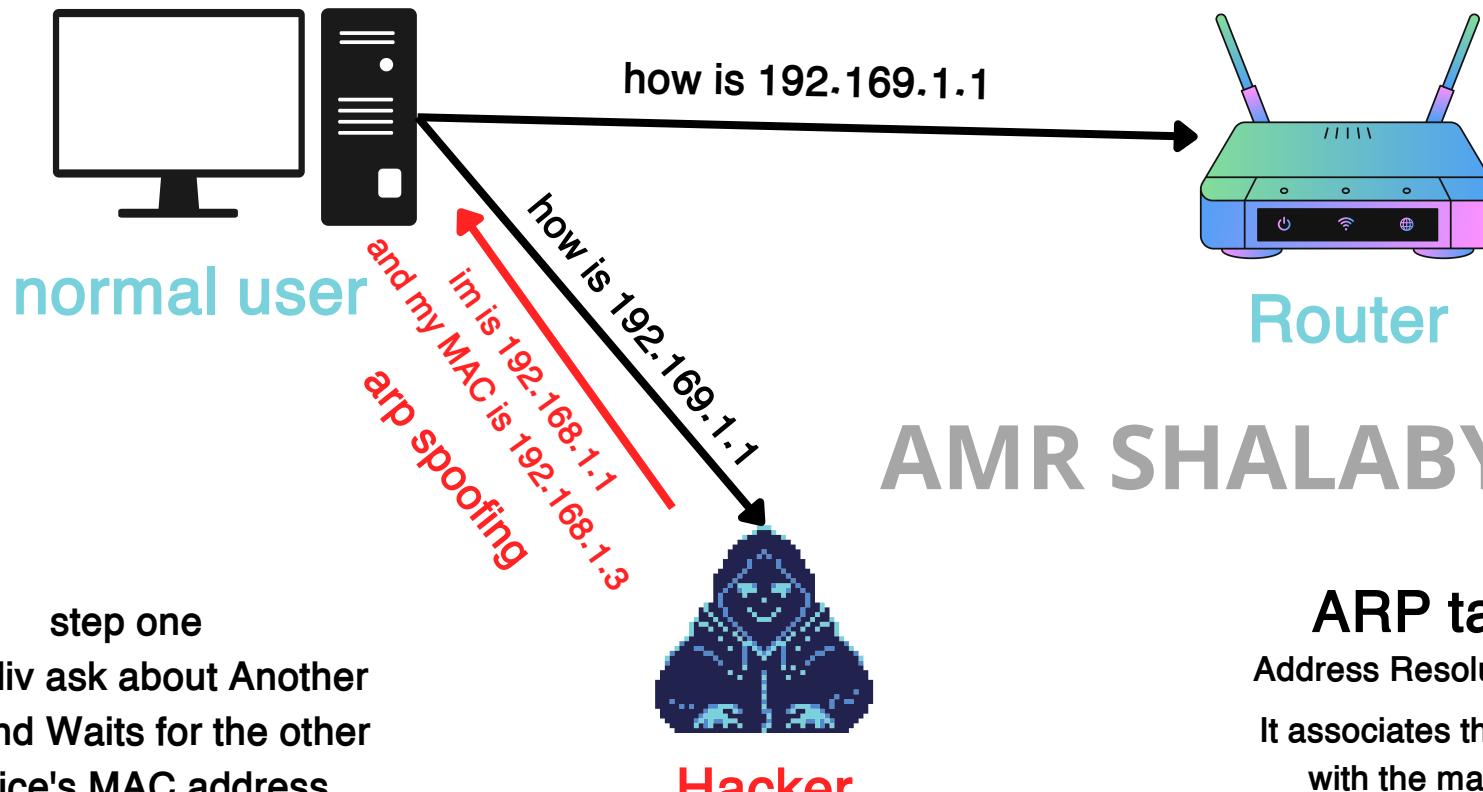


# MITM ATTACK

192.168.1.4



## AMR SHALABY

### ARP table

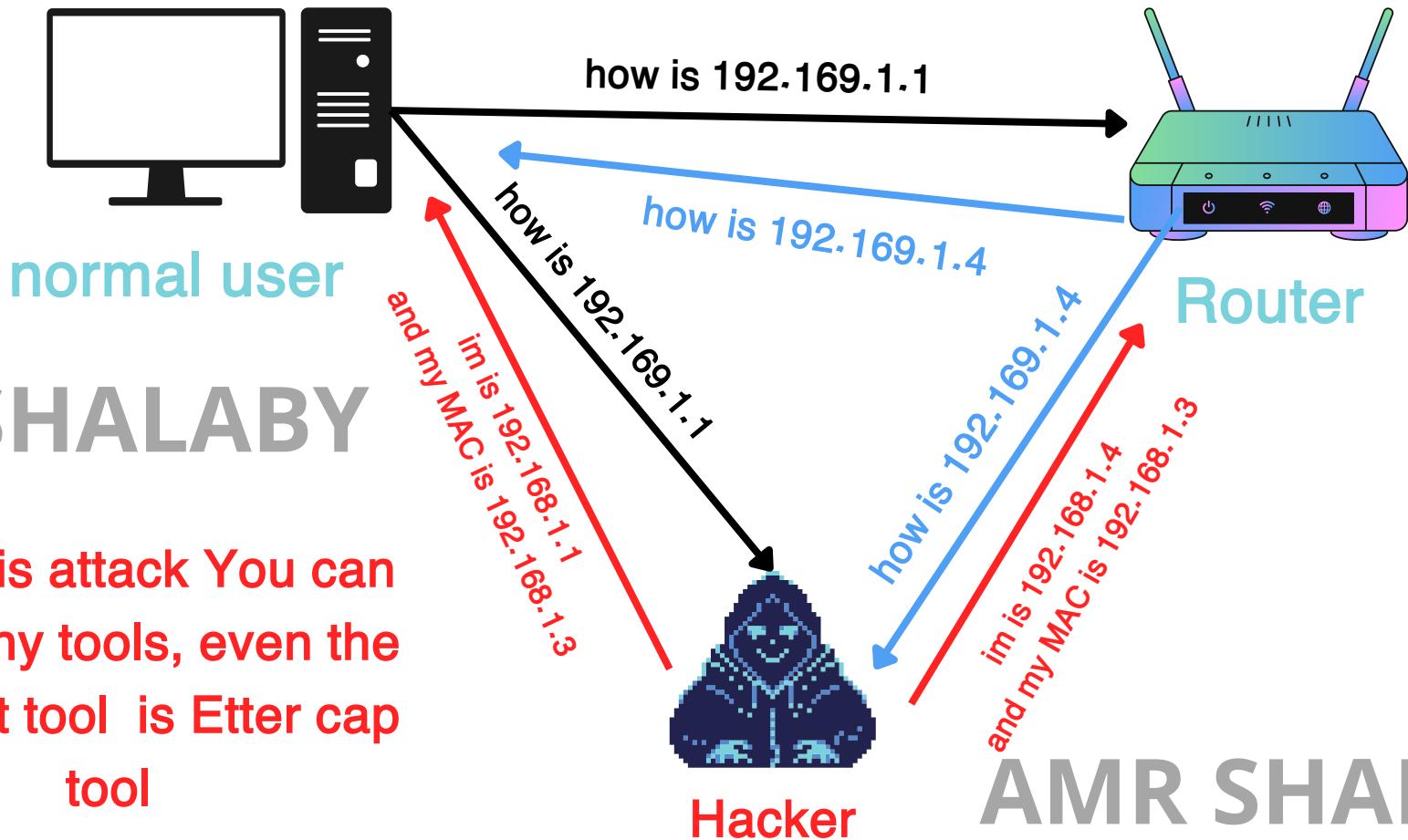
Address Resolution Protocol

It associates the IP address  
with the mac address

192.168.1.1	MAC 192.168.1.3
192.168.1.2	MAC 192.168.1.3
192.168.1.3	MAC 192.168.1.3

## AMR SHALABY

192.168.1.4



To protect yourself from attack,  
Use websites with https, never use open networks, and in  
case you are harmed, you can use vbn because it encrypts  
the connection.



