Day 04 Lab Report

Lab Title

Router-to-Router Communication via Serial Link (PTCL ↔ MOB).

Objective

To configure two Cisco routers to communicate directly over a serial connection by assigning IP addresses, setting clock rate on the DCE side, and verifying connectivity.

Lab Setup Overview

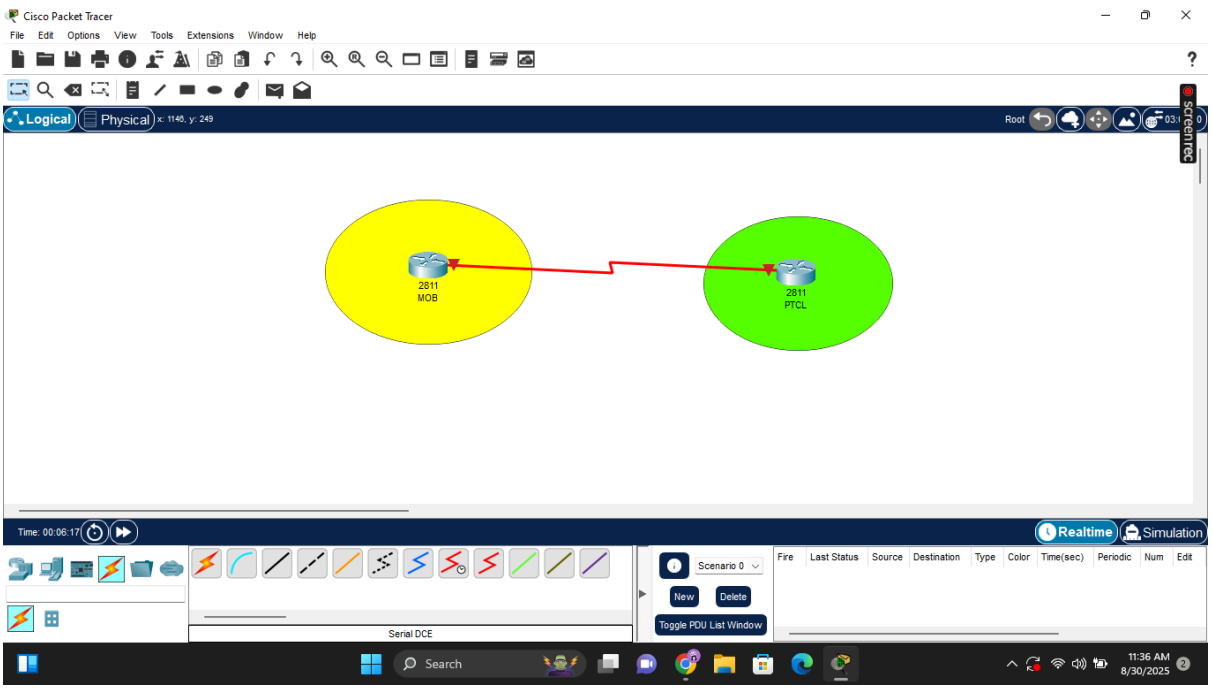
- **Routers:** Cisco 2811 × 2
- **Cable:** Serial DCE (PTCL end)
- **IP Scheme:**
  - PTCL Serial0/0/0 → `10.0.0.1`
  - MOB Serial0/0/0 → `10.0.0.2`
- **Software:** Cisco Packet Tracer

