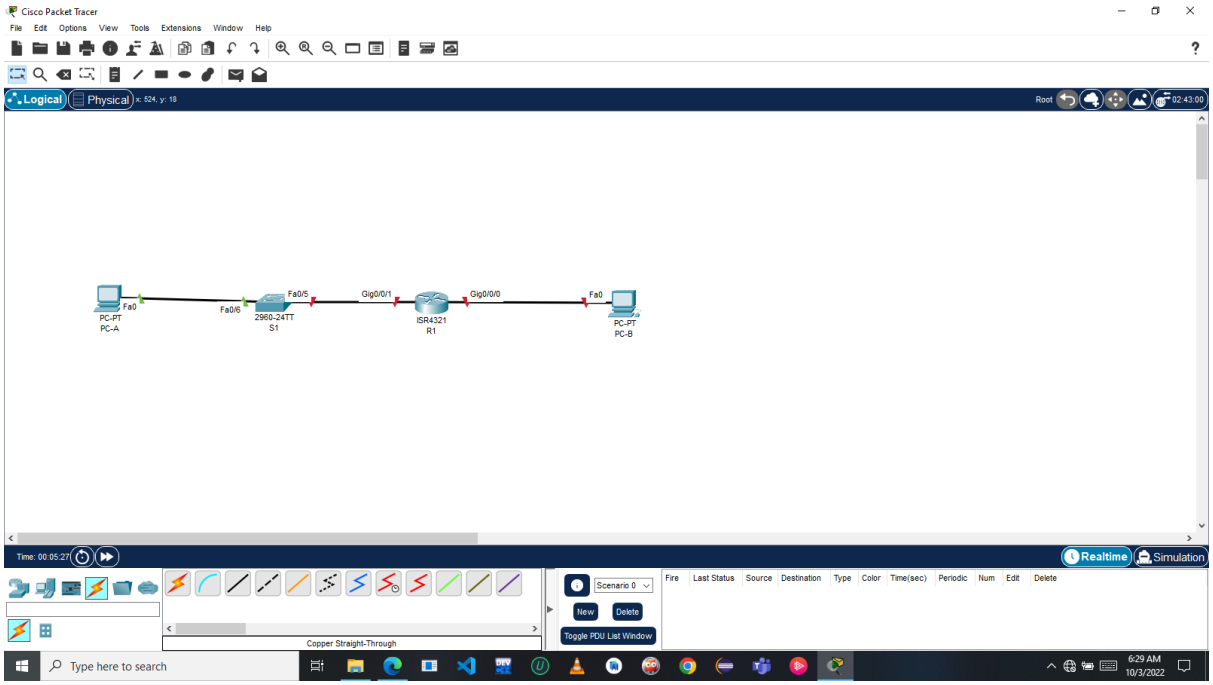
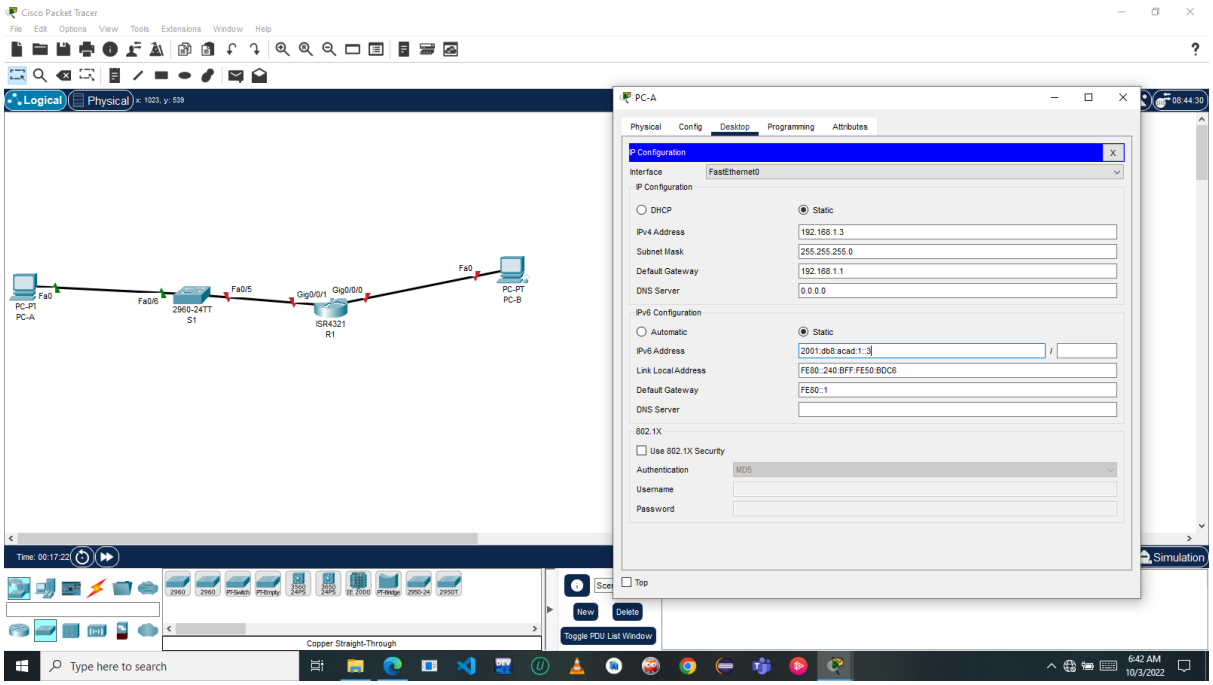
