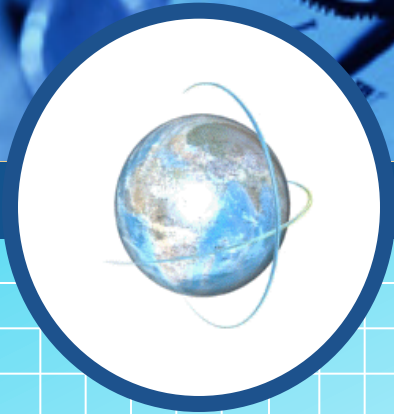


LOGO



Computer Networks

Ch 6

Lecturer :- Dr . Saif Alansari

Dynamic Host Configuration Protocol (DHCP)



Dynamic Host Configuration Protocol



DHCP

DHCP Discovery

DHCP Offer

DHCP Request

DHCP Ack

DHCP Information

DHCP Release



DHCP

HELLO.

*Any DHCP
Servers Here?*

*Looking for an
IP Address!*



DHCP Discovery

DHCP Offer

DHCP Request

DHCP Ack

DHCP Information

DHCP Release



DHCP Discovery

DHCP Offer

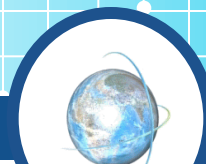
DHCP Request

DHCP Ack

DHCP Information

DHCP Release

I offer you 192.168.1.2 and I am
192.168.1.1



WAIT! I offer you 192.168.1.50 and I
am 192.168.1.200

DHCP Discovery

DHCP Offer

DHCP Request

DHCP Ack

DHCP Information

DHCP Release

I offer you 192.168.1.2 and I am
192.168.1.1



I got 2 offers

*I will take
192.168.1.2
from DHCP
Server
192.168.1.1*

DHCP Discovery

DHCP Offer

DHCP Request

DHCP Ack

DHCP Information

DHCP Release



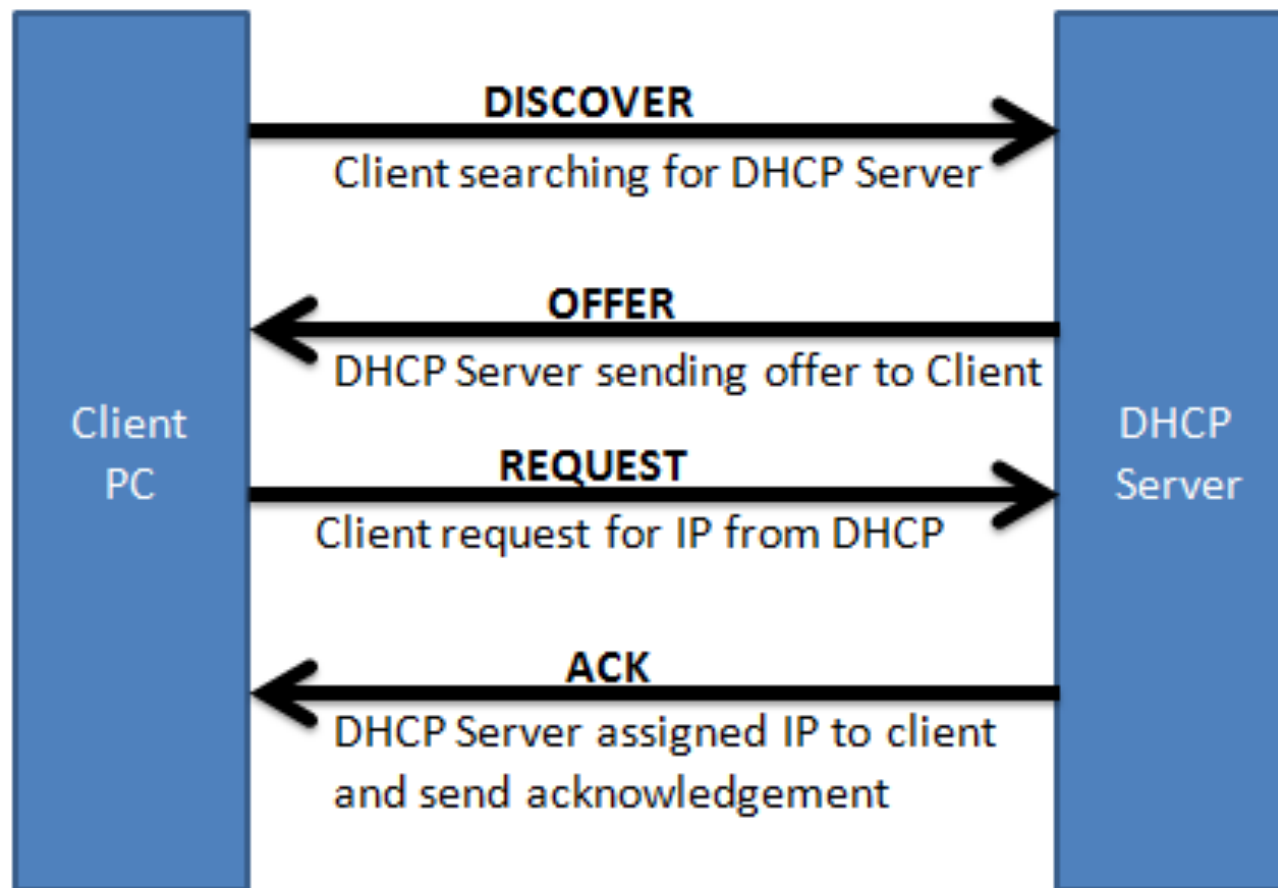
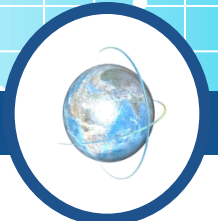


A hand is shown pointing towards a diagram of the DHCP process. The diagram consists of a vertical list of steps, with the fourth step, 'DHCP Ack', highlighted in blue. Two blue speech bubbles are present: one above the list saying 'Alright. I will put the address reserved back to the DHCP pool.' and one below the list saying 'Well Done. Good Decision.'