# Part Two, try hack me part

about the various ways in which they are vulnerable to breaking. Break the LAN topologies to retrieve the flag.

*Answer the questions below*

What does LAN stand for?

local area network Correct Answer

What is the verb given to the job that Routers perform?

Routing Correct Answer Hint

What device is used to centrally connect multiple devices on the local network and transmit data to the correct location?

Switch Correct Answer Hint

What topology is cost-efficient to set up?

Bus Topology Correct Answer Hint

What topology is expensive to set up and maintain?

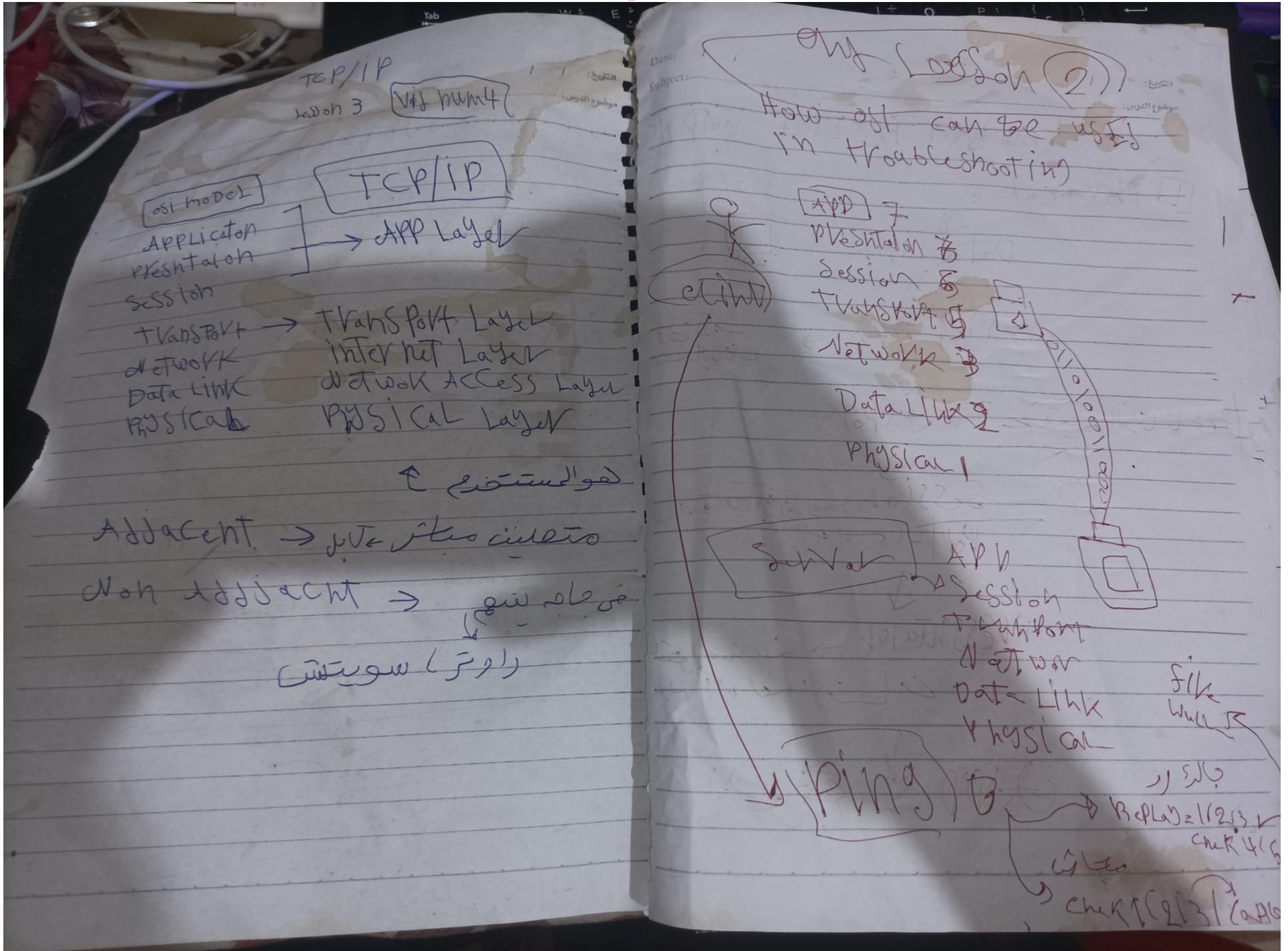
Star Topology Correct Answer Hint

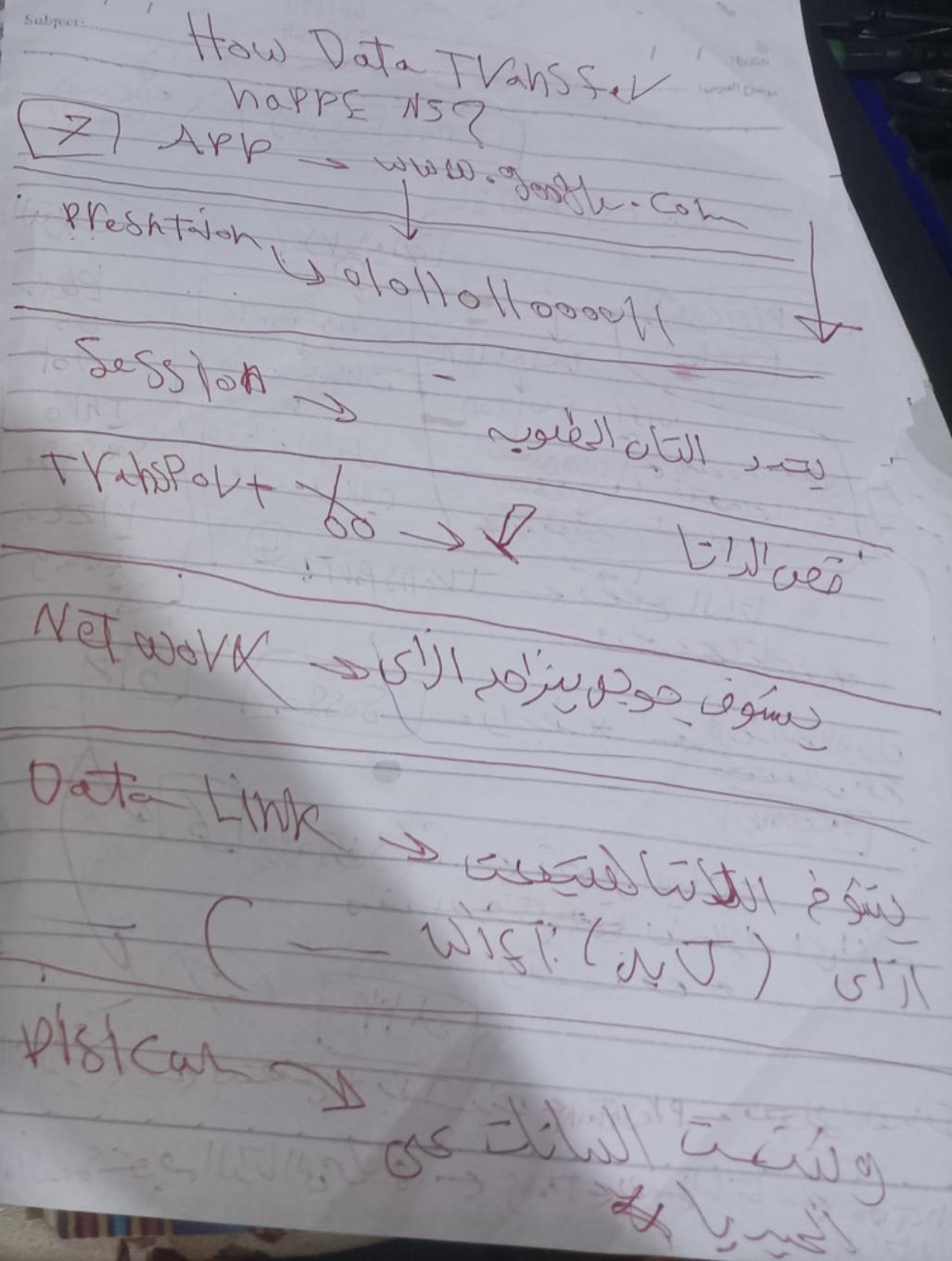
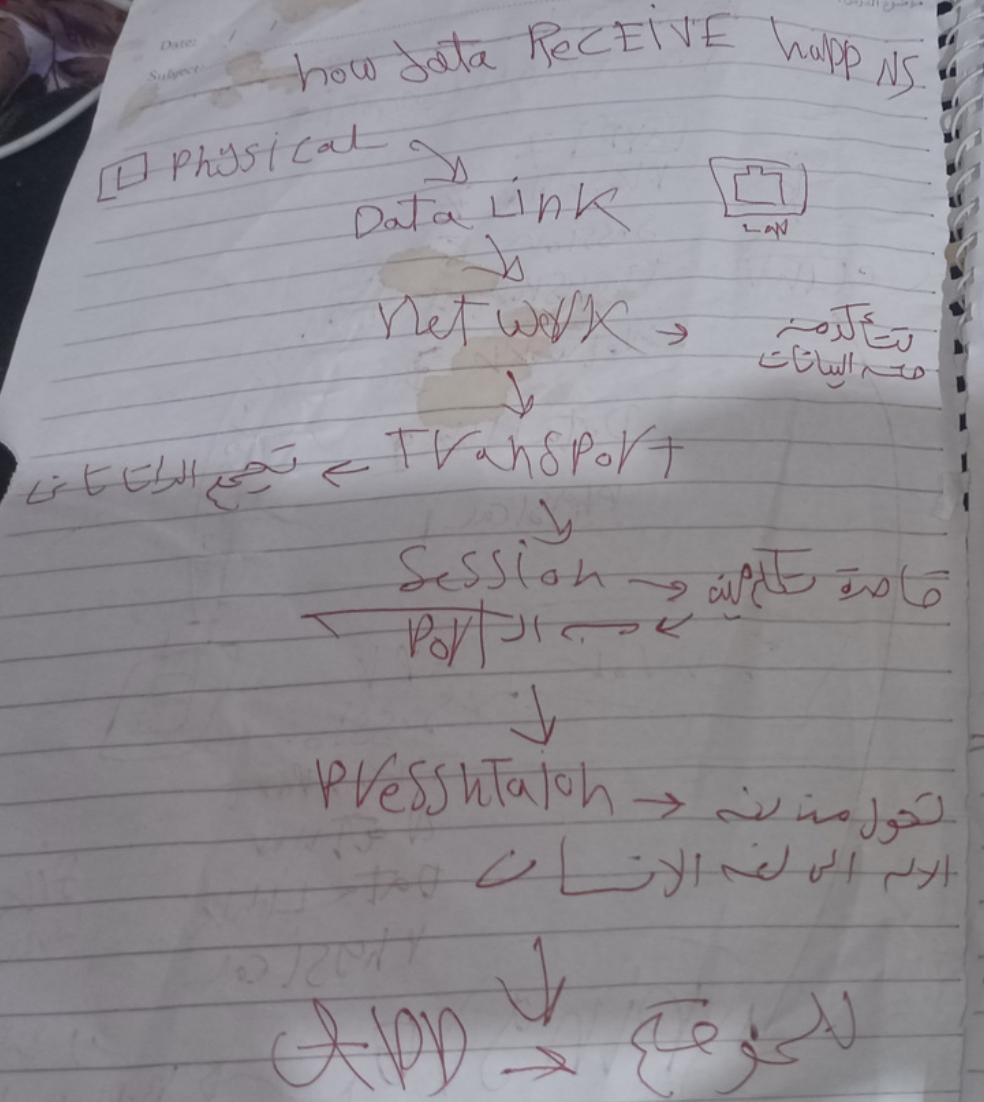
Complete the interactive lab attached to this task. What is the flag given at the end?

