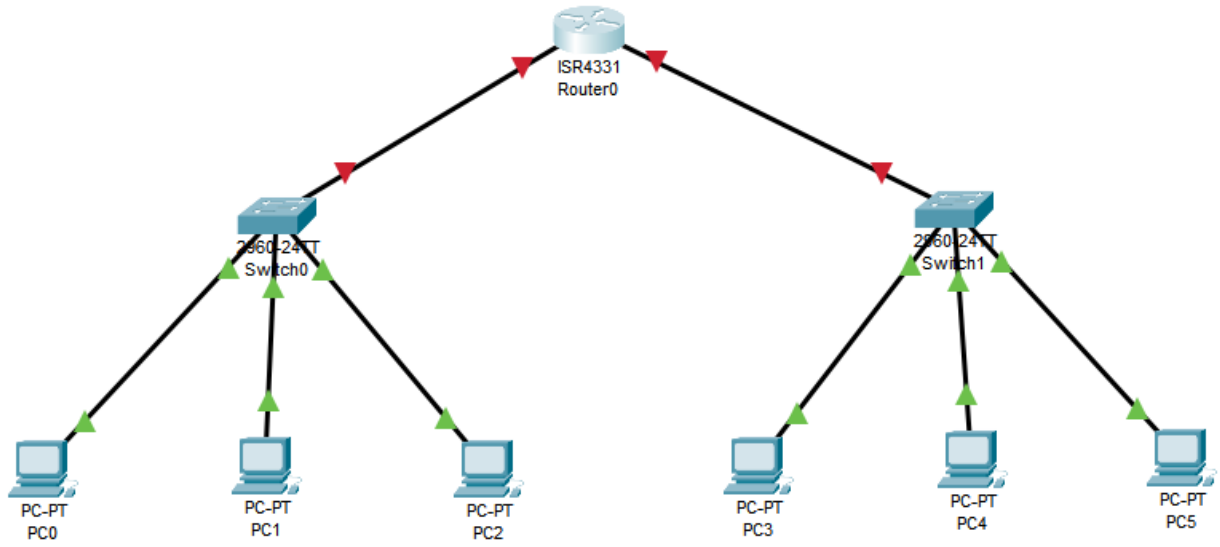
Experiment No. 2

Aim: Build a simple network topology and configure it for static routing protocol using packet tracer. Setup a network and configure IP addressing, subnetting, masking

Resource required: Cisco Packet Tracer software, 2 or 3 Routers, 2 Switches, 4 PCs (2 per LAN), Ethernet cables (Copper straight-through), Serial cable (for router-to-router connection)

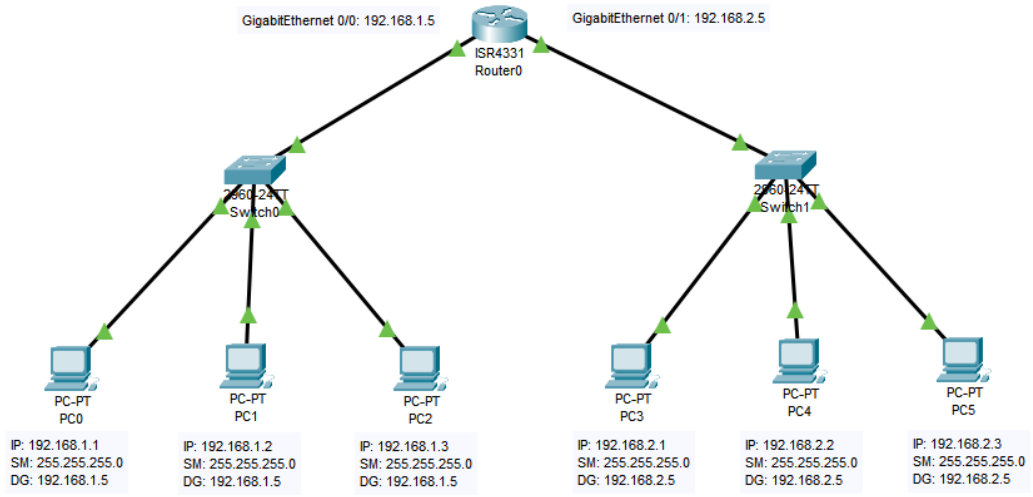
Theory: **1. Connect Devices**

- Connect PC0, PC1 and PC2 to Switch0, which connects to Router0 G0/0
- Connect PC3, PC4 and PC5 to Switch1, which connects to Router0 G0/1