Alright. I will put the address reserved back to the DHCP pool.

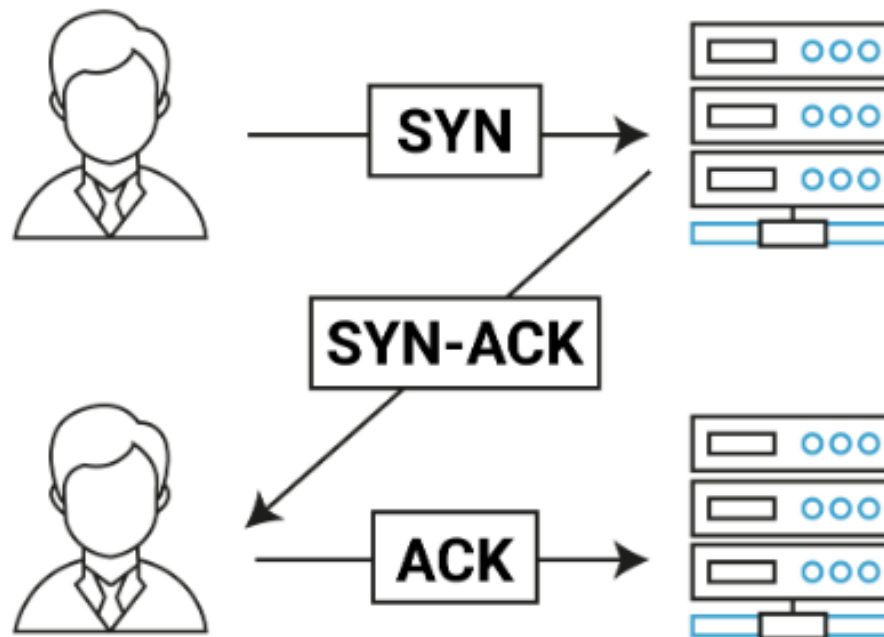
- DHCP Discovery
- DHCP Offer
- DHCP Request
- DHCP Ack**
- DHCP Information
- DHCP Release

Well Done. Good Decision.