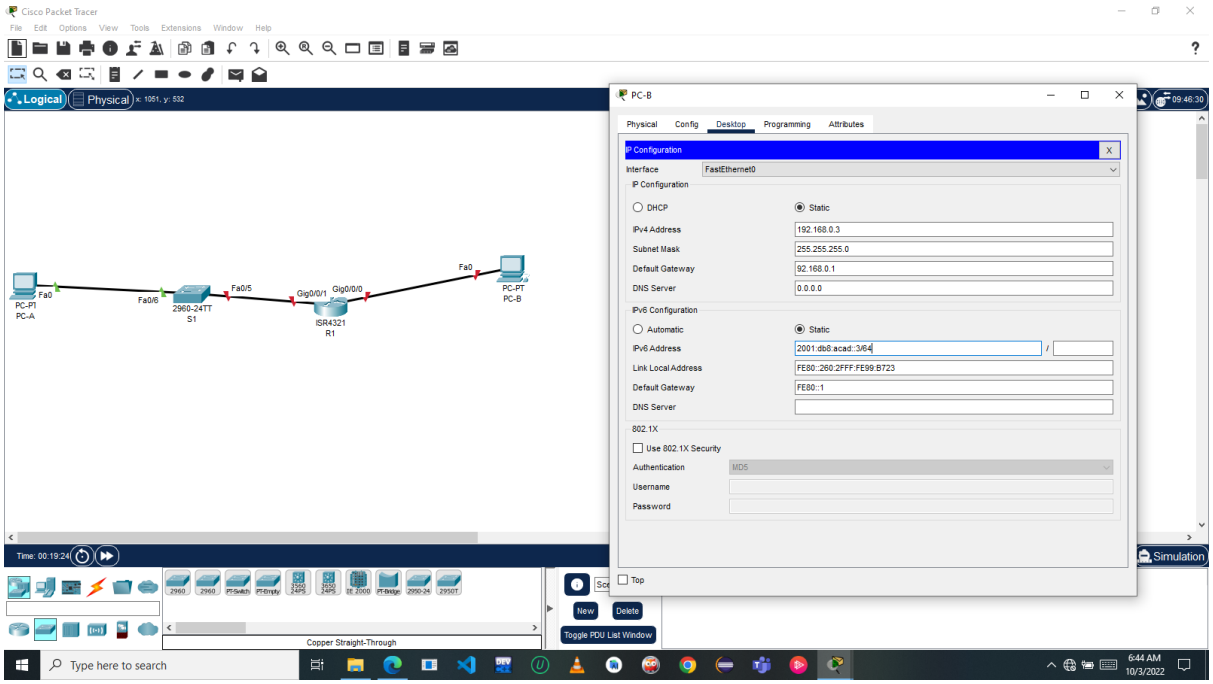
Lab - Build a Switch and Router Network