Configuration Steps

1. Place and Connect Devices

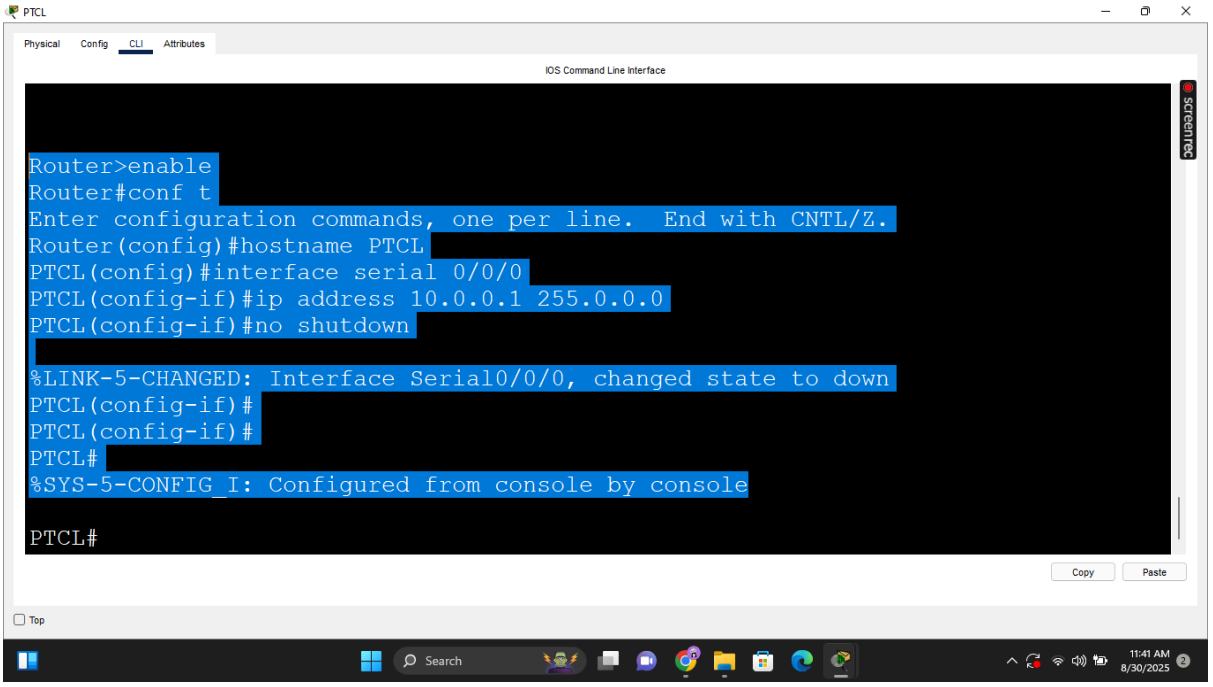
- Drag two routers into the workspace.
- Rename them PTCL and MOB.
- Connect Serial0/0/0 (PTCL) to Serial0/0/0 (MOB) using a Serial DCE cable (DCE on PTCL).

- Note (First Select the WIC-2T module from the modules for the serial connection).