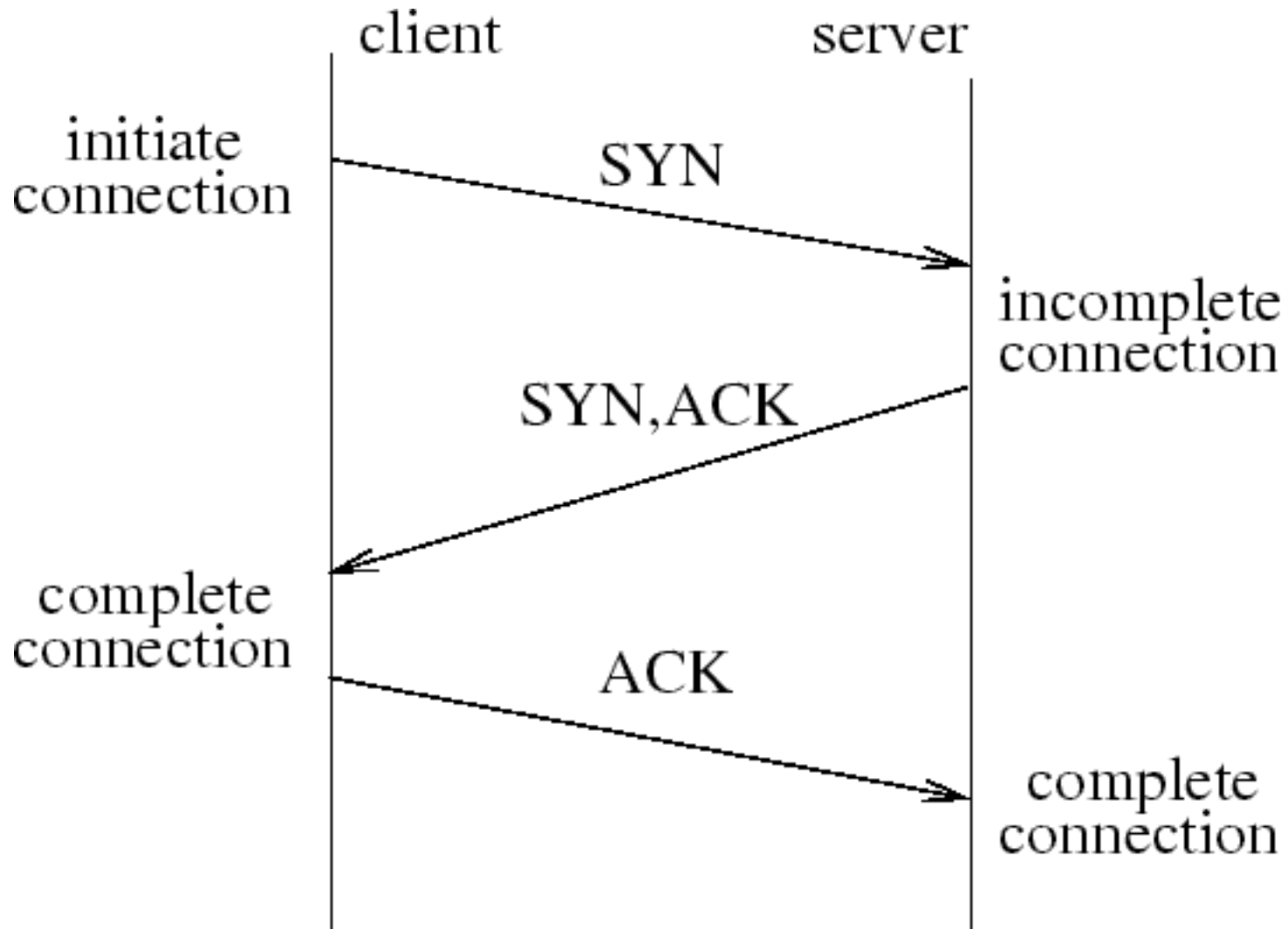


Tecadmin.net

3 way handshake



3 way handshake



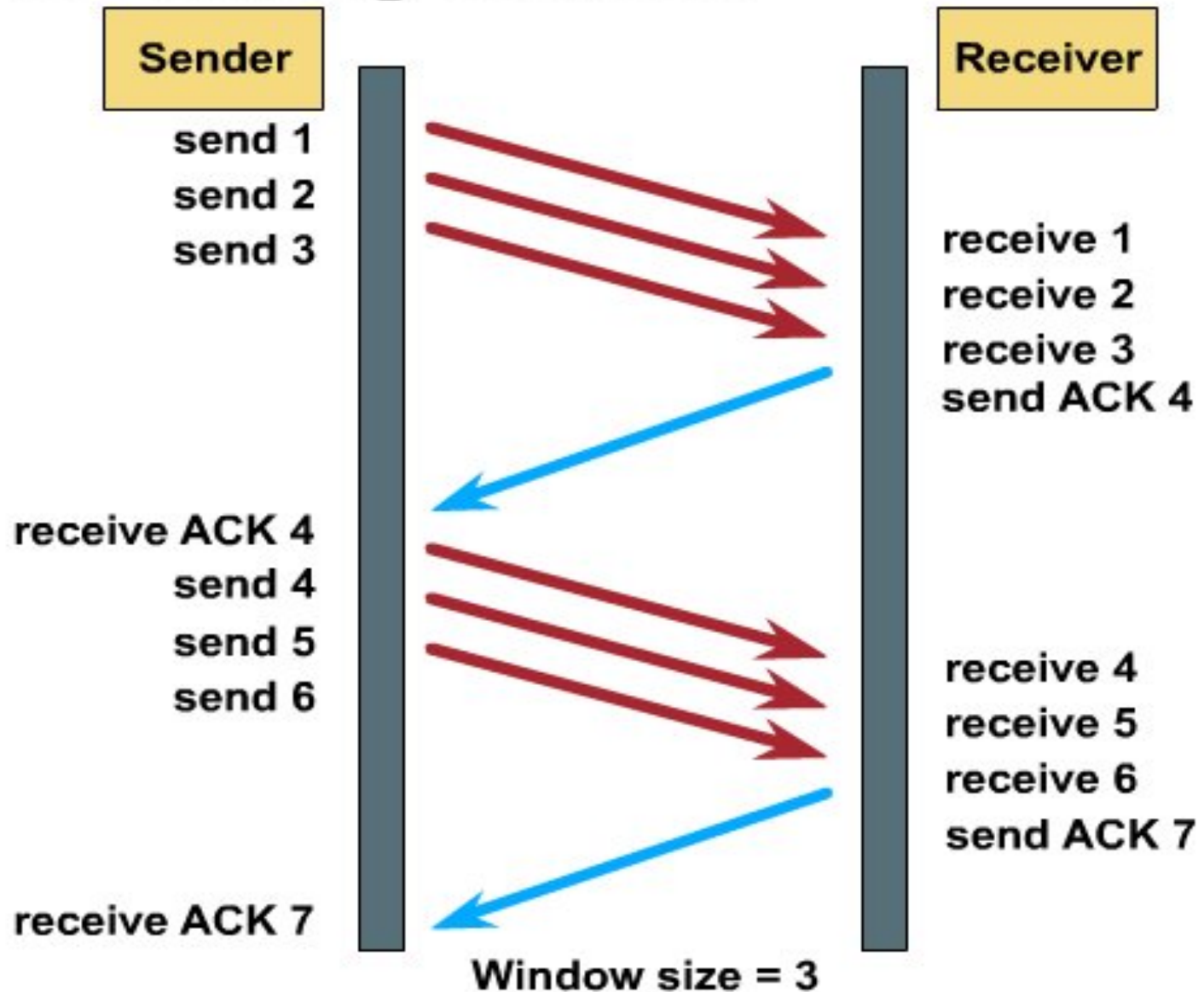


3 Way Hand Shake

Windowing

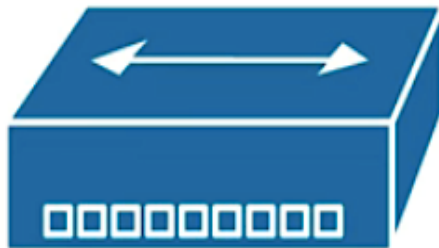


TCP Sliding Window





Network devices



Hub



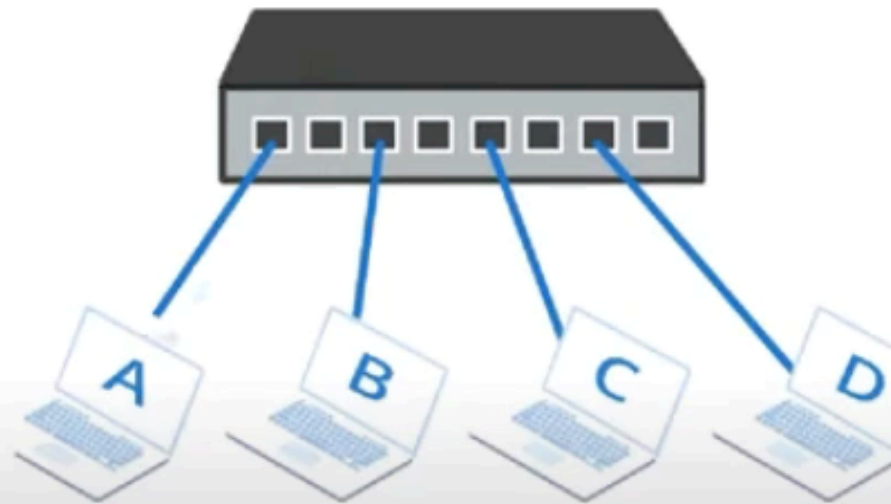
Switch

