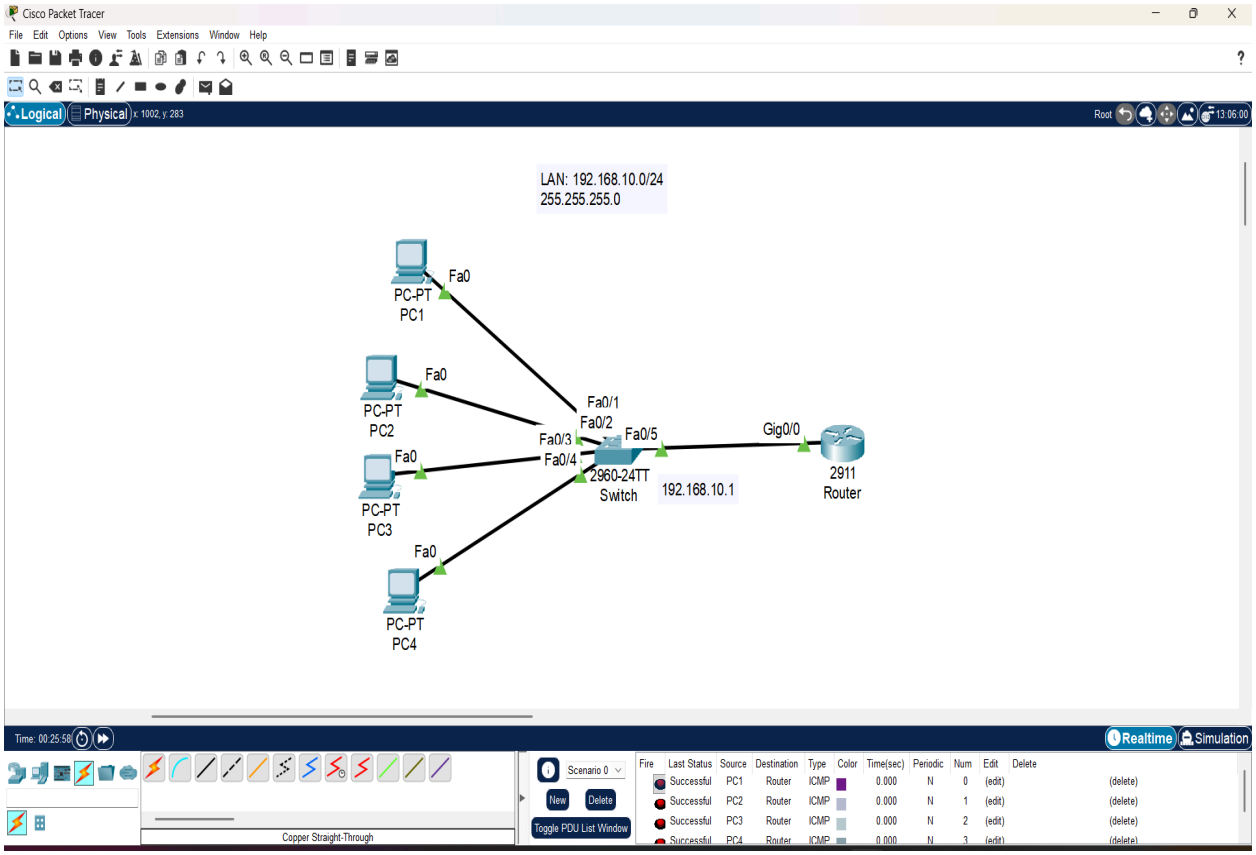
Lab 05 – DHCP on a Router

Objective:

To configure a router as a DHCP server that automatically assigns IP addresses to hosts in a LAN.