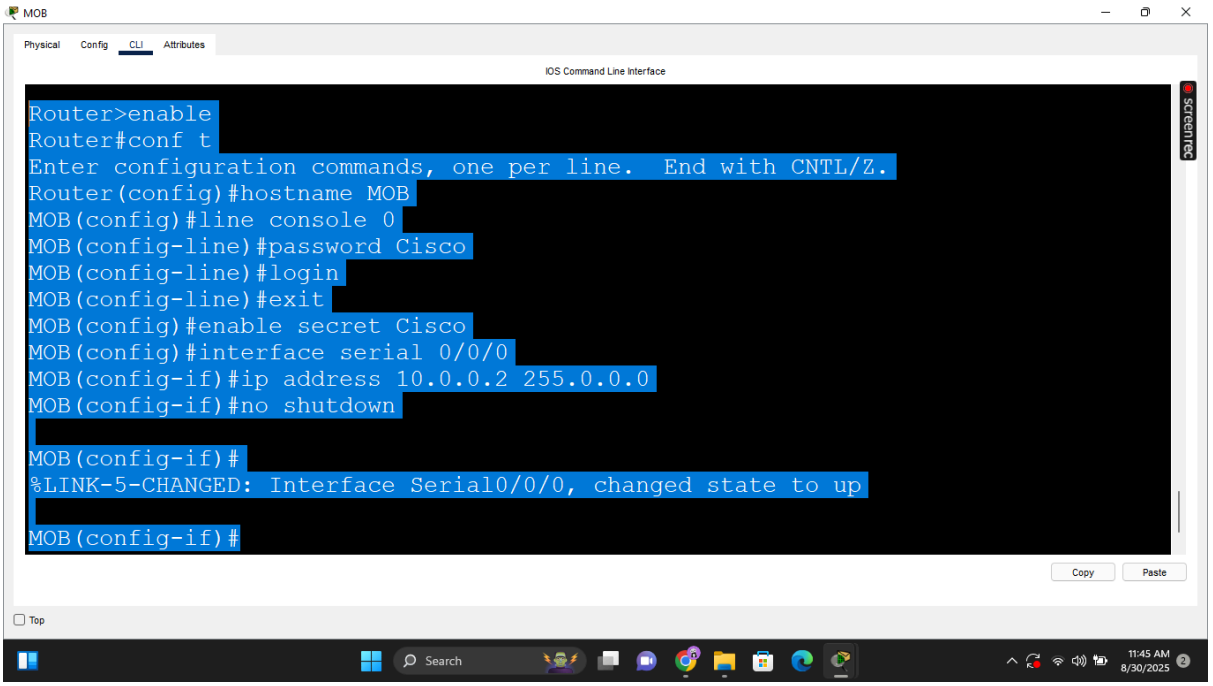
2. Configure PTCL Router

- Router> enable
- Router# configure terminal
- Router(config)# hostname PTCL
- PTCL(config)# interface Serial0/0/0
- PTCL(config-if)# ip address 10.0.0.1 255.255.255.252
- PTCL(config-if)# clock rate 64000
- PTCL(config-if)# no shutdown



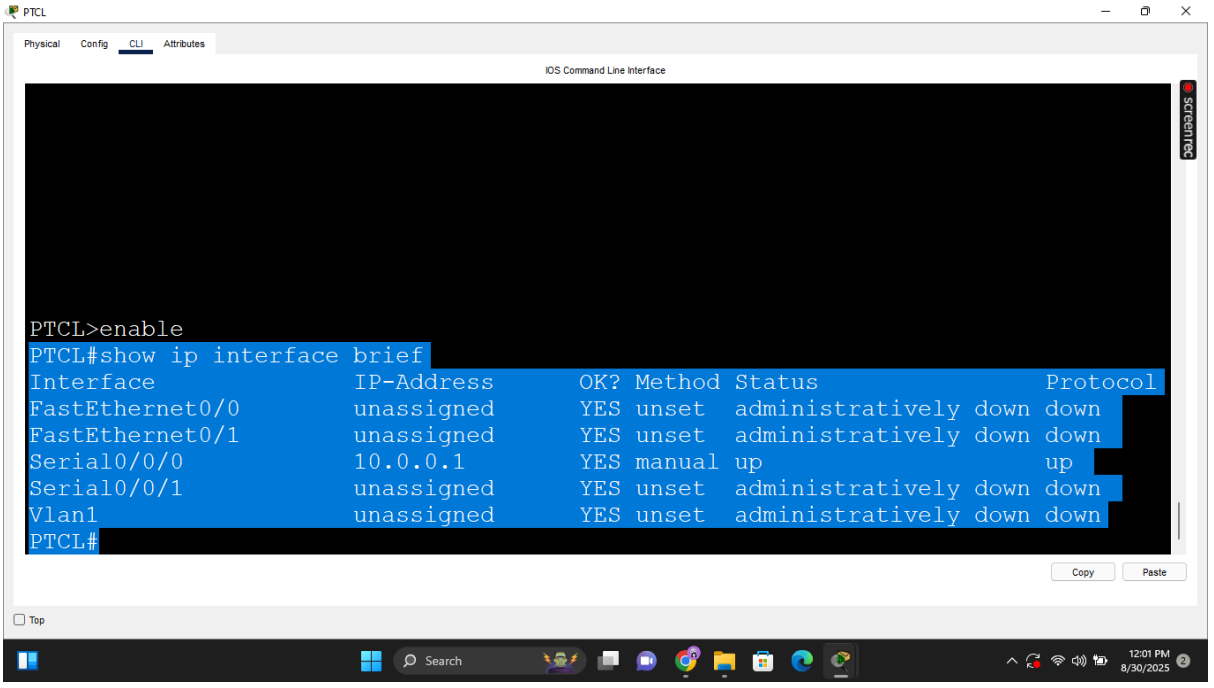
3. Configure MOB Router

- Router> enable
- Router# configure terminal
- Router(config)# hostname MOB
- MOB(config)# line console 0
- MOB(config-line)# password Cisco
- MOB(config-line)# login
- MOB(config)# enable password class
- MOB(config)# interface Serial0/0/0
- MOB(config-if)# ip address 10.0.0.2 255.255.255.252
- MOB(config-if)# no shutdown