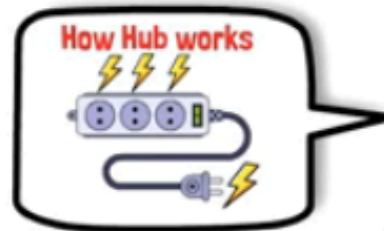
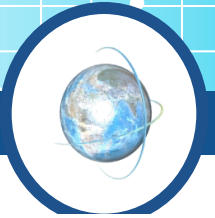


Router

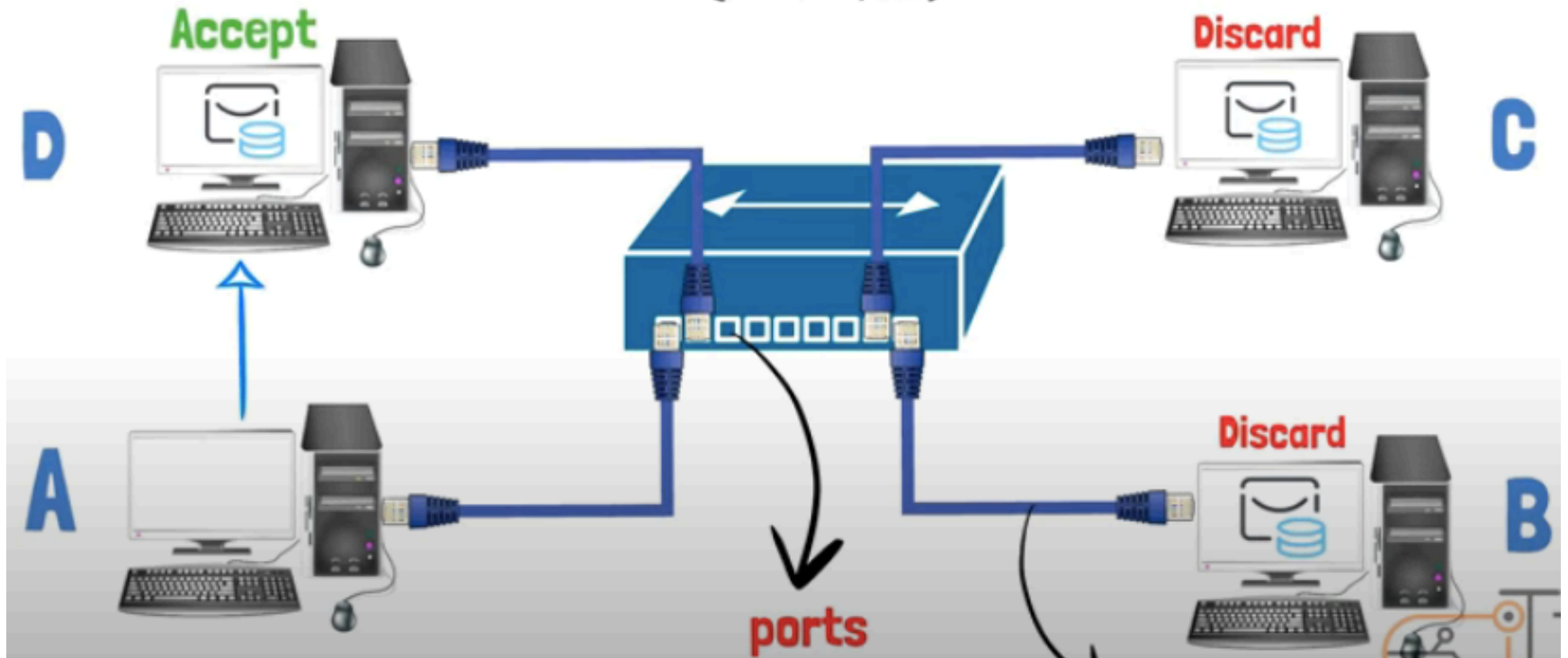


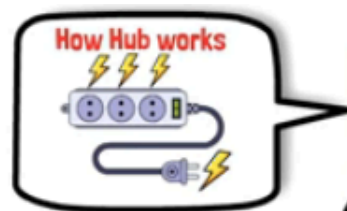
How Hub works





Hub (1 st Gen)





Hub (1 st Gen)



Disadvantages

- Security Concerns
- Unnecessary Traffic
(bandwidth)

Addresses



Layer 1 Device (Physical Layer)