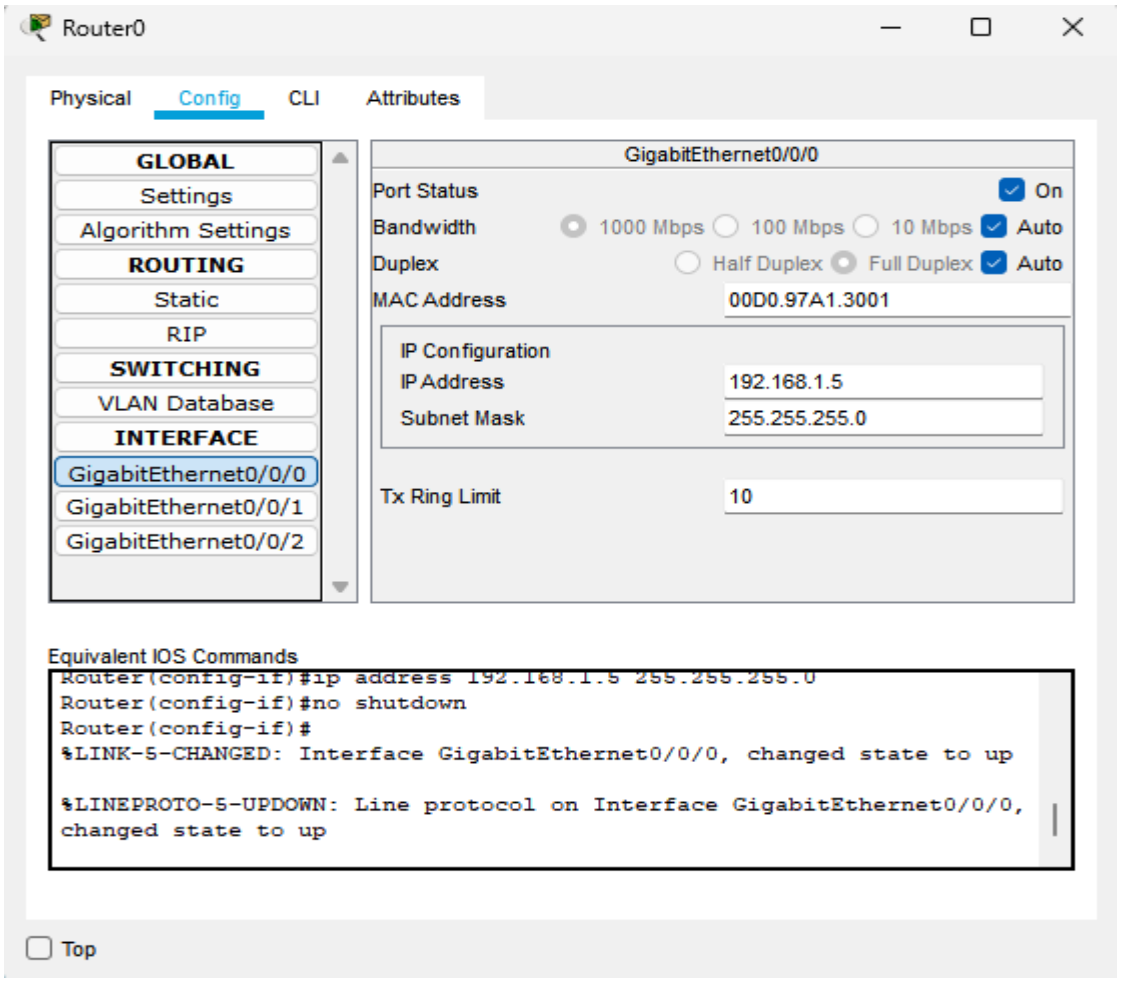
2. Assign IPs to PCs

Go to each PC > Desktop > IP Configuration:

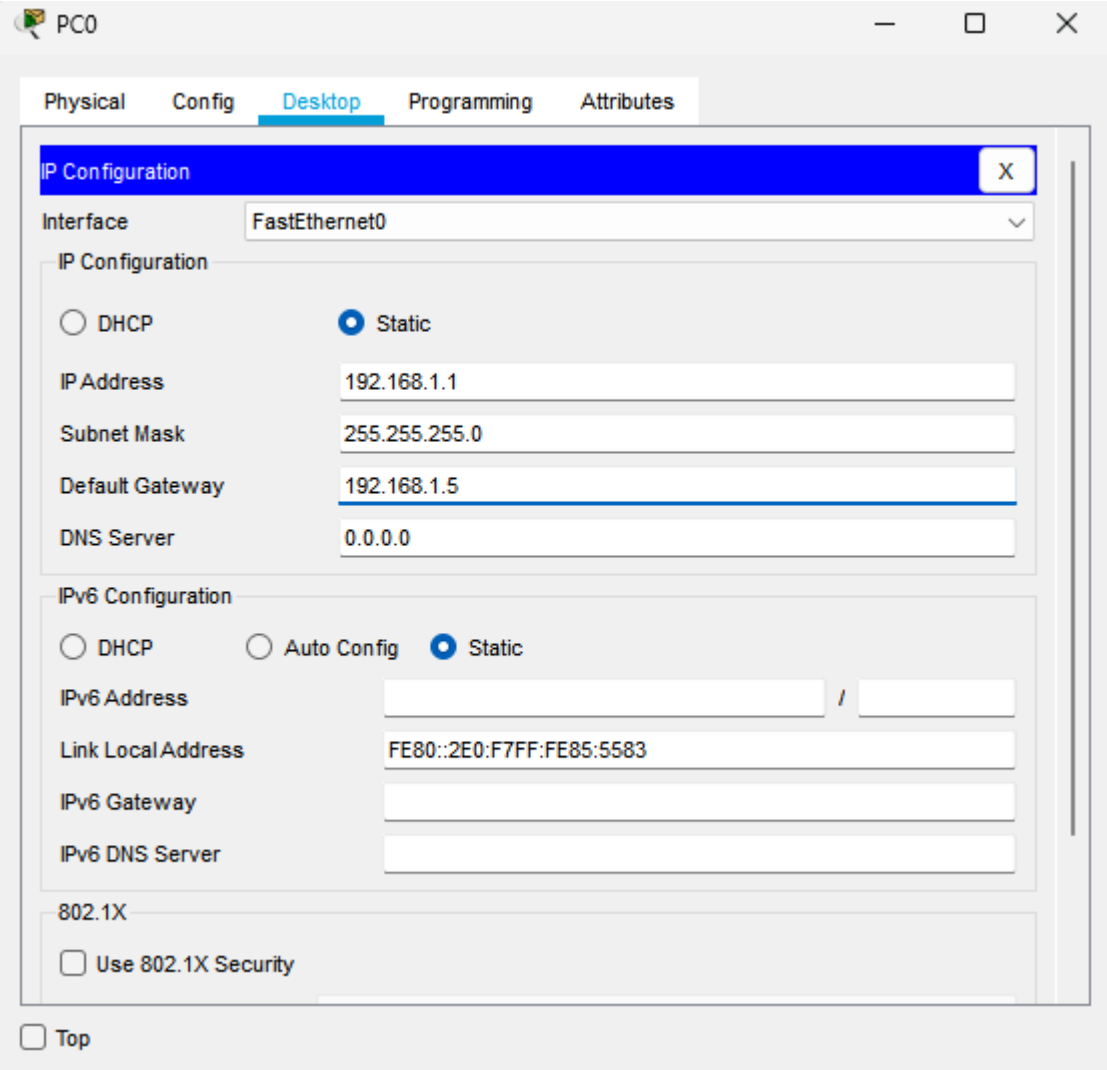


3. Configure Routers

Router0 Configuration: Assign IP address and Check the Status as ON



Now assign IP address of Router