Topology Description

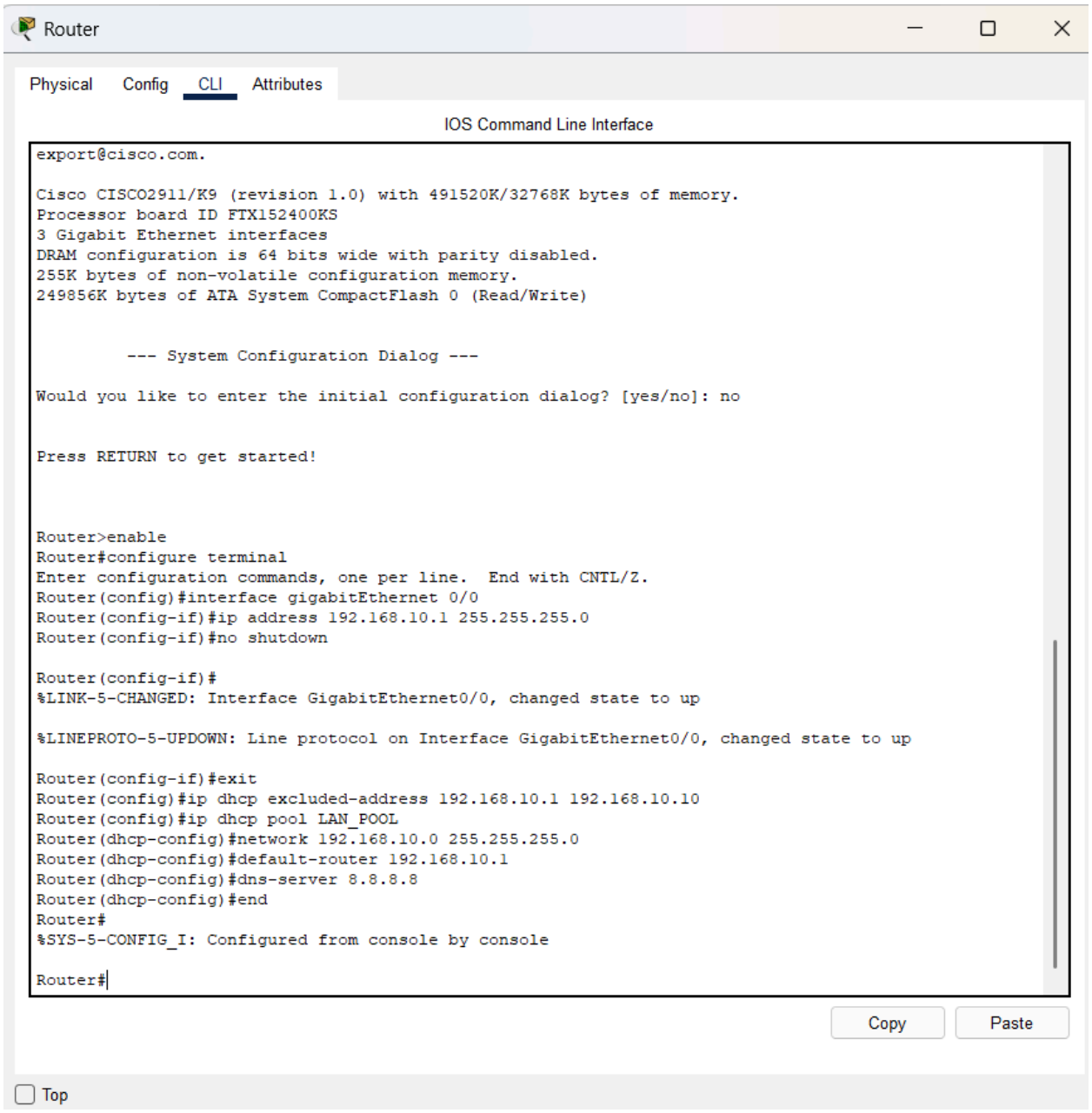
A single LAN consisting of one router, one switch, and multiple PCs. The router provides IP addressing information using DHCP.



