Date: 30/7/24 Practical - 3

Aim: To study Packet Tracer tool installation and user interface overview

1) To understand environment of CISCO PACKET Tracer to design the simple network

Introduction

A Simulator, as the name suggests, simulates network devices and its environment. Packet Tracer is an exciting network design, simulation and modeling device tool.

1) It allows you to model complex system without the need for dedicated equipment.

2) It helps you to practice your network configuration and trouble shooting skills via computer or an Android or iOS based mobile device

3) It is available for both the Linux and window in window environment

4) Protocols in Packet Tracer are coded to work and behave in the same way as they would on real hardware

Installing Packet Tracer

To download packet tracker and login with Cisco networking Academy credentials then click the detail

windows

Installation in windows is pretty simple and straightforward. The setup comes in single file named Packet Tracer Setup 6.0.1 exe. Open the file to begin the setup wizard, accept the license agreement, choose a location, and start the installation.

Steps

1. From network component box, click & drag & drop the below component

a) 4 generic PCs & one hub

b) 4 generic PCs & one switch

2) click on connections.

a) click on copper straight through cable.

b) select on PC & connect to Hub, the link led should should glow in green.

c) similarly connect 4 PCs to the switch using copper straight through the cable.

3) click on the PCs connected to hub, then click desktop, then click ip configuration.

a) enter ip address on ipv4 address box then close

b) click on Add (message icon) from common tool bar drag & drop on desktop on another PC

4) observe the flow of PDU from source to destination on right bottom

5) repeat the same for PCs connected to switch

6) Observe

Observation:

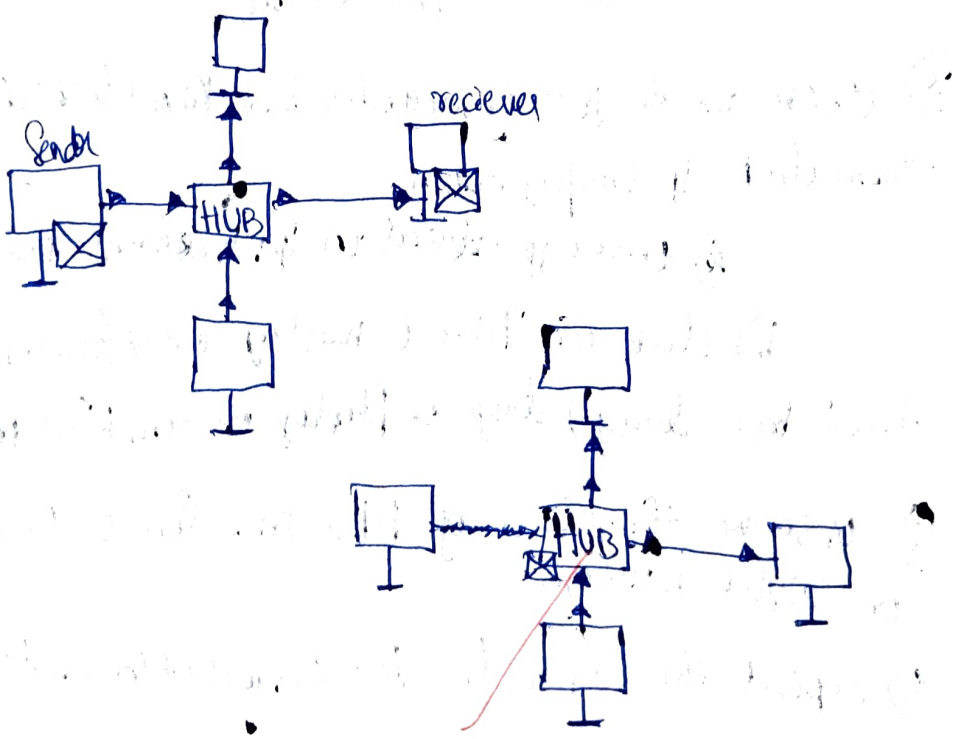
hub

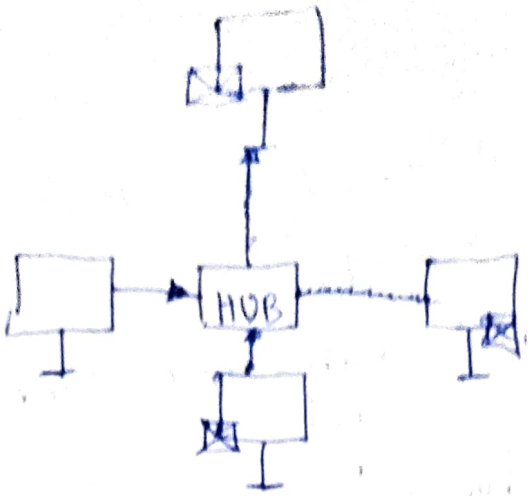
When packet is sent from the pc, the hub broadcast the packet to all connected PCS regardless of intended destination. This means all PCS receive packet but only intended recipient process, others ignore it