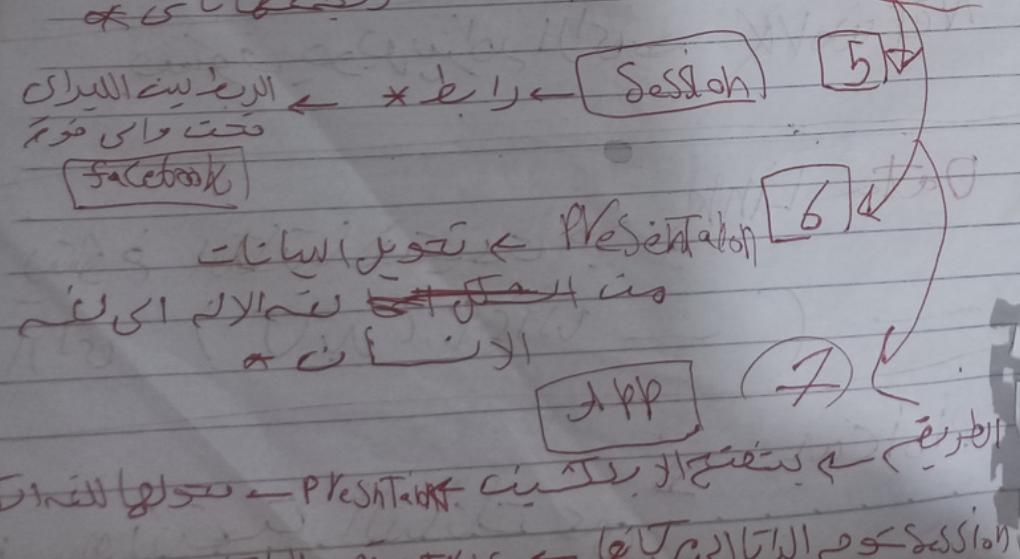
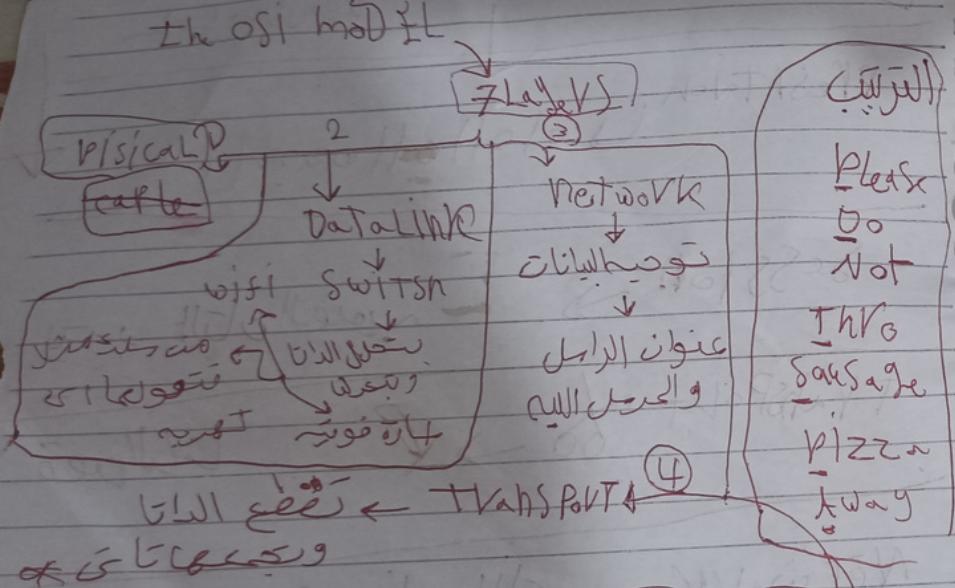
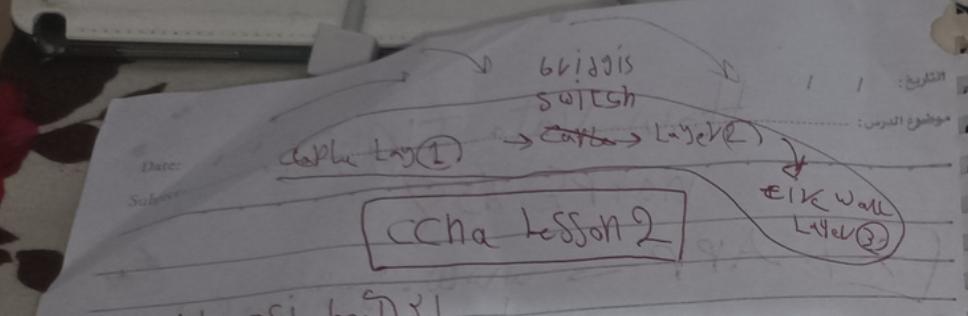
THM{TOPOLOGY\_FLAWS} Correct Answer

