

INTERFACE OVERVIEW, PC TO SERVER AND EXP1

OBSERVATION

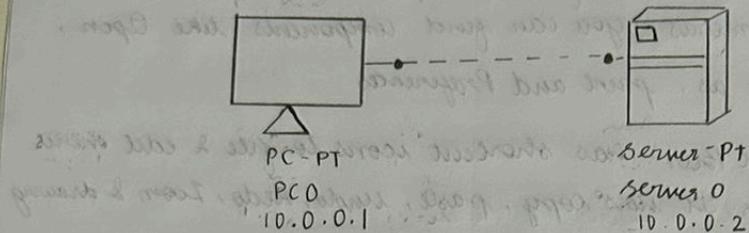
When you open Packet Tracker we have these components.

- ① **MenuBar**: it has file, edit, Options, View, Tools, Extension and Help menus. You can find components like Open, save, save as, print and Preferences.
- ② **Main Tool Bar**: has shortcut icons to file & edit menu commands. It has copy, paste, undo, redo, zoom & drawing palette and Custom Device Dialog.
- ③ **Common Tools Bar**: In the common tools bar there are select, move, place, note, delete, inspect, resize shape, add simple message PDU or complex message PDU.
- ④ **Logical / Physical Workspacce**: we can toggle between logical & physical workspace tabs.
- ⑤ **Workspace**: area where you create your network and watch simulations.
- ⑥ **RealTime / Simulation Bar**: here you can see the relative time in real time & simulation.
- ⑦ **Network Component Box**: It contains device type selection box containing the types of devices like hub switch & connections. It contains device specific selection box containing specifically which device you want to choose.
- ⑧ **Connections / links**:
 - Copper straight Through: it is standard ethernet media for connecting two services that operate at different OSI layers.
 - Copper Cross over: it is the ethernet media for connecting between devices operating at same OSI levels.

25/9/24 LAB-1

EXP - 1

1. PC to server.



Aim : to set up a point - to - point network between a PC & a server, facilitating direct communications to observe data exchange.

Topology : A PC (PC 0) is connected to a server (server 0) using a crossover ethernet cable.

IP address of PC 0 : 10.0.0.1

IP address of server 0 : 10.0.0.2.

Observation : the direct connection allows PC 0 to communicate with server 0, which is typical in small networks for tasks such as file sharing service requests or testing server responses to client queries.

Detailed description of the setup:
The setup shows a point-to-point connection between a PC (labeled PC-PT, IP 10.0.0.1) and a server (labeled Server-PT, IP 10.0.0.2). They are connected via a crossover ethernet cable. Both devices have their respective IP addresses assigned. The connection is represented by a dashed line with two small circles at the interface points.

Result / conclusion : ③

Indirect broadcast is important in peer-to-peer networks.

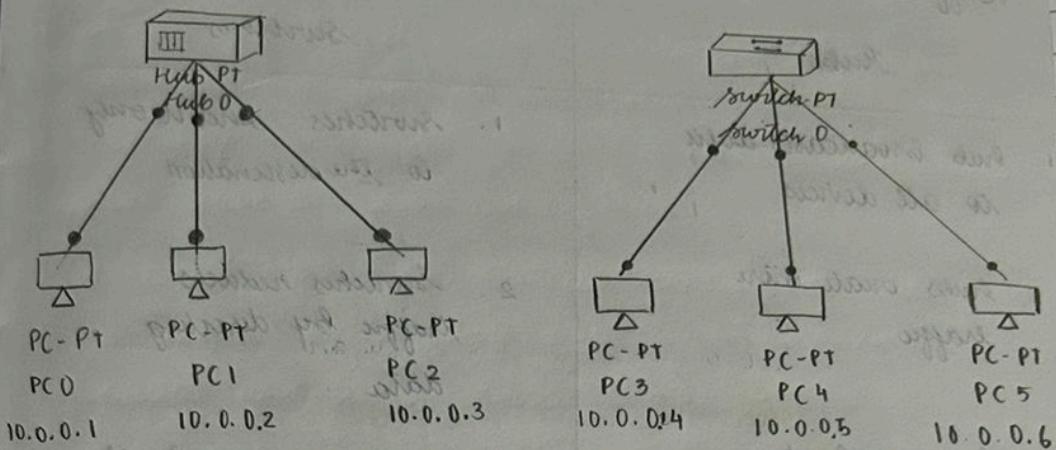
In direct broadcast mode, packets are sent to all hosts

around 120 hosts

in direct broadcast mode

Indirect broadcast mode is used for peer-to-peer

2. Hub and switch.



a) Aim: To create sample network consisting of 3 pts connected to a control hub & another network with 3 PC's connected to a switch. This connection will help observe the behaviour of data transmission using hub & switch devices.

Topology: 3 PC's are connected to a hub & switch using straight-through ethernet cables.

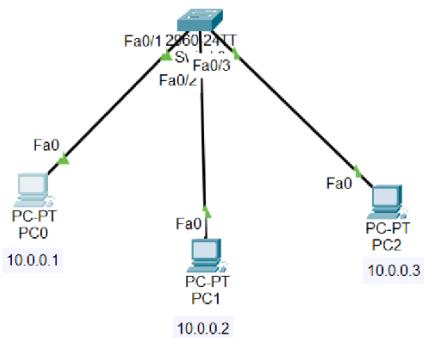
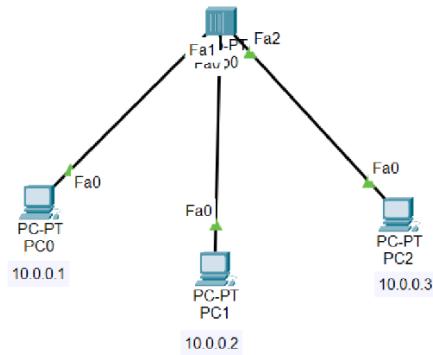
Observation: hub broadcasts packets to all devices which may cause unnecessary traffic

switch forward packets only to appropriate device by learning MAC address making it more efficient in reducing traffic

Difference between hubs & switches

Hubs	switches
1. hub broadcasts data to all devices	1. switches send it only to the destination
2. hubs create more traffic	2. switches reduces traffic by directing data
3. Hubs work at physical layer	3. switches operate at the data link layer
4. hubs are slower due to shared bandwidth	4. switches are faster with dedicated bandwidth
5. hubs are cheaper	5. switches are more expensive but more efficient

TOPOLOGY



OUTPUT:

