

KENISH R

1BM18CS045

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CN Lab 2

Procedure:

1. Two generic computers are placed alongside a router. They are connected with copper cross over wires as the devices are on the same level.
2. IP addresses (fast ethernet) and default gateway addresses are configured specifically, for each computer.
3. The router's terminal is accessed and an interface for each connection and With the specified gateway addresses the no shut command is used to establish a connection.
4. Using the terminals on the computers, we can ping the other computers using their IP Address.

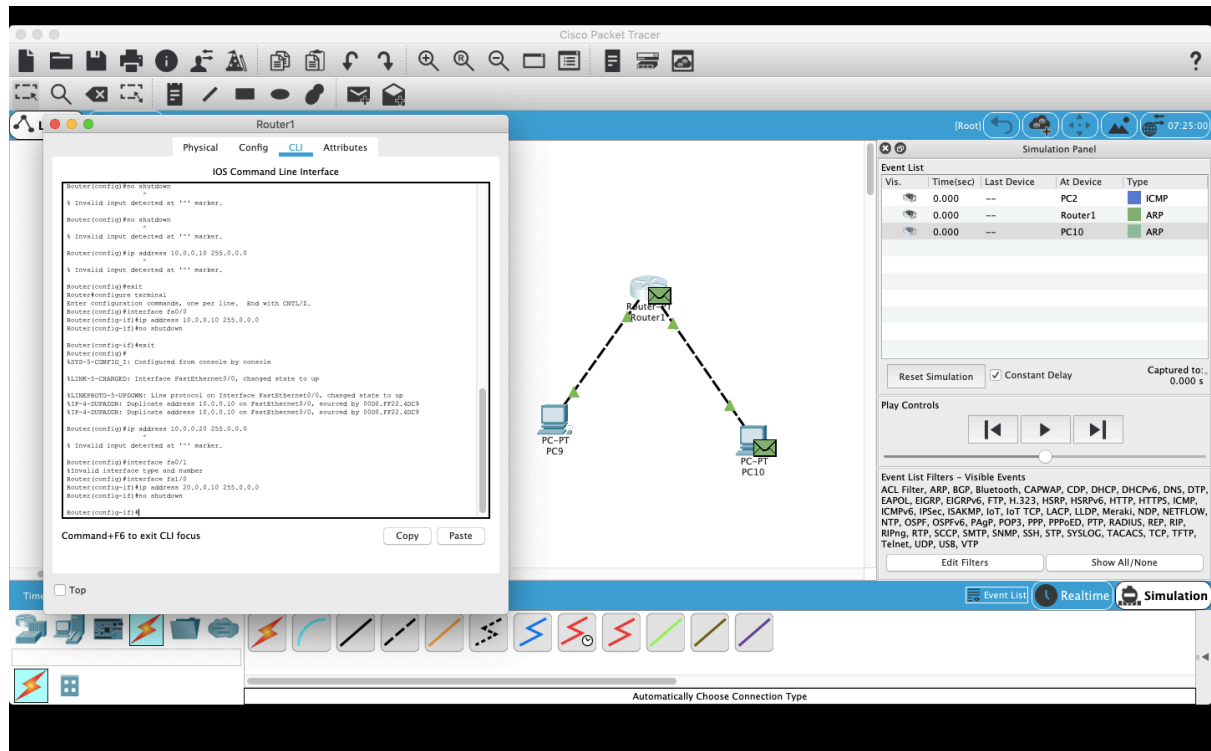
Observation:

After configuring the devices, a connection is established from the router's Side using the command line interface. The show ip route command shows that the computers are connected. Opening up the terminal on the computer, we can ping another connected computer's IP address to see whether there is a response from the sent packet. The initial attempt will be a time out but on future attempts packets would be successfully retrieved since the computer will be found on the network.

Outcome:

In today's lab, I understood how hubs and switches work along with their differences, and in which setups and environments they are better/worse in. I also understood the working of routers, its configuration and its communication with end network devices and the use of pinging to test connections in a network and make sure all devices are connected properly and can communicate properly.

Screenshots:



Physical Config Desktop Programming Attributes

Command Prompt

```
Minimum = 0ms, Maximum = 4ms, Average = 2ms

C:\>ping 1.1.1.2

Pinging 1.1.1.2 with 32 bytes of data:

Ping statistics for 1.1.1.2:
    Packets: Sent = 1, Received = 0, Lost = 1 (100% loss),

Control-C
^C
C:\>ping 1.1.1.1

Pinging 1.1.1.1 with 32 bytes of data:

Reply from 1.1.1.1: bytes=32 time=6ms TTL=128
Reply from 1.1.1.1: bytes=32 time<1ms TTL=128
Reply from 1.1.1.1: bytes=32 time=1ms TTL=128
Reply from 1.1.1.1: bytes=32 time=4ms TTL=128

Ping statistics for 1.1.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 6ms, Average = 2ms

C:\>ping 1.1.1.1

Pinging 1.1.1.1 with 32 bytes of data:

Reply from 1.1.1.1: bytes=32 time=3ms TTL=128
Reply from 1.1.1.1: bytes=32 time=2ms TTL=128
Reply from 1.1.1.1: bytes=32 time=3ms TTL=128
Reply from 1.1.1.1: bytes=32 time=4ms TTL=128

Ping statistics for 1.1.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 2ms, Maximum = 4ms, Average = 3ms

C:\>
```

HUB & SWITCH SCREENSHOT:

The image displays two screenshots of the Cisco Packet Tracer interface, showing a network simulation setup and its execution.

Top Screenshot:

- Network Topology:** A central 2960 24TT Switch0 is connected to two Hubs0. Each Hub0 is connected to two PCs (PC1, PC2 on the left; PC3, PC4 on the right).
- Simulation Panel:** The Event List is empty, indicating the simulation has just started. The "Constant Delay" checkbox is checked.
- Time:** 00:21:44.517

Bottom Screenshot:

- Network Topology:** The same network topology as the top screenshot.
- Simulation Panel:** The Event List shows a series of ICMP events, indicating network activity. The "Constant Delay" checkbox is checked.
- Time:** 00:21:44.523

Event List (Bottom Screenshot):

Vis.	Time(sec)	Last Device	At Device	Type
	0.000	---	PC2	ICMP
	0.001	PC2	Switch0	ICMP
	0.002	Switch0	Hub0	ICMP
	0.003	Hub0	PC0	ICMP
	0.003	Hub0	PC1	ICMP
	0.004	PC0	Hub0	ICMP
	0.005	Hub0	PC1	ICMP
	0.005	Hub0	Switch0	ICMP
	0.006	Switch0	PC2	ICMP