Objectives Part 1: Set Up the Topology and Initialize Devices

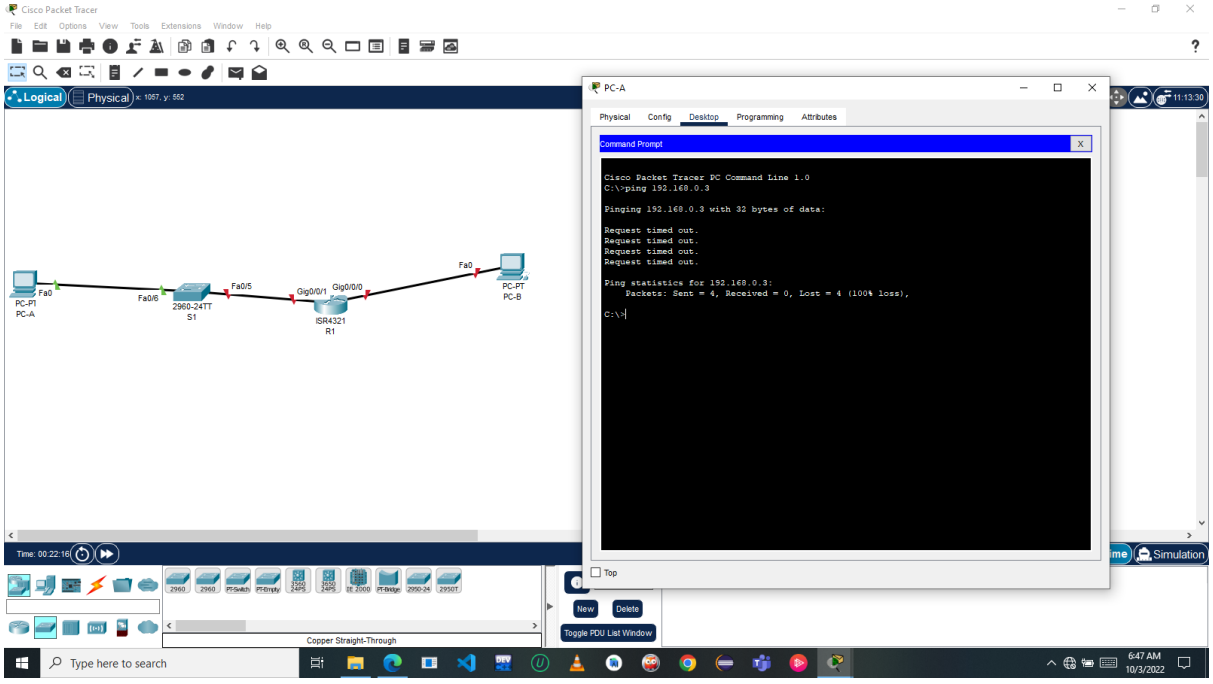


Part 2: Configure Devices and Verify Connectivity



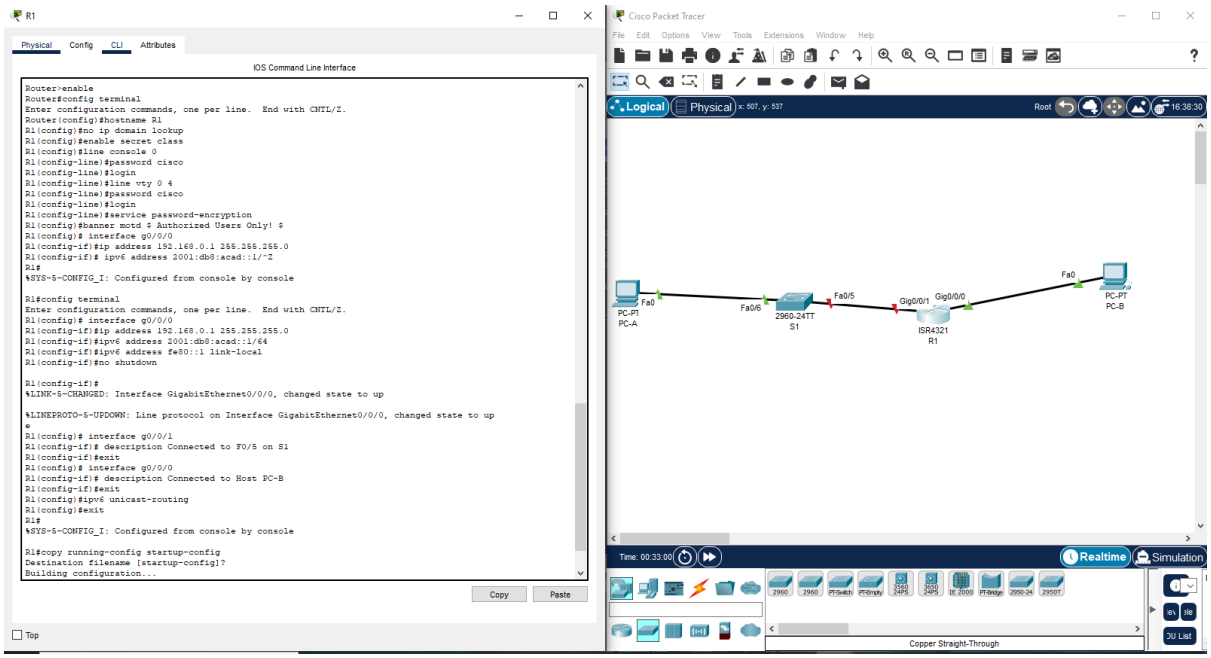


Ping PC-B from a command prompt window on PC-A

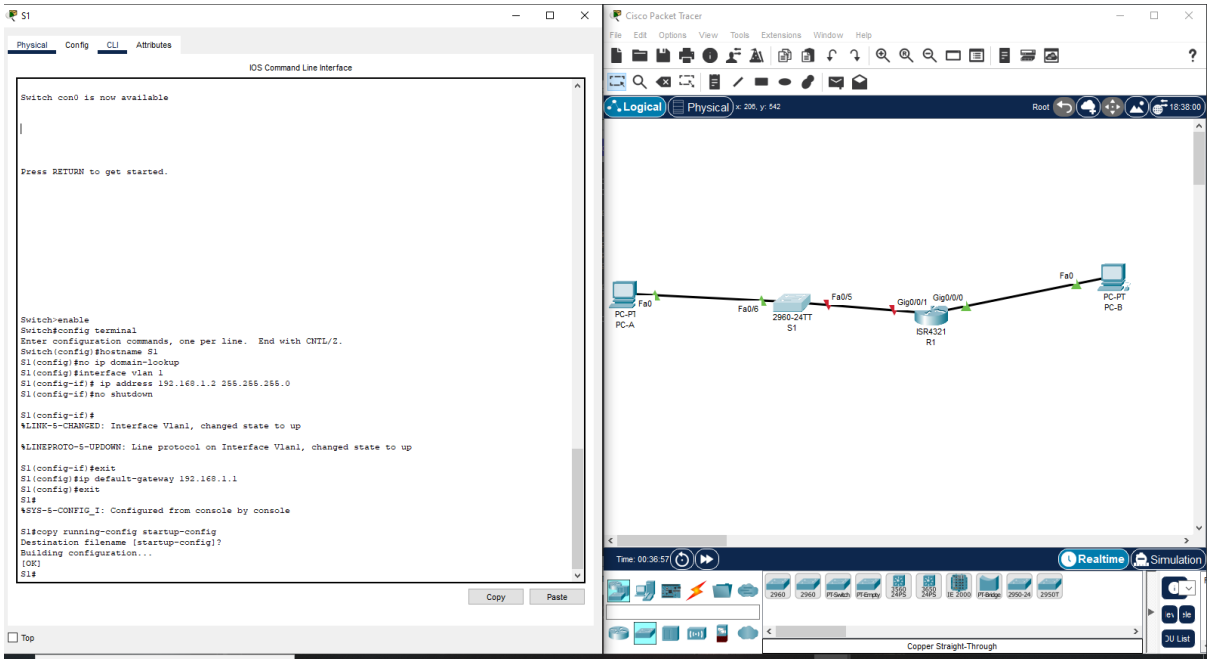


The router interfaces (default gateways) have not been configured yet so Layer 3 traffic is not being routed between subnets therefore the pings are not successful.