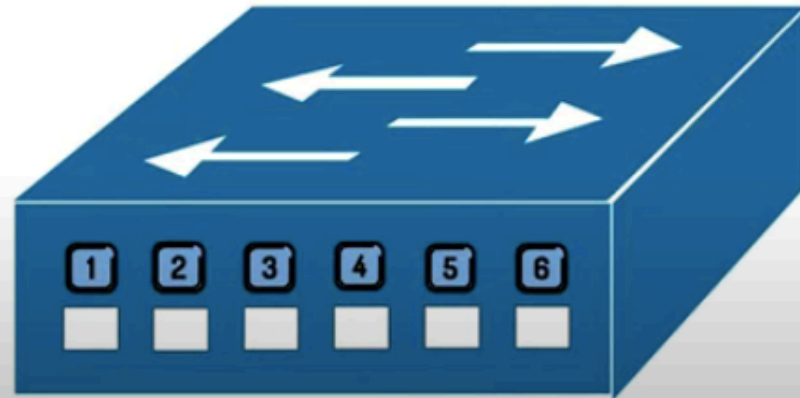
Half-duplex

Data Collision





Switch





Switch

-NO.of ports



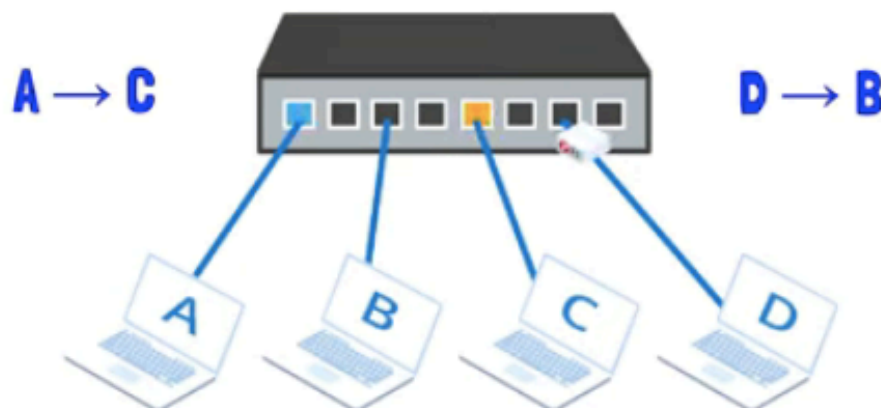
-Ethernet connection