Task 2 ○ A Primer on Subnetting

# LAST







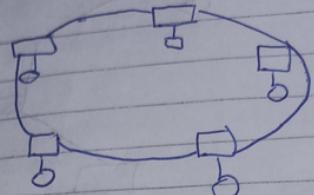
Date: / / Subject: / /

## TOPLOGIES Summary

النوع	Delay	Reliability	Scalability
Bus	Very High	Low	Very Low
Ring	High	Low	Low
Star	Low	High	Medium
Tree	Very Low	Very High	High

end of Lesson 1

Bing



- Single cable connects all clients in circle form.
- Only one client can send traffic in the ring.
- Non-complex troubleshooting (log)
- Very cheap
- unreliable  $\rightarrow$  غيرiable (No security) \*

END SYSTEMS and  
INTERMEDIATE SYSTEMS

User  
ES

Subnet  
SF

APP Layer  $\leftarrow$  Direct APP Layer  
Non-adjacent Peer Layer

TRANSPORT  
Host to Host

Direct  $\leftarrow$  Transport Layer or  
Non-adjacent Host to Host

Internet Layer  $\leftarrow$  Router Internet Layer  
Adjacent

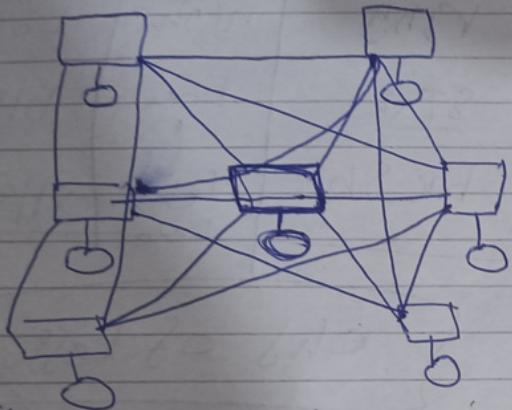
WAN ACCESS  $\leftarrow$  Router WAN Access

