COMPUTER NETWORKS LAB THREE REPORT

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B. TECH COMPUTER SCIENCE AND ENGINEERING (SEC-C 3RD YEAR, 5TH SEMESTER)
(FROM SRM INSTITUTE OF SCIENCE AND TECHNOLOGY – TRICHY)

Objective

The purpose of this lab is to configure a router and two PCs using Cisco Packet Tracer, set up network interfaces, assign IP addresses, and test connectivity between the devices. The experiment will validate the router's capability to manage data transfers across multiple networks by sending a PDU from PC0 to PC1.

Procedure

Step 1: Configuring Router1

1. **Open CLI:**
    - Select the router in Packet Tracer and access the CLI.
    - Press ENTER to start configuring.
2. **Activate Privileged Mode:**
    - Type enable.
3. **Access Configuration Mode:**
    - Type config t (to enter configuration terminal mode).
4. **Configure Interfaces:**
    - **FastEthernet0/0:**
        1. Enter the command interface FastEthernet0/0.
        2. Assign IP address 192.168.10.1 with subnet mask 255.255.255.0.
    - **FastEthernet0/1:**
        1. Enter the command interface FastEthernet0/1.
        2. Assign IP address 192.168.20.1 with subnet mask 255.255.255.0.
5. **Activate Interfaces:**
    - Type no shutdown to bring up both interfaces.

Step 2: Configuring PCs

1. **PC0:**
    - Go to the desktop of PC0 and select **IP Configuration**.
    - Set the IP address to 192.168.10.2, Subnet Mask to 255.255.255.0, and Default Gateway to 192.168.10.1.
2. **PC1:**
    - Go to the desktop of PC1 and select **IP Configuration**.
    - Set the IP address to 192.168.20.2, Subnet Mask to 255.255.255.0, and Default Gateway to 192.168.20.1.

Step 3: Connecting PCs to Router

1. **Connect PC0:**
    - Use a copper straight-through cable to connect **FastEthernet0** of PC0 to **FastEthernet0/0** of Router1.
2. **Connect PC1:**
    - Use a copper straight-through cable to connect **FastEthernet0** of PC1 to **FastEthernet0/1** of Router1.

Simulation of Network Topology

1. **Simulation Mode:**
    - Enter simulation mode in Cisco Packet Tracer to visualize data flow between devices.
2. **Send PDU:**
    - Send a PDU from PC0 to PC1.
    - Observe the packet traveling from PC0 to the router and then to PC1.
3. **Acknowledgment from PC1:**
    - Verify that an acknowledgment packet is sent back from PC1 to PC0, confirming successful communication.

Screenshots