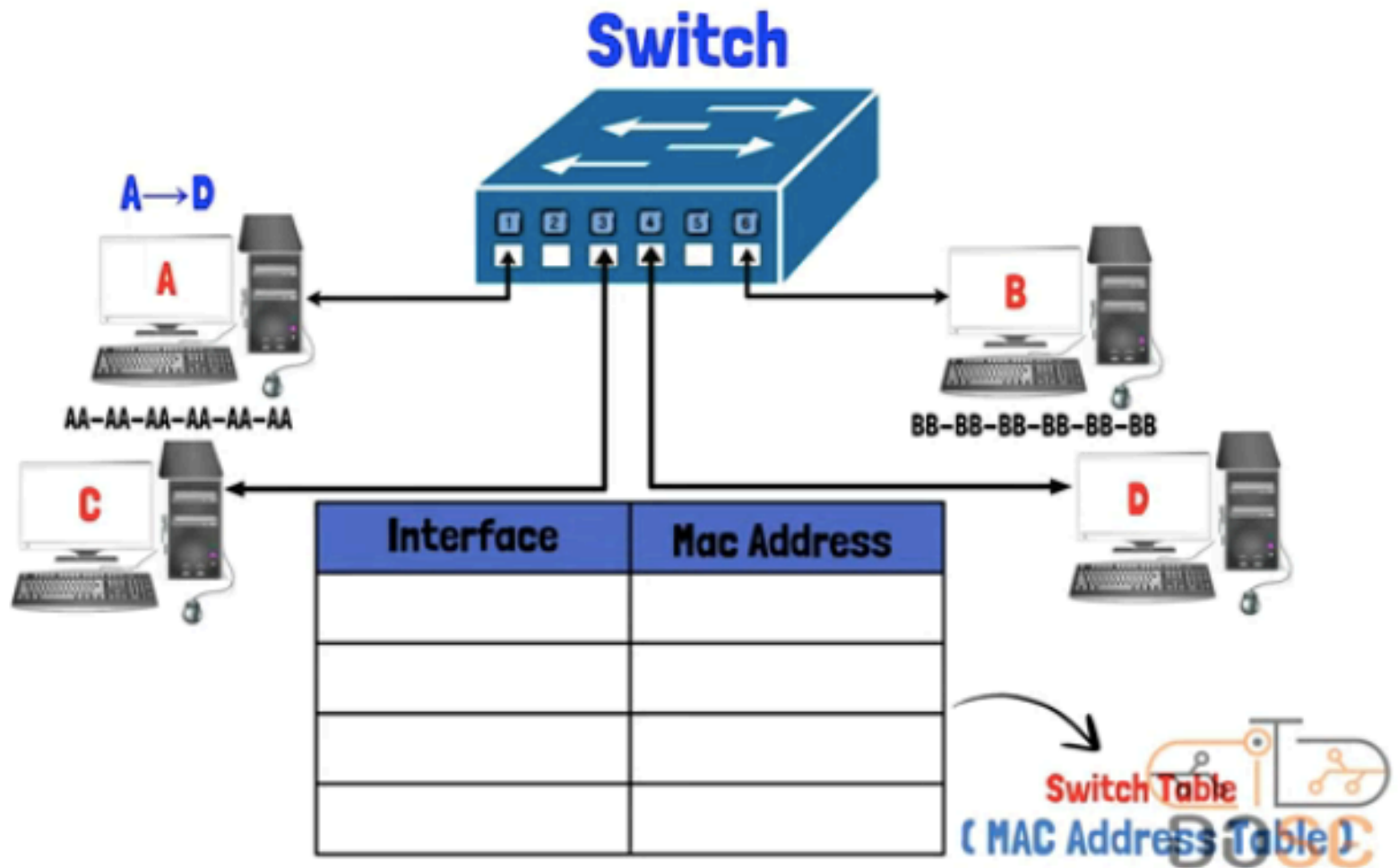


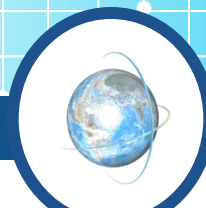
-MAC Address



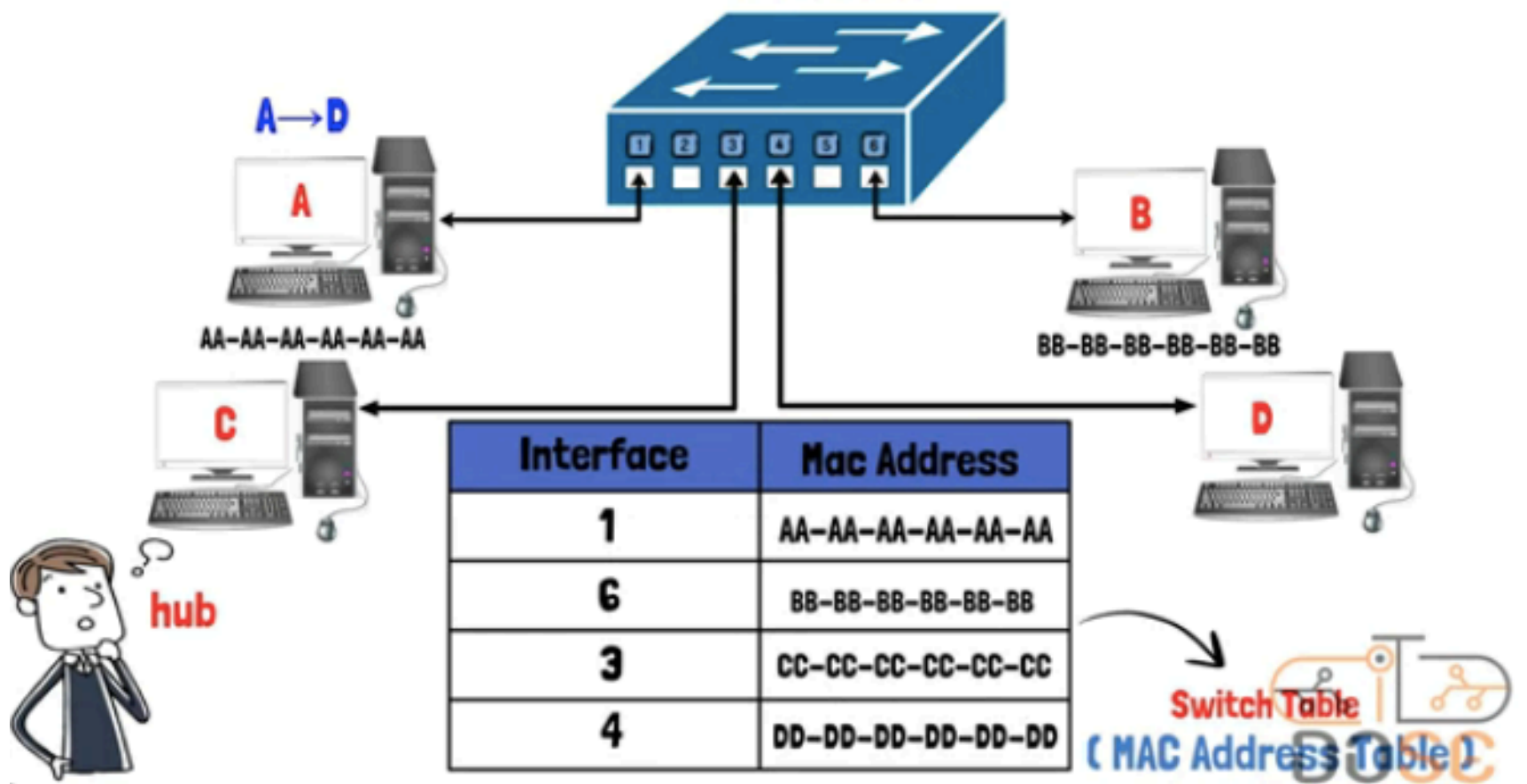
How switch works ?