Switch

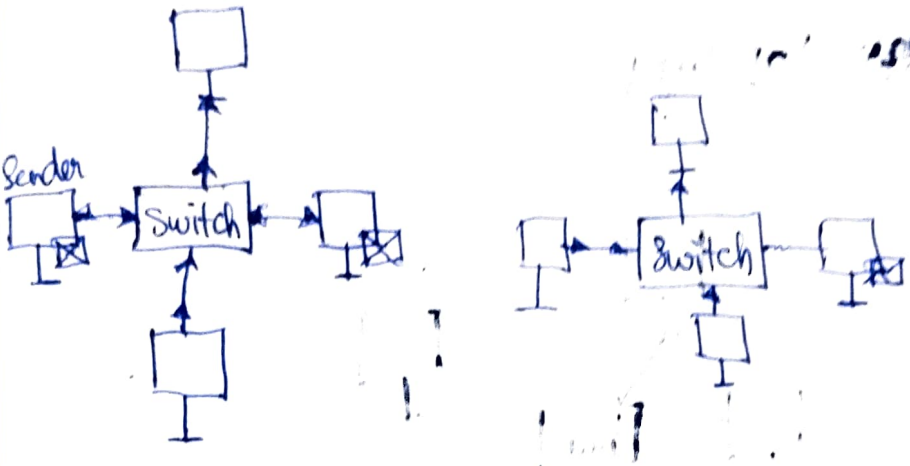
Switch uses MAC address to identify devices. When a packets is sent from one PC the switch checks the destination MAC address and forward the packet only to the port associated with that address

hub





Switch



Network topology implemented in your college

topology implemented in our college

Star topology * hybrid topology

Characteristics of Star topology

* all able run to a central connection Point

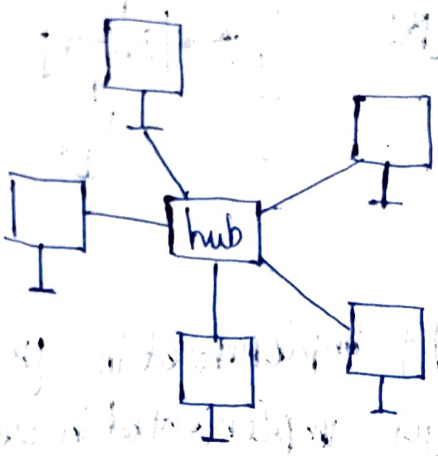
* If one cable break/fail, only computer Connected to that cable is unable to use the network

* As network grows or changes, Computer are Simple added

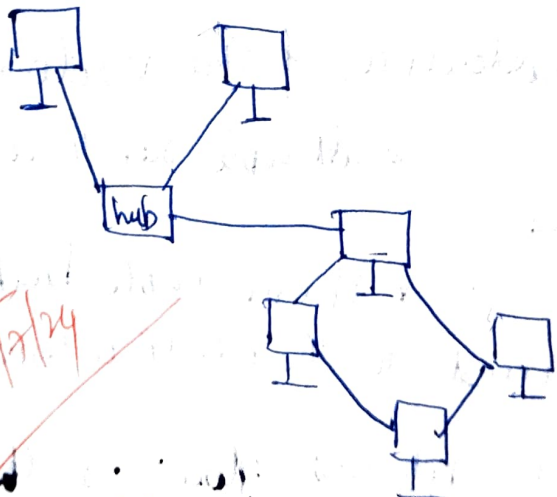
Characteristics of hybrid topology

* hybrid topology is combination of more than one topology.
* hybrid makes use of standard such as wifi & ethernet
* the hybrid topology has different braces & each as its unique design

topology



hybrid topology



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Result

Thus successfully studied the packet tracer tool and analysed the behaviour of network