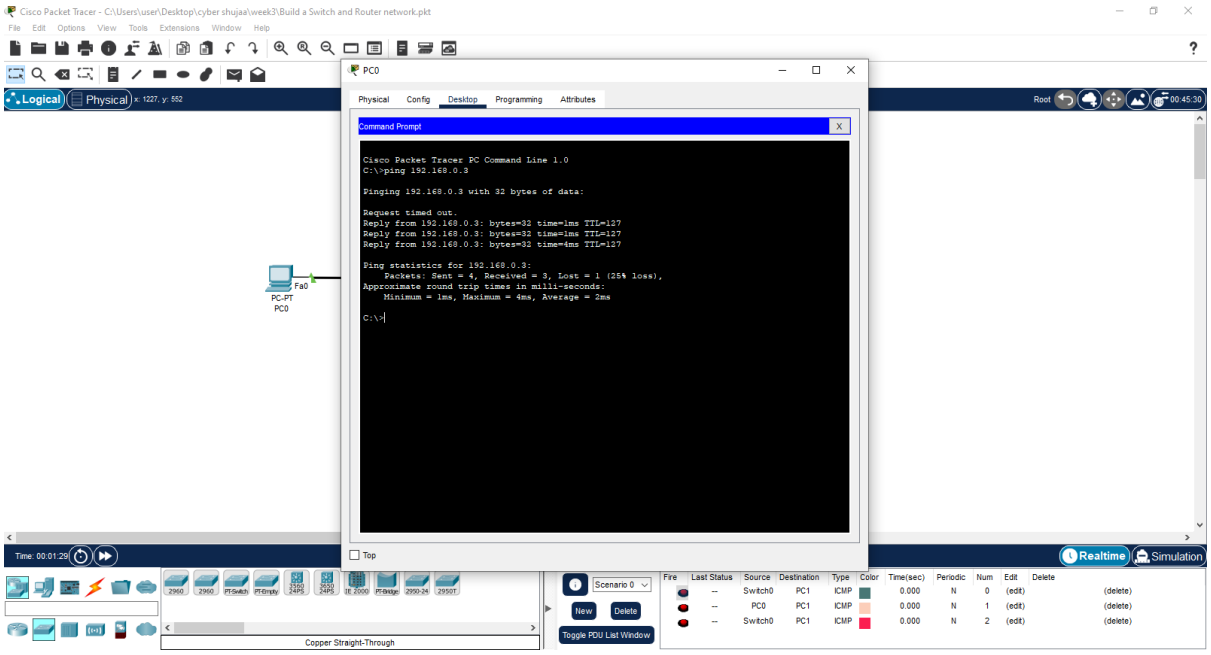
Step 2: Configure the router.