Switch





Advantage

1-Fast detection for device

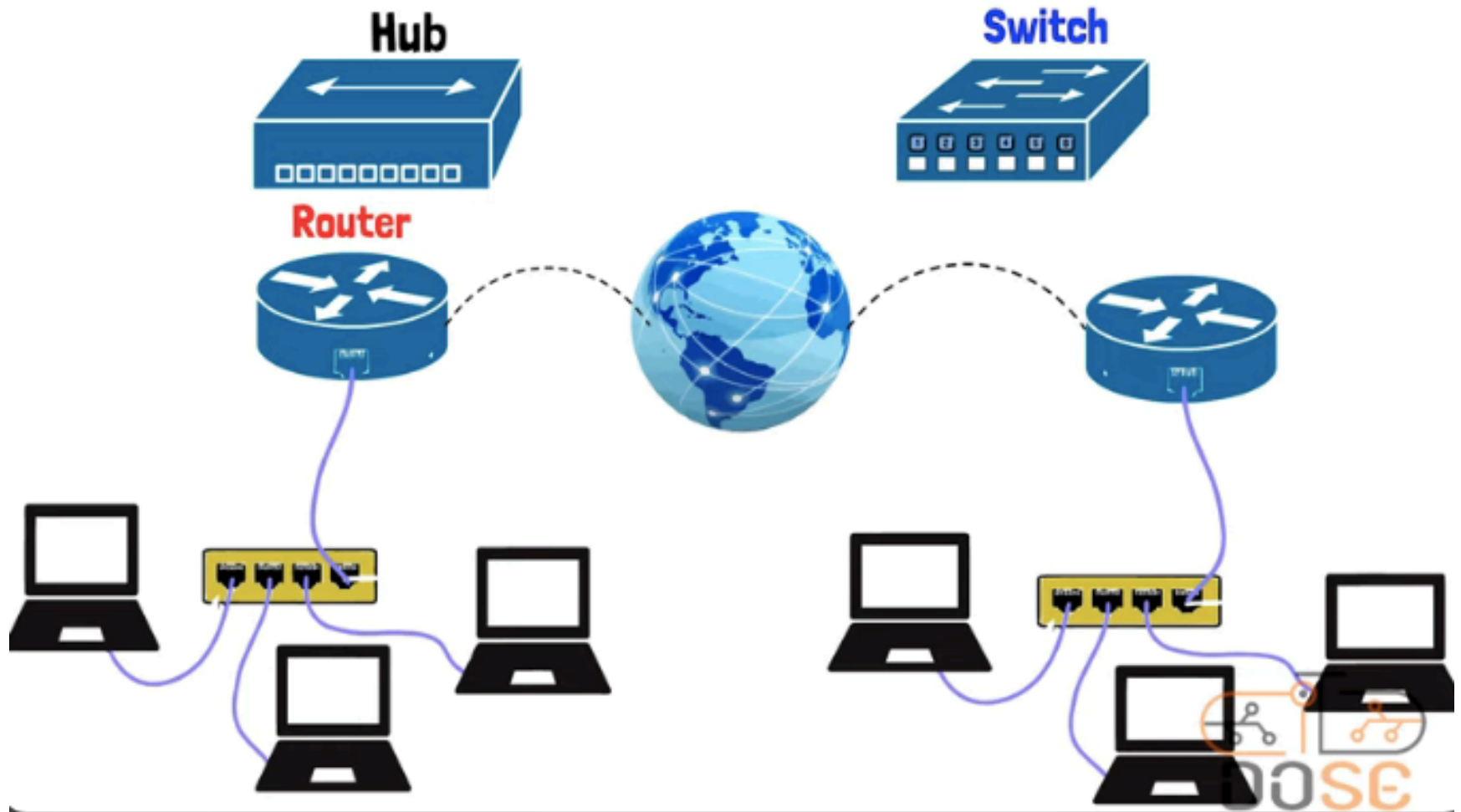
2-Layer 2 Device    data link layer

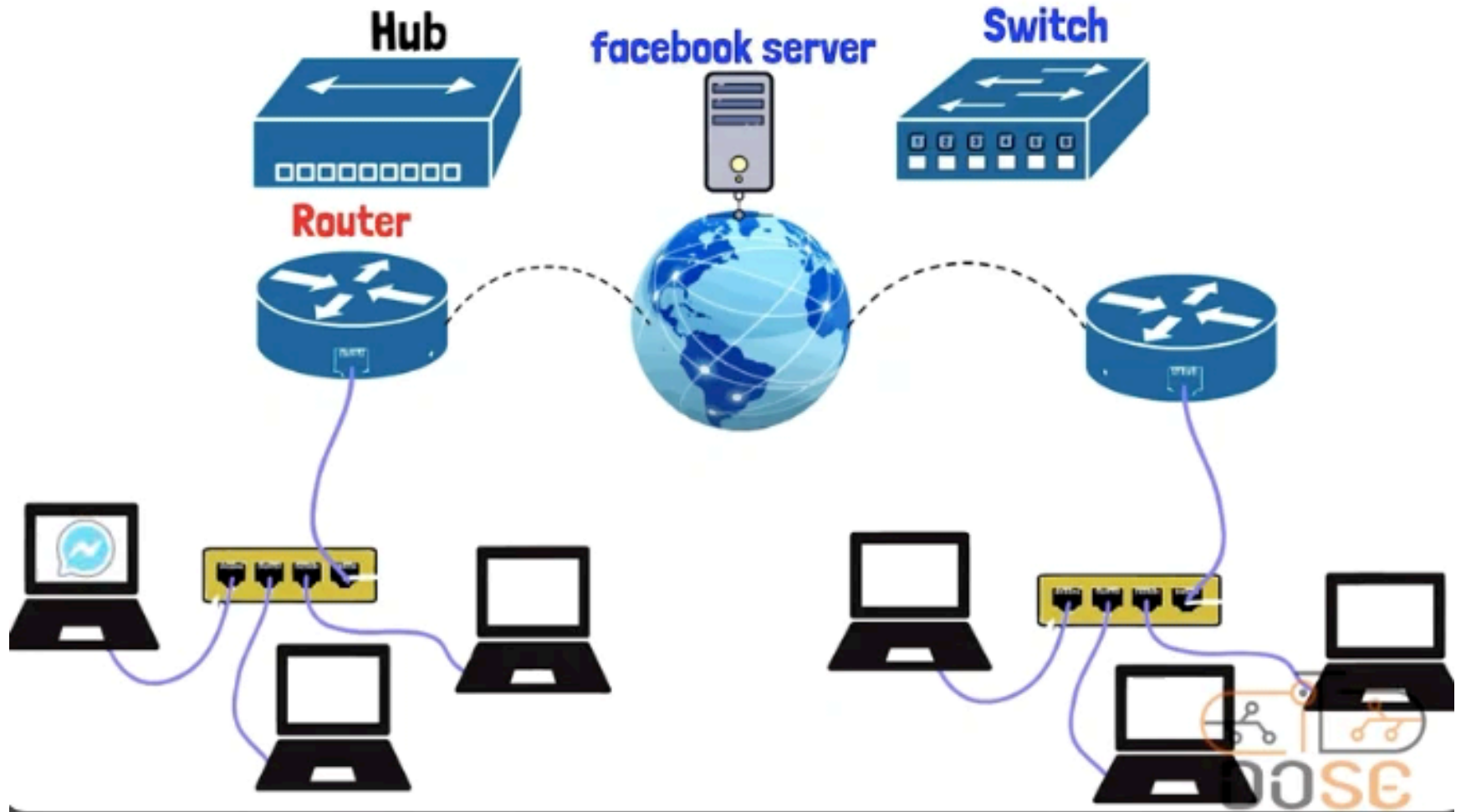
3-Full duplex   4-Multiple collision domain

