



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Discover. Learn. Empower.

Experiment 4

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Branch: CSE

Section/Group: IOT-627-B

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Subject Name: Computer Networks

Subject Code: 22CSH-312

1. Aim: Configure and Understand working of network devices Hub, Switch, Routers

2. Requirements (Hardware/Software):

S/W Requirement :- Packet Tracer or NS2

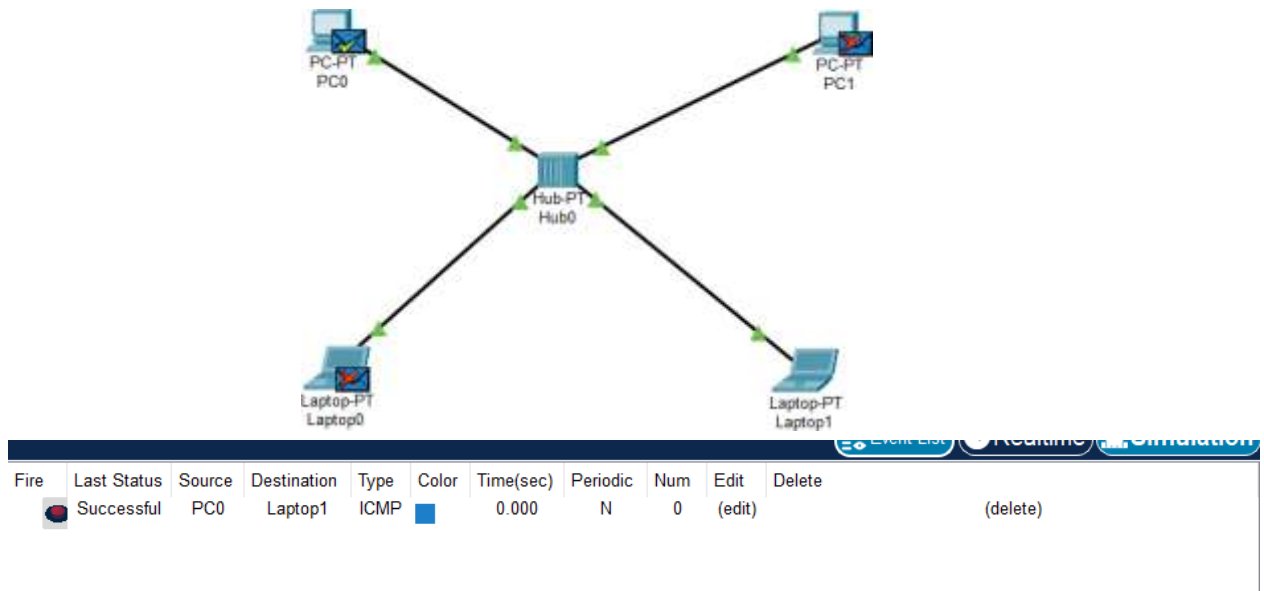
H/W Requirement :- Processor , Main Memory (128 MB RAM) , Hard Disk (minimum 20 GB IDE Hard Disk) , Removable Drives, PS/2 HCL Keyboard and Mouse

3. Procedure:

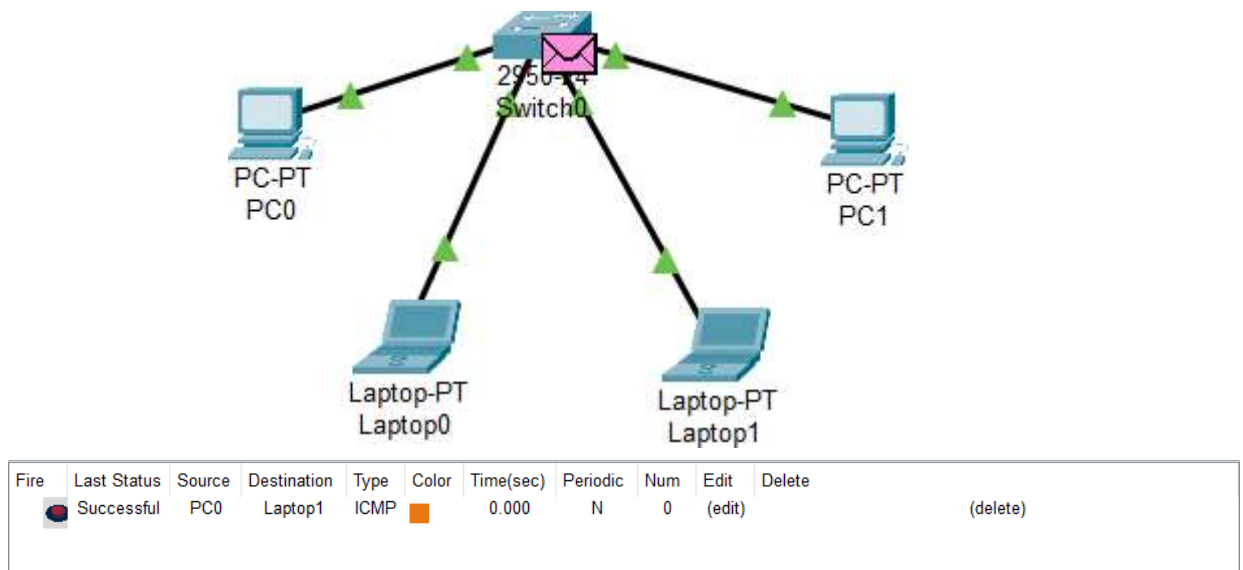
1. Attach required devices (Hub/Switch/Router) in the packet tracers software.
2. Assign IP address to devices.
3. Select source and destination and drop packet from source to destination.
4. Go to Simulation mode and click capture/Play.
5. Configure WAN (Wide Area Network) settings to connect to the internet.
6. Configure security settings, such as firewall rules and encryption (WPA2/WPA3 for Wi-Fi).
7. Set up routing rules if needed (e.g., static routes, dynamic routing protocols like OSPF).
8. Simulation will start and packet will only be accepted by destination.
9. Save and apply the configuration.

4. Output:

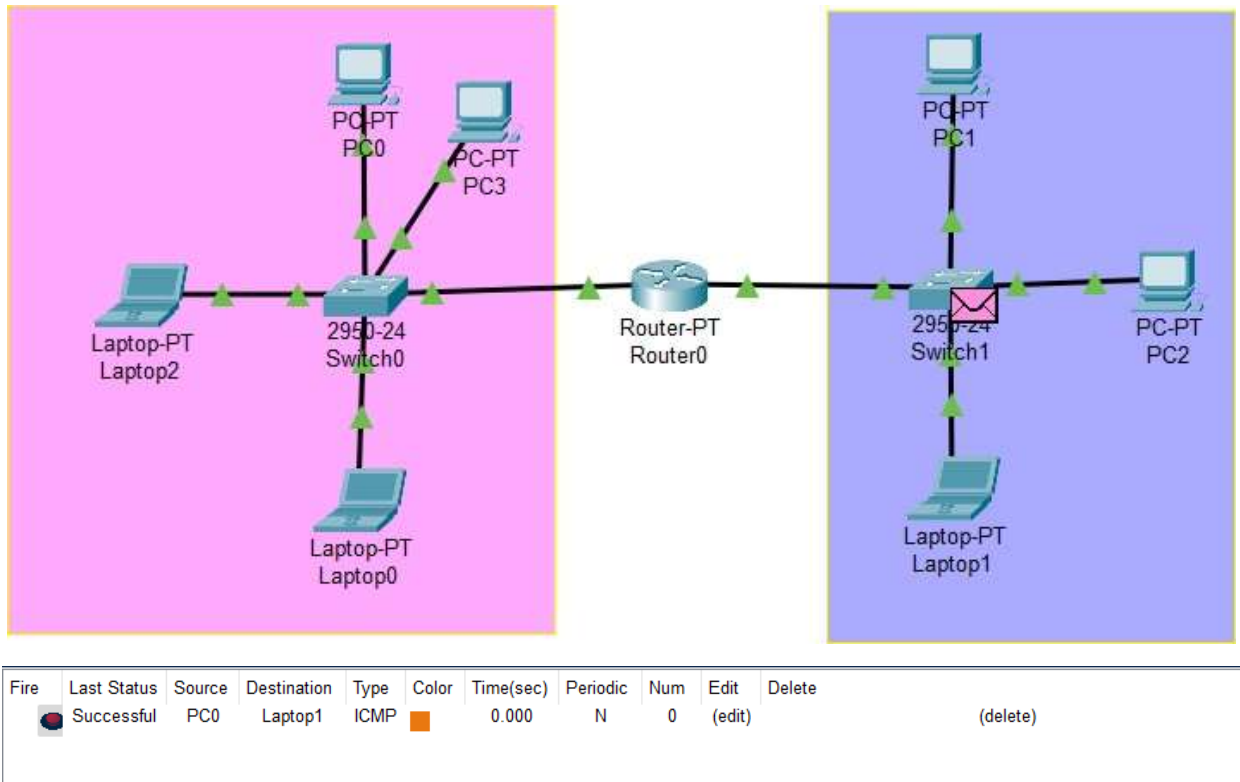
Hub is connected to various devices and data is sent across devices as shown in the fig. below.



Switch is connected to various devices and data is sent across devices as shown in the fig. below.



Router is connected to various devices and data is sent across devices as shown in the fig. below.



5. Learning Outcomes

1. Learned viewing and managing network settings
2. Analyze and optimize router, hub, switch performance using commands using performance
3. To identify and fix network issues using commands
4. Understand how devices communicate on a network