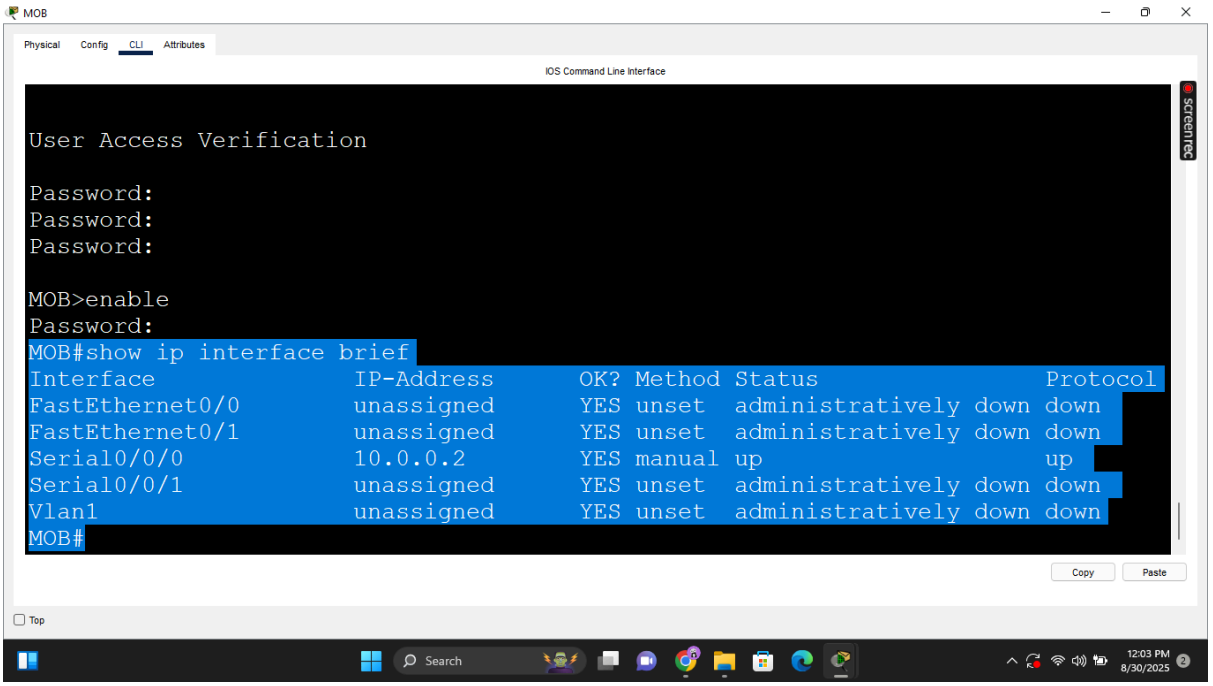


4. Verify the interfaces

Verify the interfaces on the both routers and check the state of the link. The link state should be up/up on both sides mean Interface is up and Line protocol is up. Verification command for the interfaces is “show ip interface brief”. On PTCL it is UP/UP.