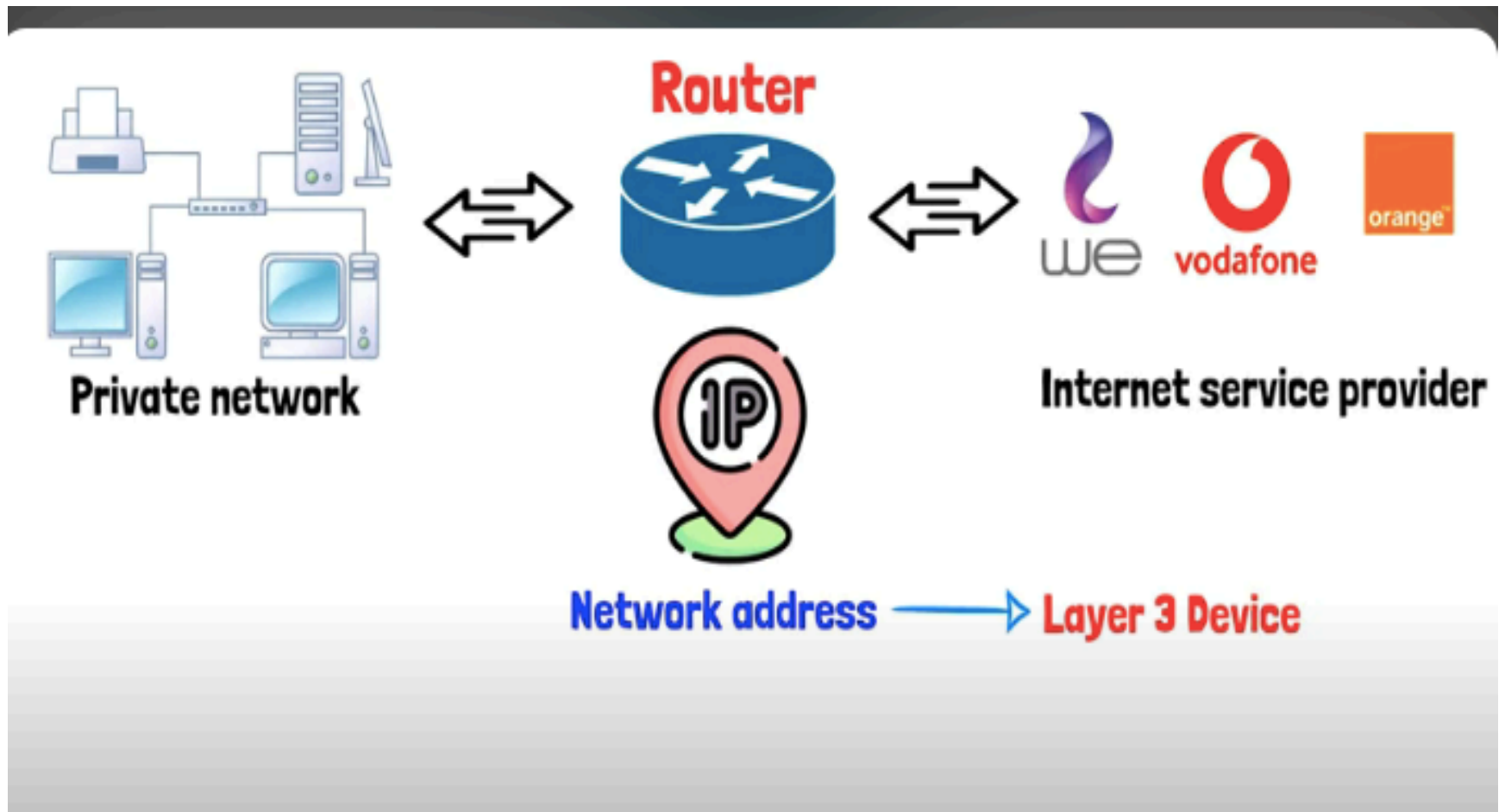
5-Saves Bandwidth

6-Increased security 









Assignment Next week (7-12-2024)



❖ Assignment Details:

- ❖ Each student is required to prepare a detailed report.**
- ❖ The report should explain the following networking devices in your own words:**
 - Hubs**
 - Switches**
 - Bridges**
 - Routers**