Step 3: Configure the switch

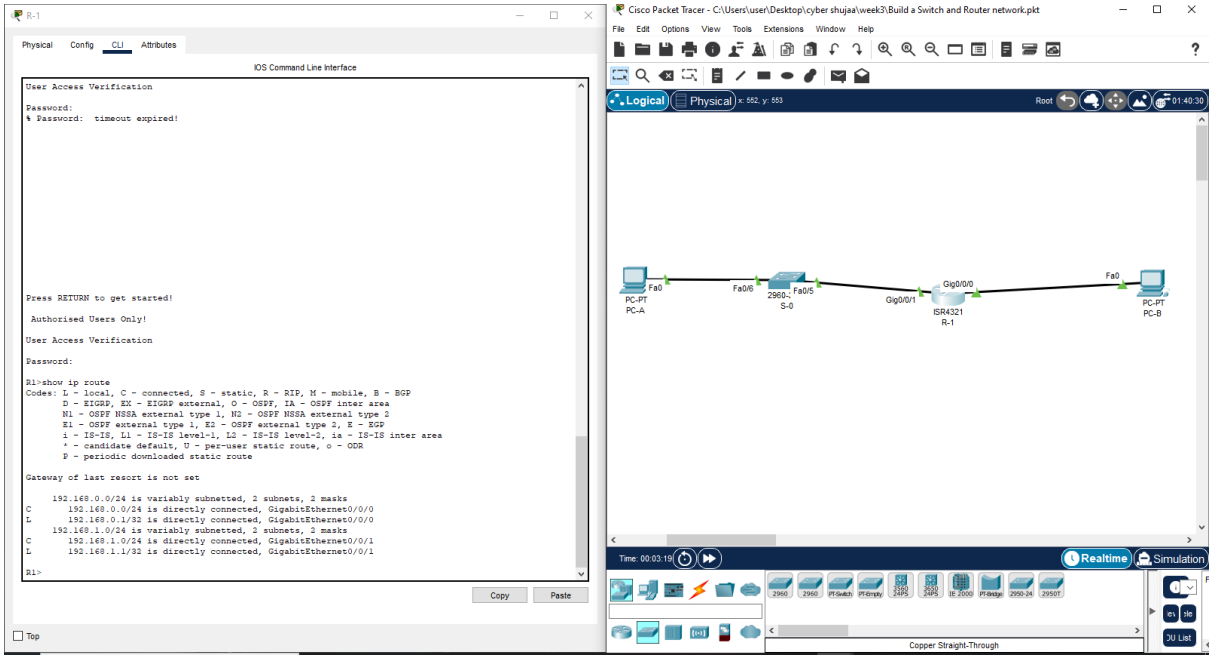


Verify connectivity end-to-end connectivity.



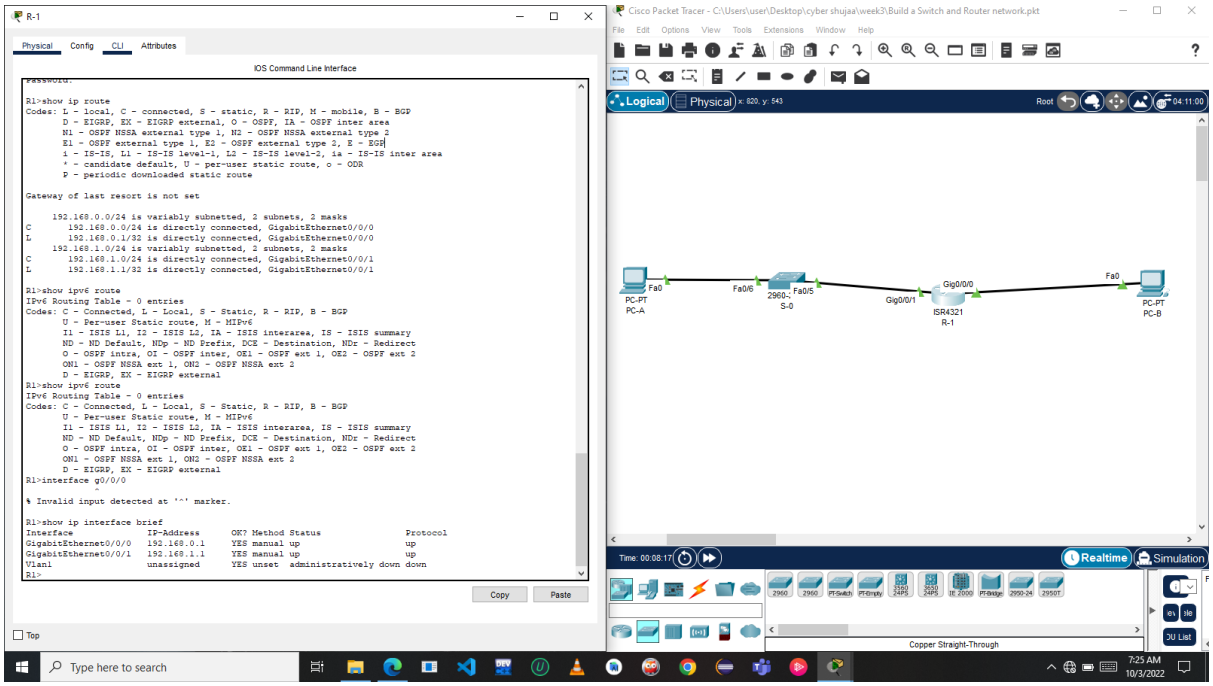
Part 3: Display Device Information

Step 1: Display the routing table on the router.