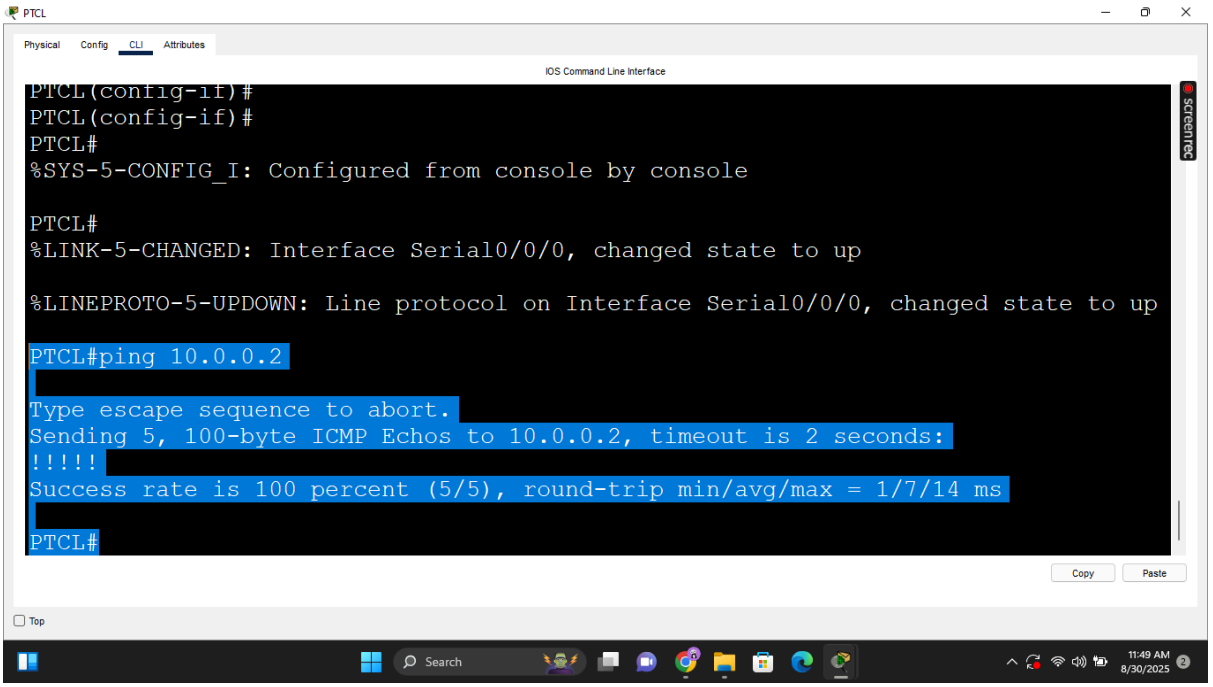


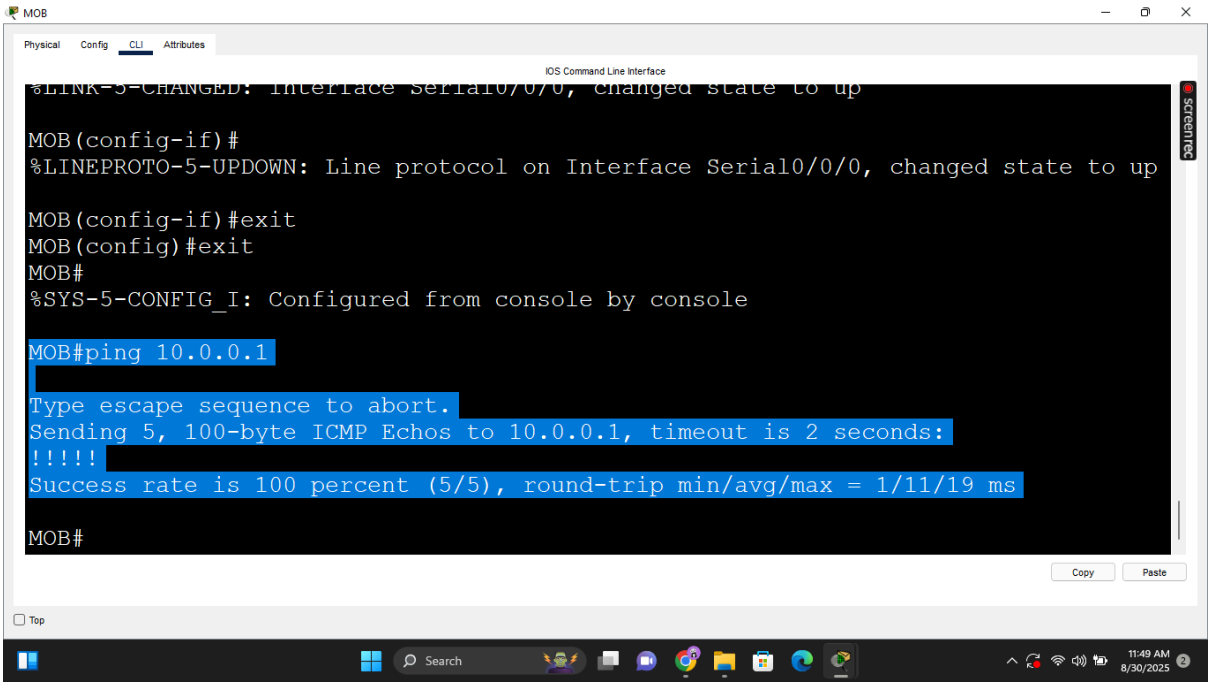
Also on the MOB side is UP/UP



5. Test Connectivity

- From PTCL: `ping 10.0.0.2`
- From MOB: `ping 10.0.0.1`
- Ensure successful replies from both side





Ping is successful from both sides. So it means topology is working and configurations are done correctly.

Concepts Practiced

- Serial interface configuration
- DCE/DTE cabling and clock rate
- Basic router security (console & enable passwords)
- Connectivity testing with ping