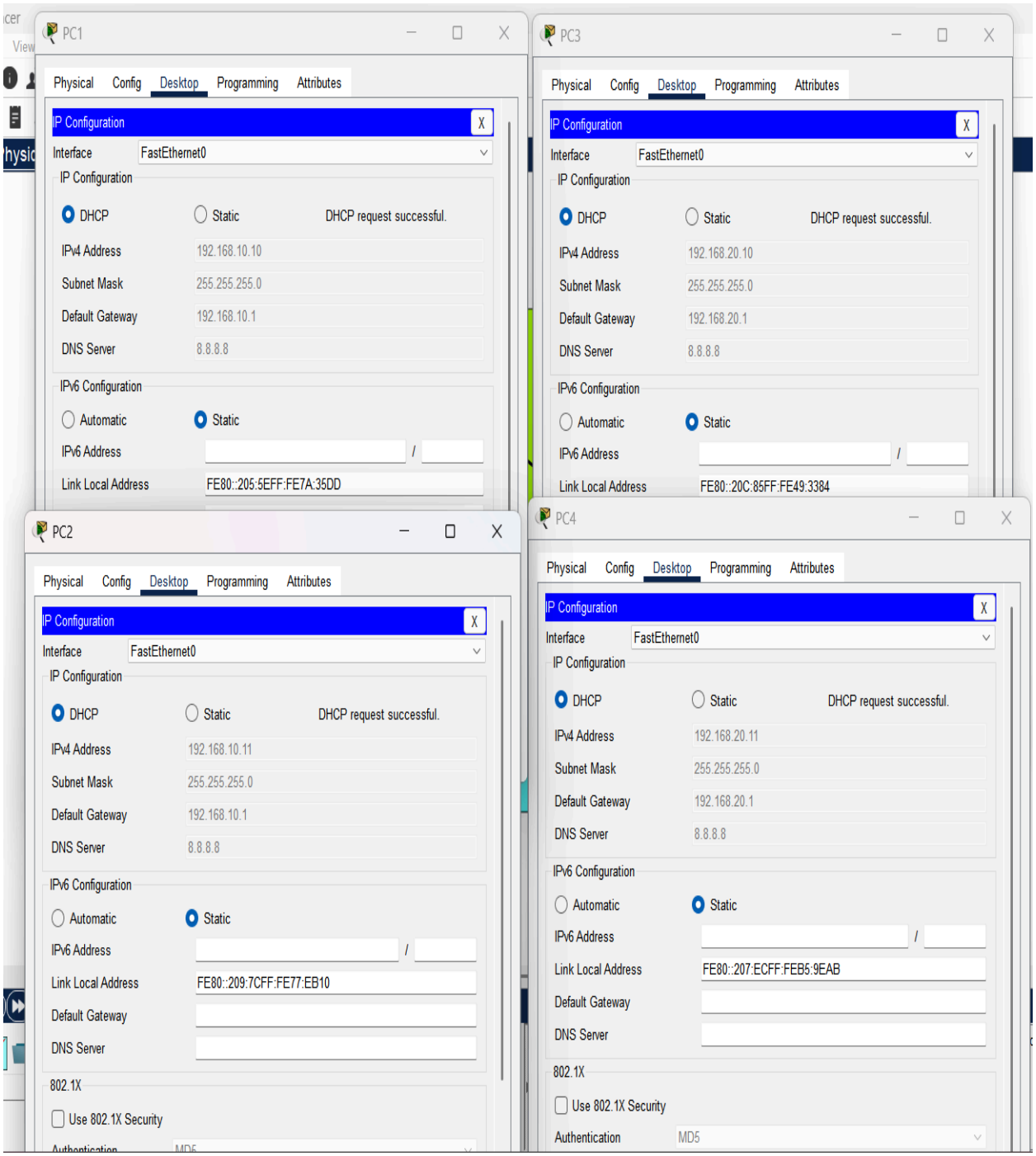
DHCP Configuration:

- Excluded gateway IPs
- DHCP pools created for VLAN 10 and VLAN 20
- Default gateways configured
- DNS server configured

