



COSMICODE

Remote Internship

Summer Internship Program 2025

Week 1: Introduction and Basic Networking Concepts

Objective: Get familiar with basic networking setup and configuration.

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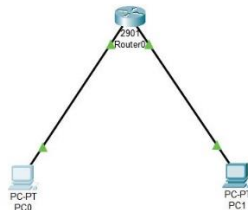
Domain: Computer Networking

Set Up a Basic Home Network:

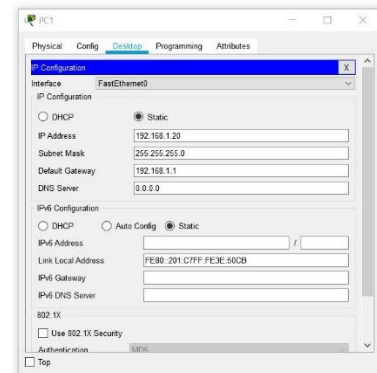
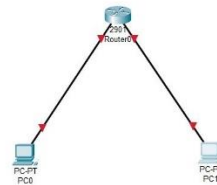
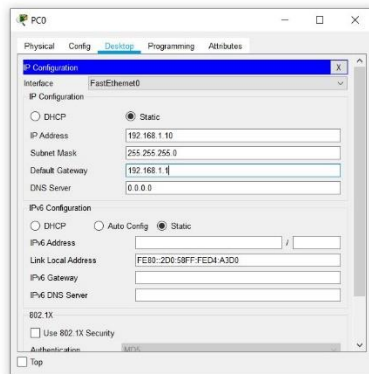
Objective: Configure a router and two computers to communicate.

Steps:

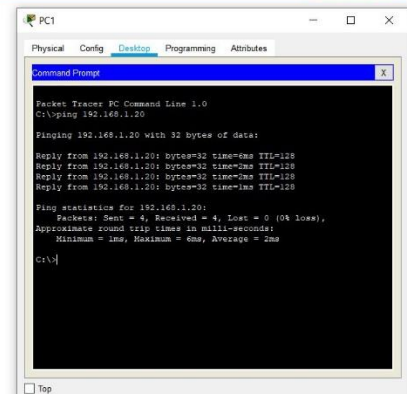
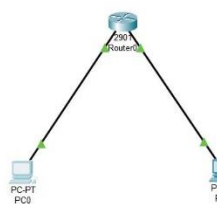
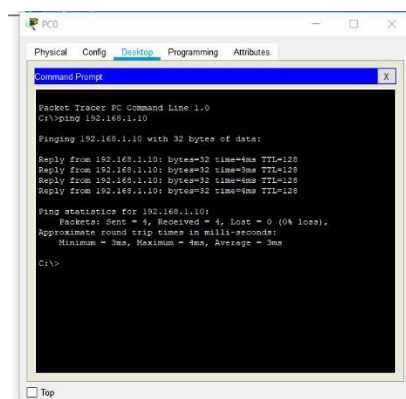
1. Connect the router to a power source and the internet.
2. Connect two computers to the router using Ethernet cables.



3. Manually assign IP addresses to both computers within the same subnet.



4. Test communication using the ping command.

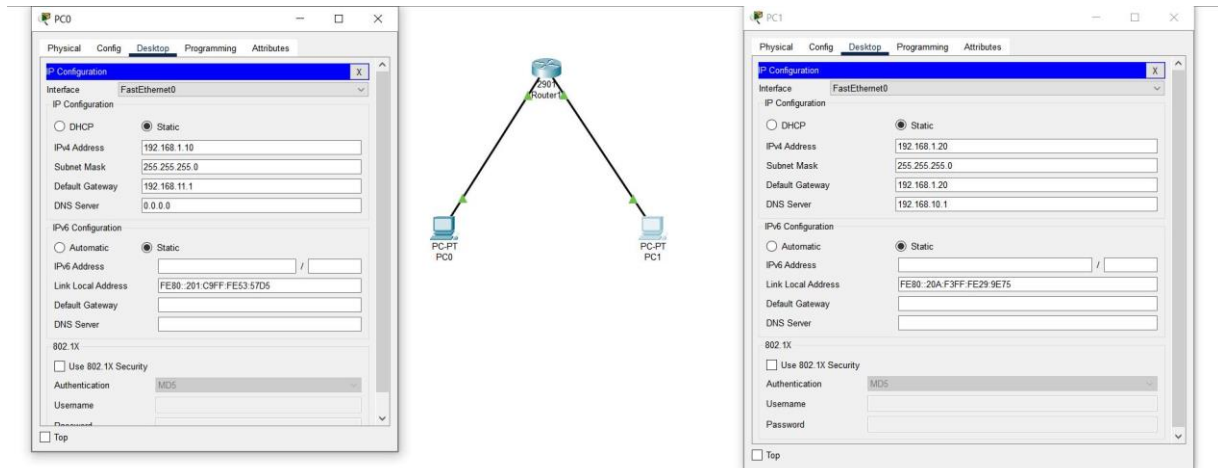


Implement a Small Subnet:

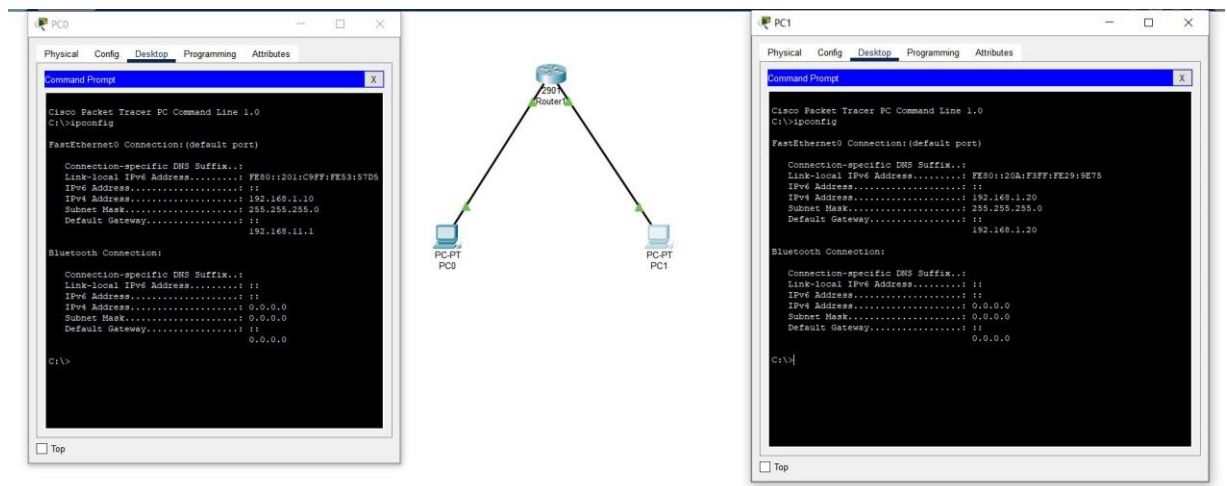
Objective: Create and configure a subnet using a Class C IP range.

Steps:

1. Choose a subnet mask (e.g., 255.255.255.0).
2. Assign static IP addresses within the subnet range.



3. Verify subnet configuration using ipconfig or ifconfig.

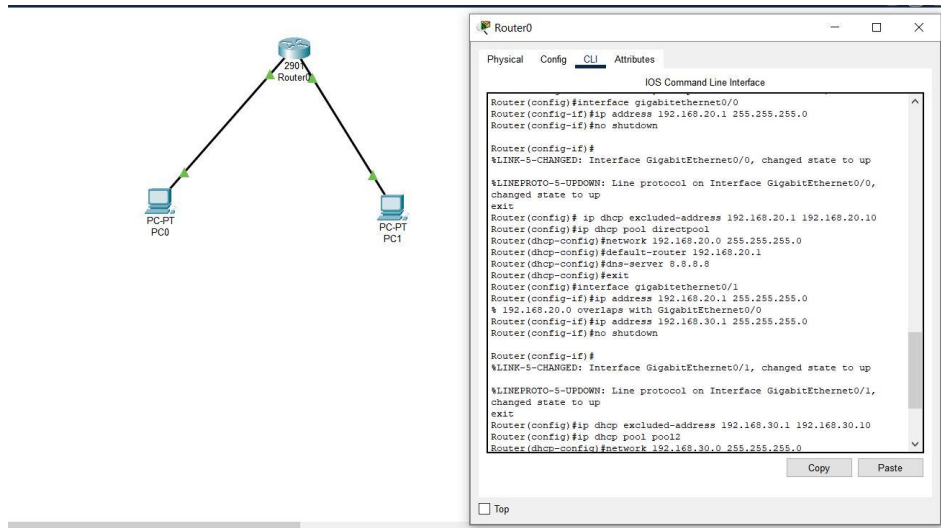


Configure DHCP on a Router:

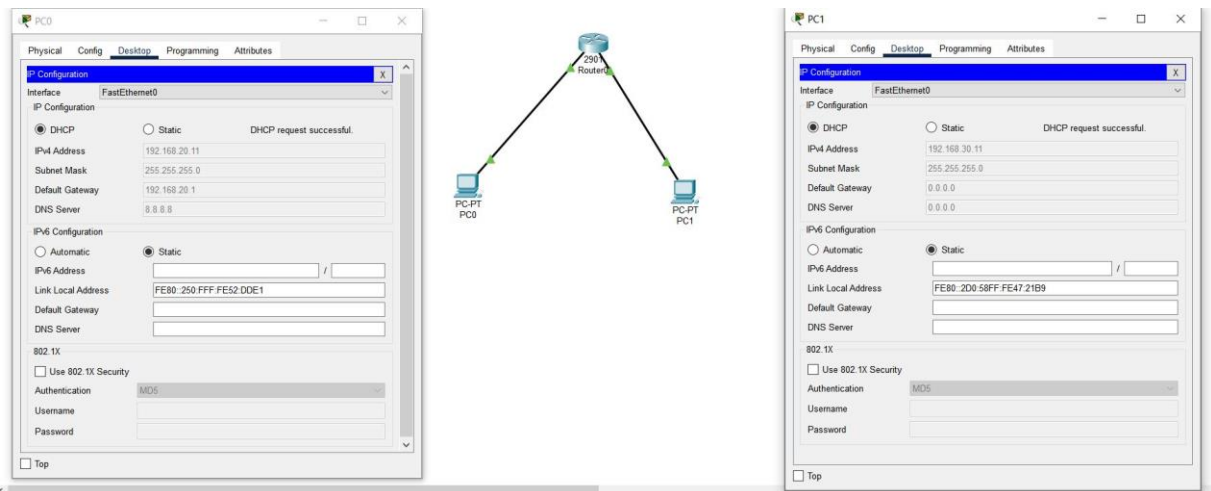
Objective: Enable DHCP to automatically assign IP addresses.

Steps:

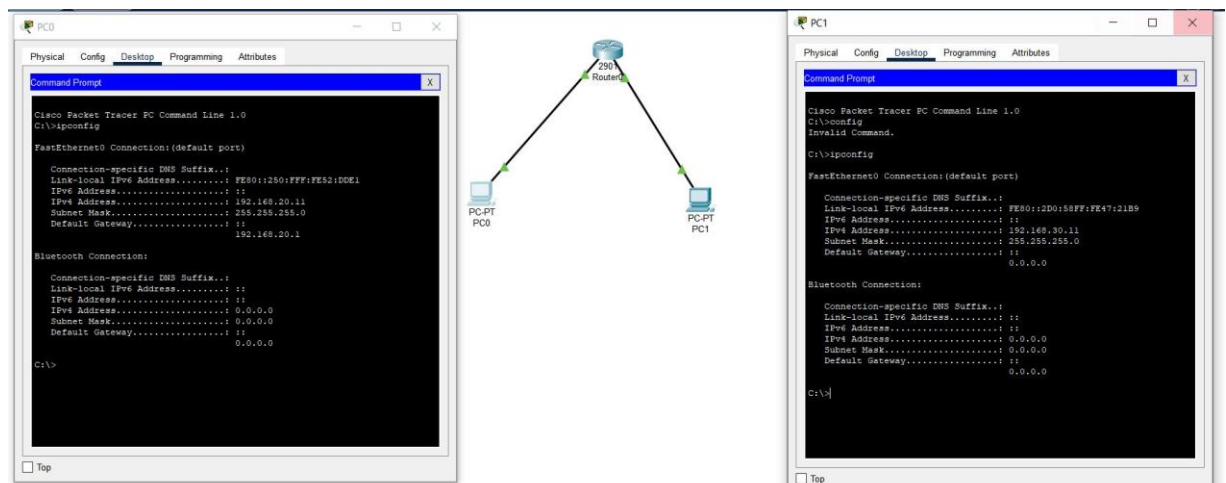
1. Access the router's web interface.