to defined each PC Default Gateway

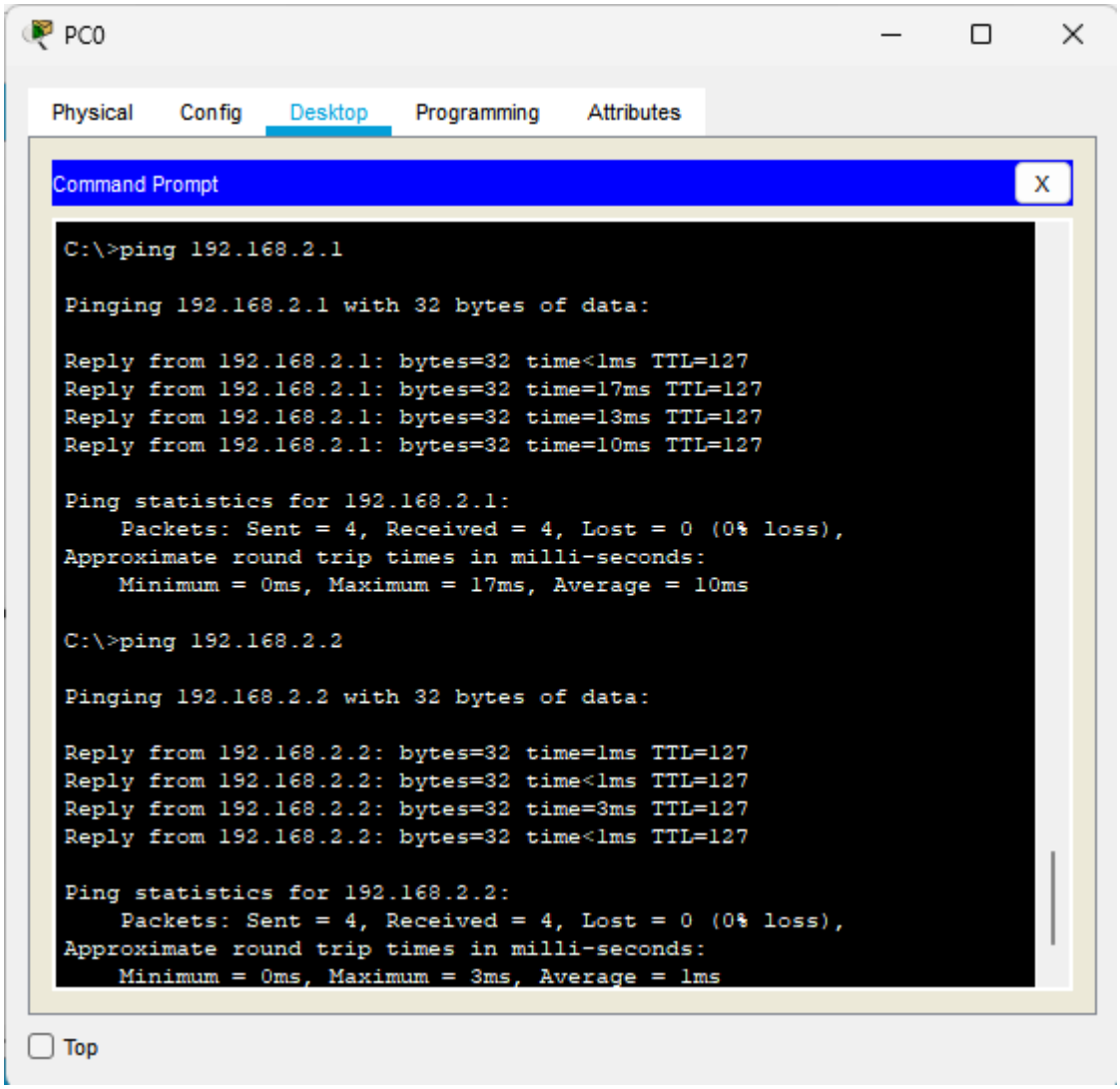


Testing Connectivity

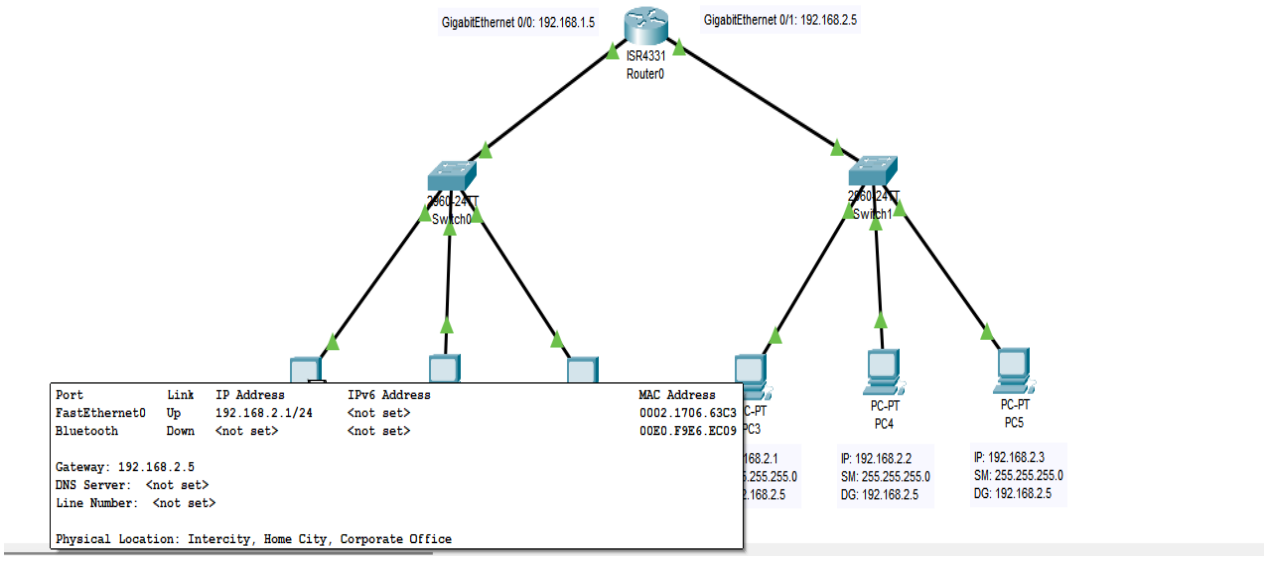
1. From **PC0**, open the Command Prompt.