Network Information

- Network: 192.168.10.0/24
- Router (Default Gateway): 192.168.10.1

Router Configuration Summary



Interface Configuration

- G0/0: 192.168.10.1/24

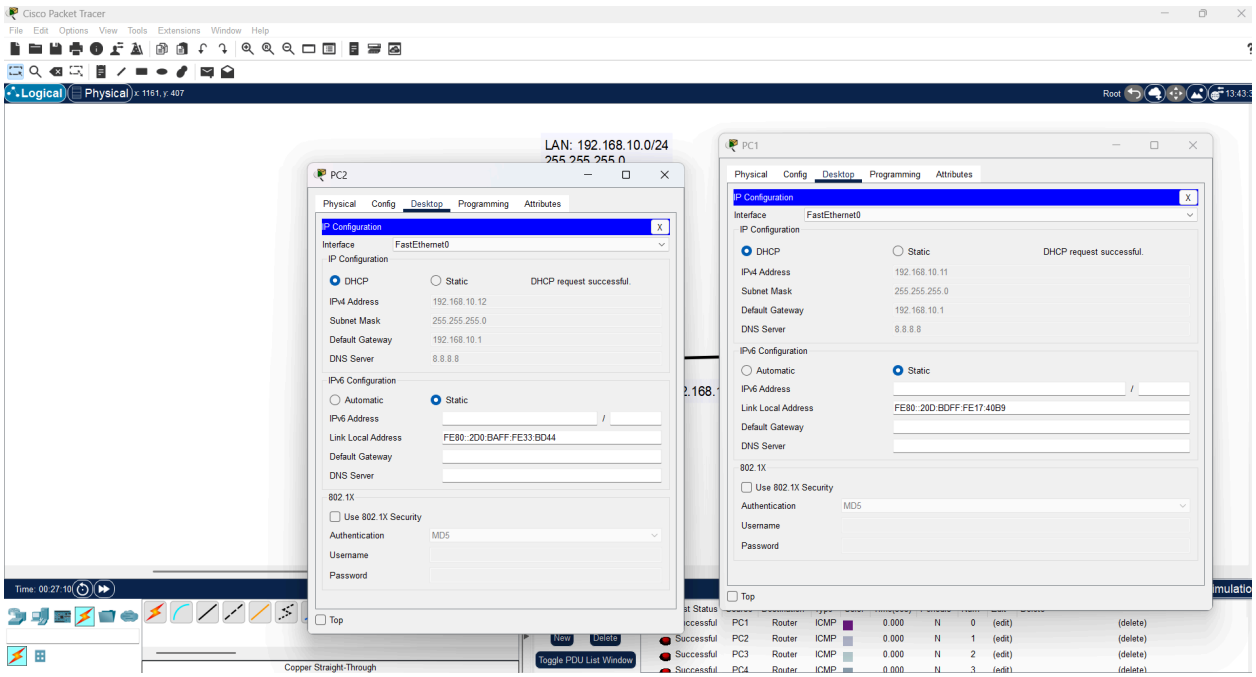
DHCP Configuration

- Excluded Addresses: 192.168.10.1 – 192.168.10.10
- DHCP Pool Name: LAN_POOL

```
ip dhcp pool LAN_POOL
network 192.168.10.0 255.255.255.0
default-router 192.168.10.1
dns-server 8.8.8.8
```

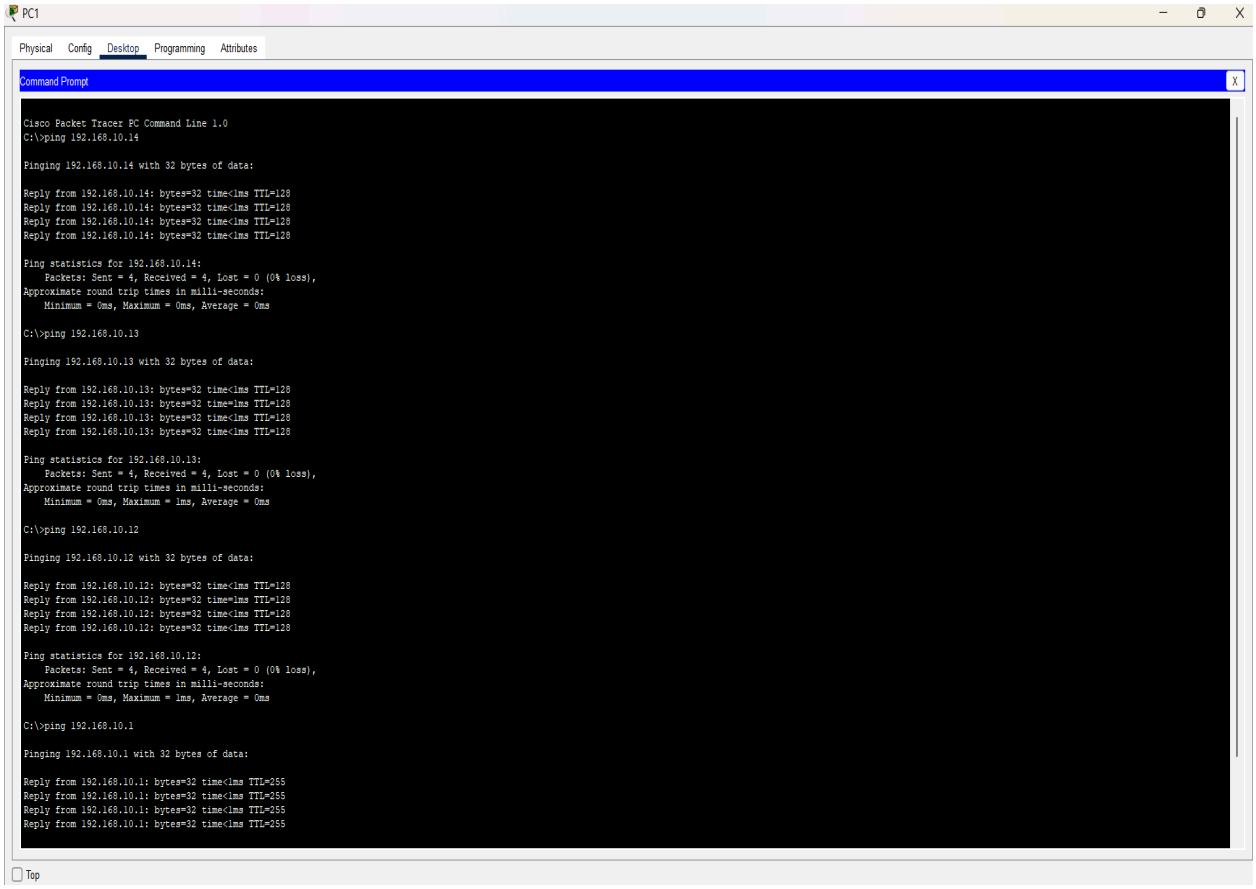
PC Configuration

- All PCs set to obtain IP addresses automatically via DHCP



Verification

- PCs received IP addresses dynamically
- Successful ping from PCs to the router
- Successful communication between PCs



Lessons Learned

- DHCP automates IP address assignment
- Excluded addresses prevent IP conflicts
- Routers can function as DHCP servers