2. Enable DHCP server functionality.



3. Connect multiple devices and verify they receive IP addresses.

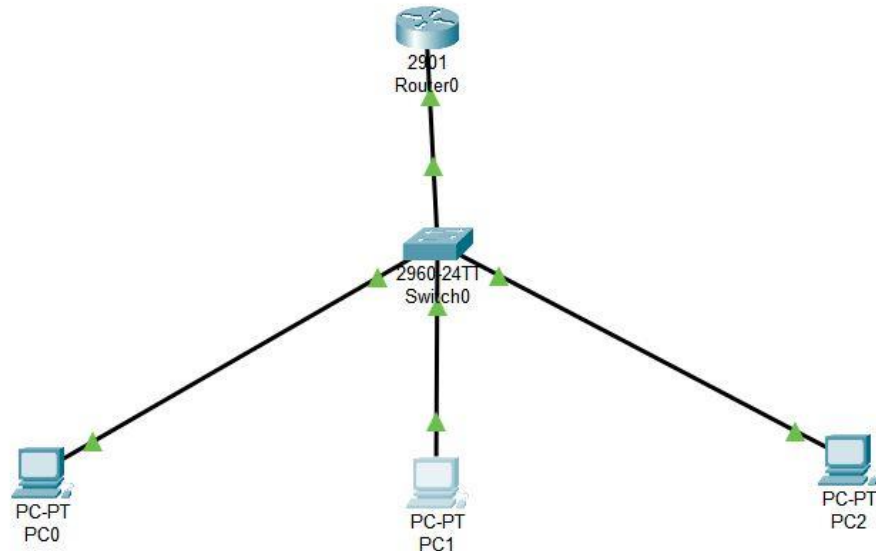


Set Up and Configure a Network Switch:

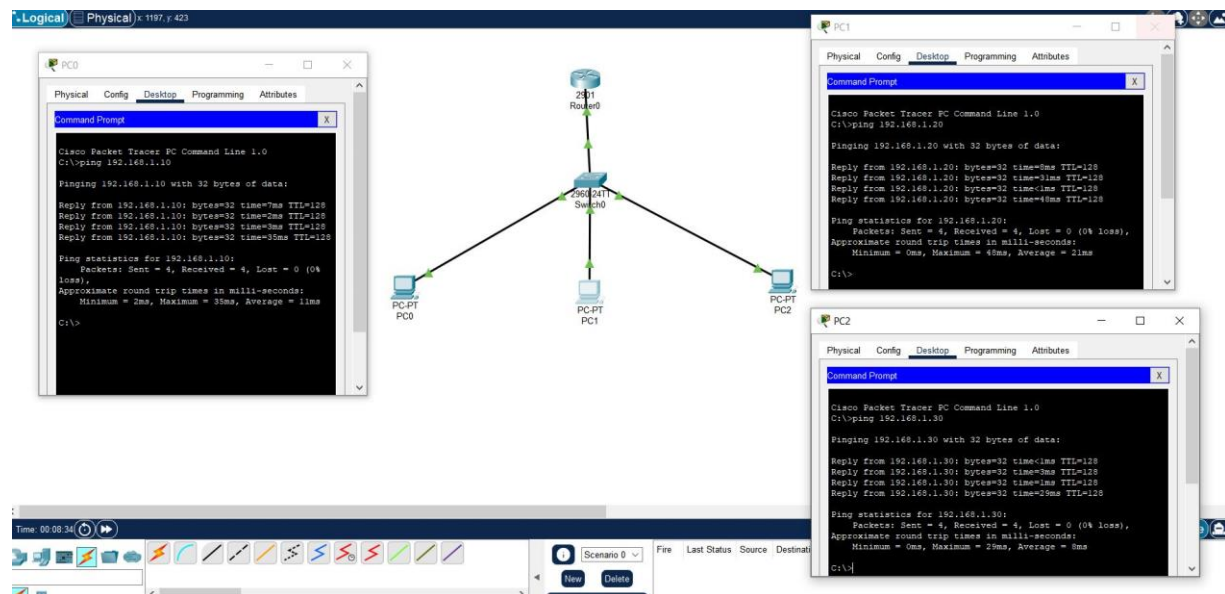
Objective: Connect multiple devices using a switch.

Steps:

1. Connect the switch to the router.
2. Plug in multiple devices into the switch.



3. Ensure network communication between devices using ping.



Implement Basic Network Security:

Objective: Configure firewall rules on the router.

Steps:

1. Access the router's firewall settings.
2. Create rules to block specific traffic (e.g., HTTP).
3. Test by trying to access blocked services from a connected device.