2. Type:

ping 192.168.2.1

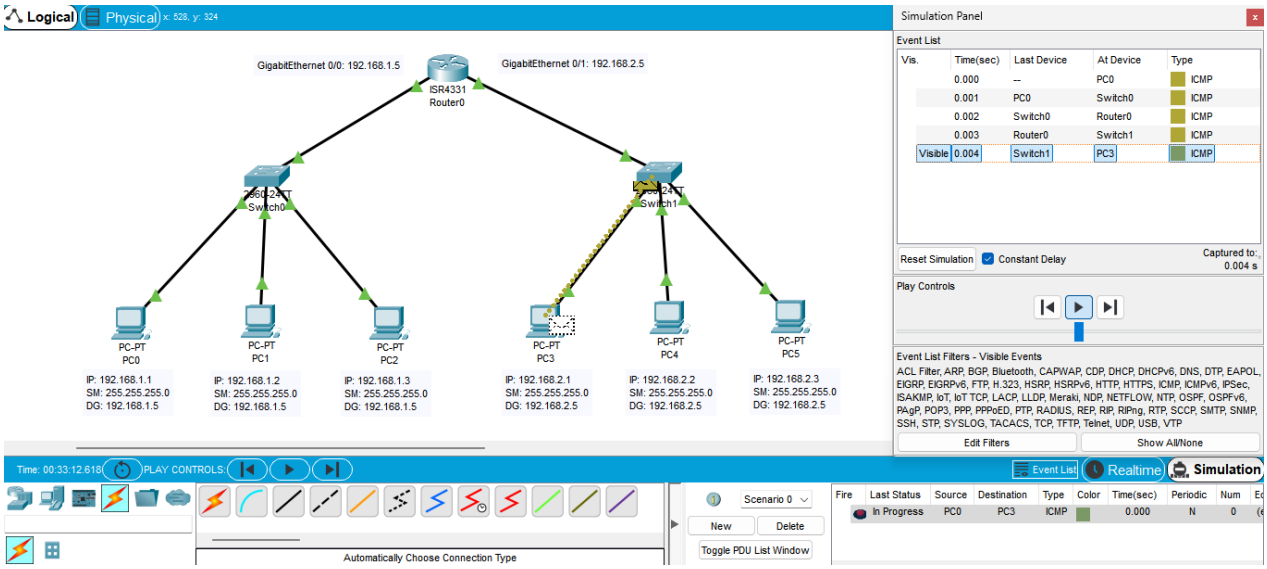
3. If successful, the ping confirms that static routing is properly configured.