Step 2: Display interface information on the router R1.

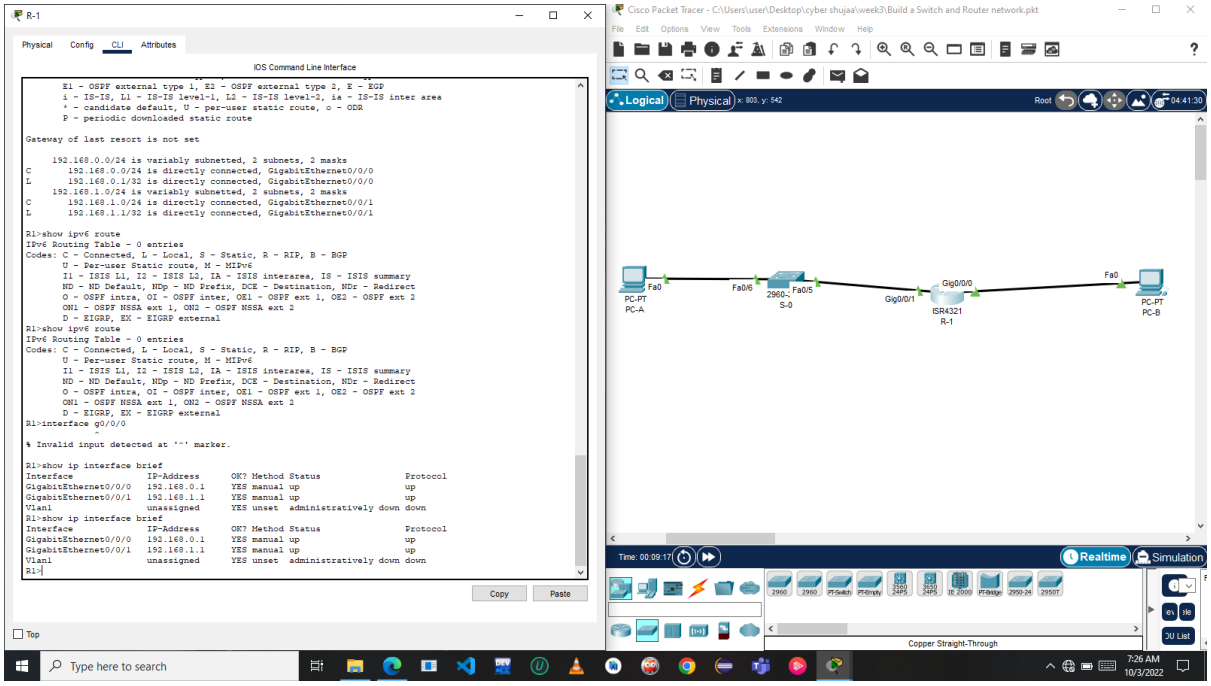
a. Use the show ip interface g0/0/1 to answer the following questions.



What is the operational status of the G0/0/1 interface? GigabitEthernet0/0/1 is up, line protocol is up

How is the Internet address displayed in this command? Internet address is 192.168.1.1/24.

Step 3: Display a summary list of the interfaces on the router and switch



R1(config-if)# no shutdown.

PC-A would not be able to ping PC-B. This is because PC-B is on a different network than PC-A which requires the default-gateway router to route these packets. PC-A is configured to use the IP address of 192.168.1.1 for the default-gateway router, but this address is not assigned to any device on the

LAN. Any packets that need to be sent to the default-gateway for routing will never reach their destination.