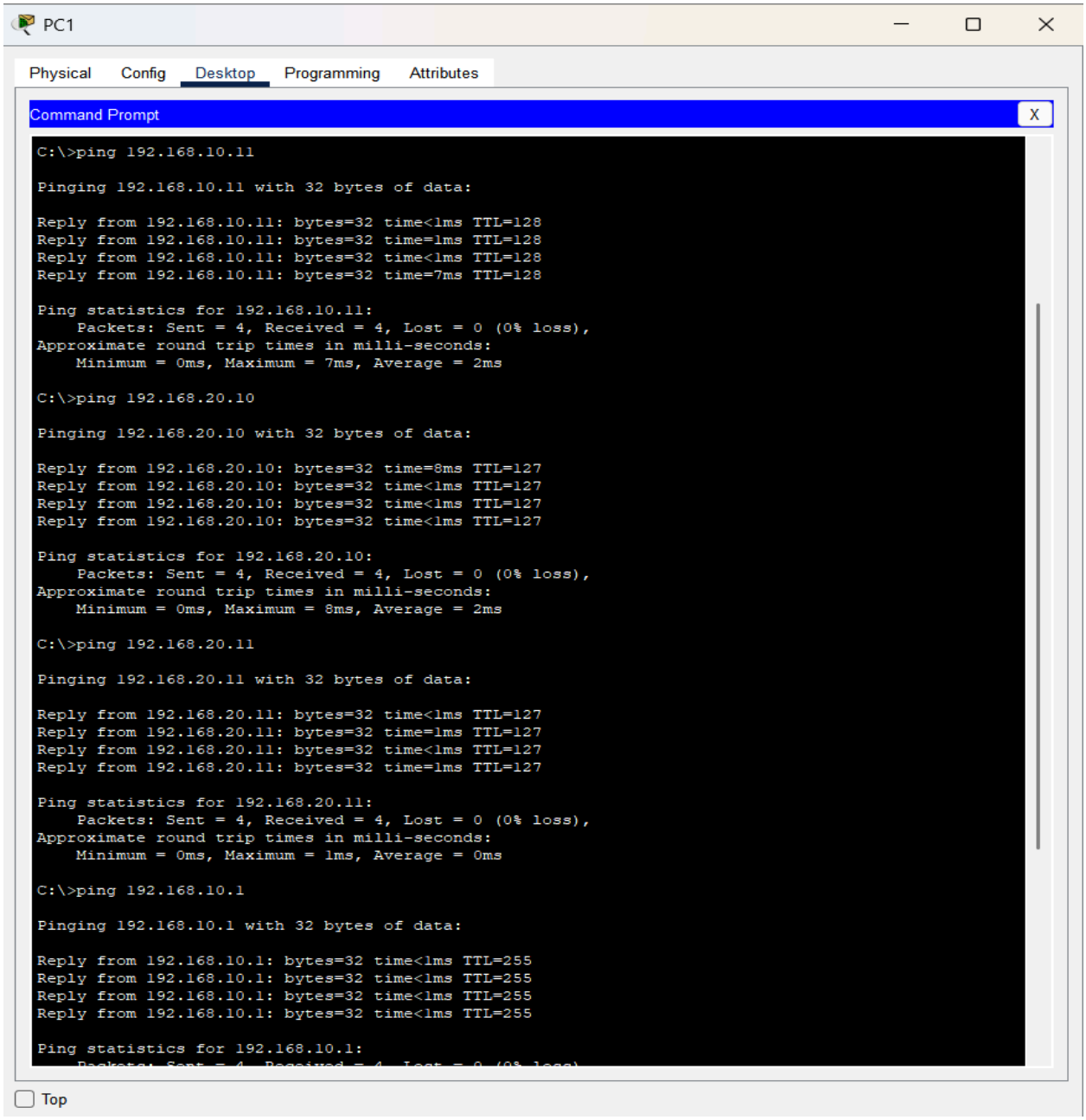


Verification:

- PCs receive IP addresses automatically



- Inter-VLAN ping successful



Lessons Learned:

- Routers can act as DHCP servers
- Separate DHCP pools are required per VLAN
- DHCP simplifies host configuration