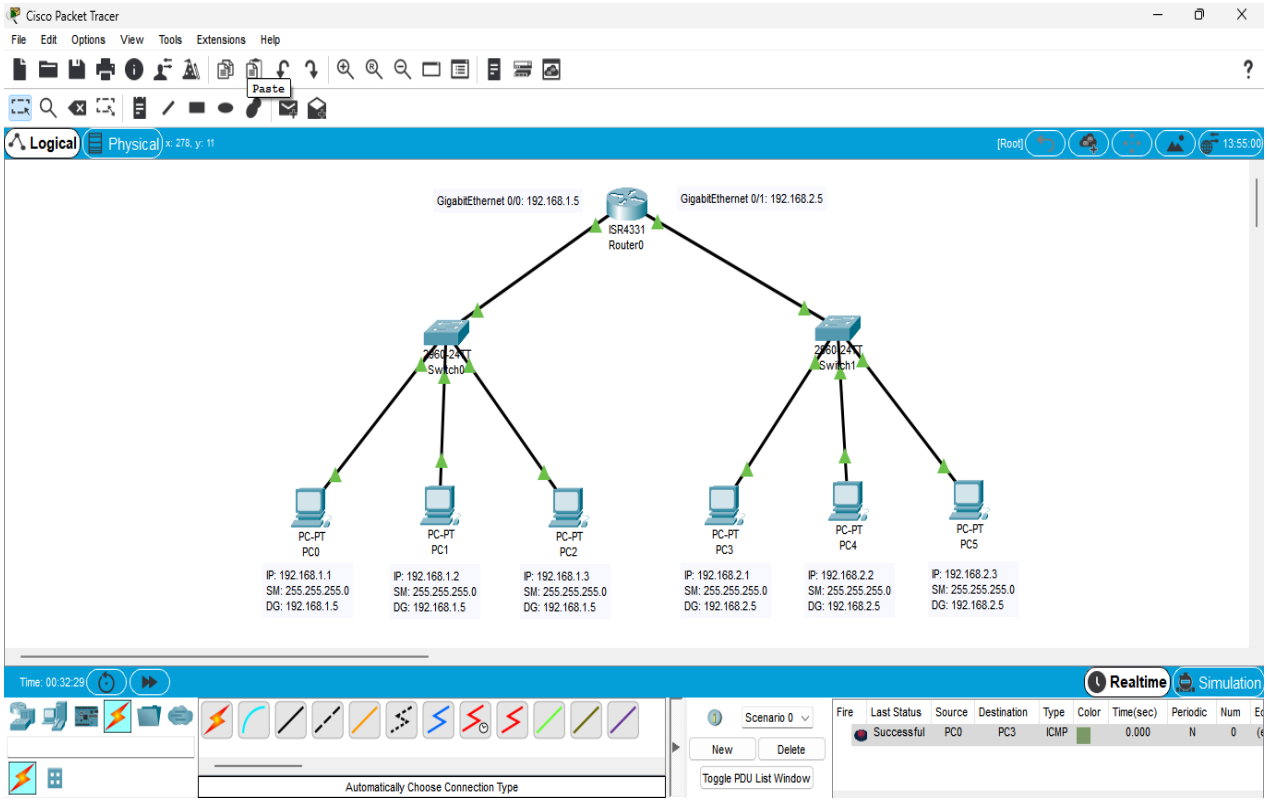


Now transfer the packet and from 1 PC to another PC



Now view the Simulation of the Packet Transfer:





Conclusion: In this practical, we successfully designed and configured a **simple two-router network** using **Cisco Packet Tracer**. We:

- Applied **subnetting** and allocated IP addresses.
- Set up interfaces with correct IPs and masks.
- Configured **static routing** on both routers to enable inter-network communication.
- Verified connectivity with successful ping tests.

This practical demonstrates the fundamental principles of **manual/static routing** and reinforces the understanding of network addressing and router configuration.