Physical  $\leftarrow$  Cable Physical Layer

Router

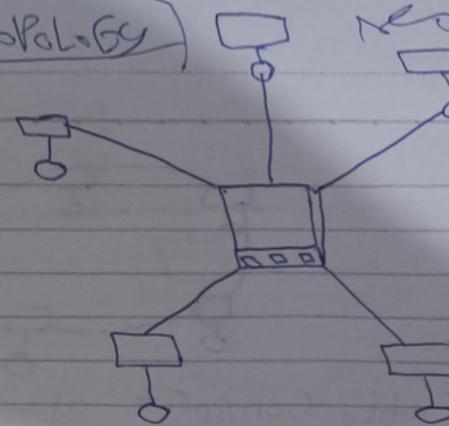
switch

## MESH TOPOLOGY



- Clients are cross connected with each others
- Support many clients so send and receive at same time
- Very complex in trouble shooting and very costly
- Very reliable
- Very secure \*

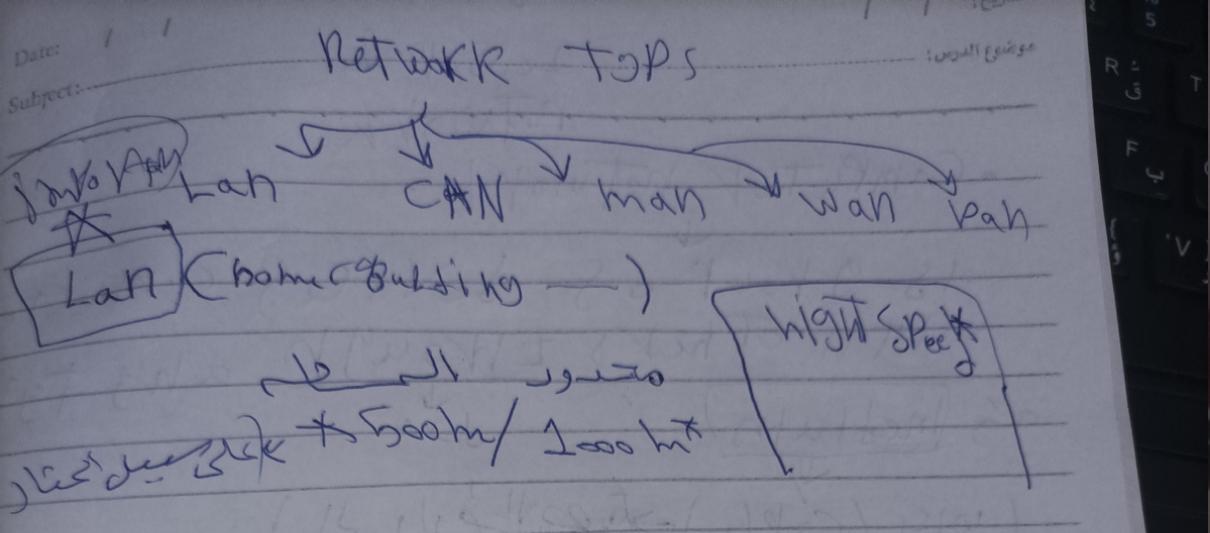
## STAR TOPOLOGY



- All Client Connected through Central Device
- Support many clients to send and receive at same time \*
- Average complexity in troubleshooting and higher cost

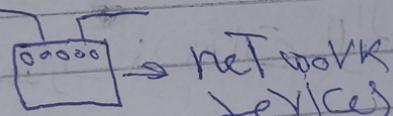
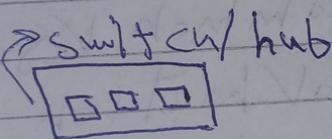
• Reliability can be achieved  
→ (easy)

Secure if the Central device (switch) is Secure

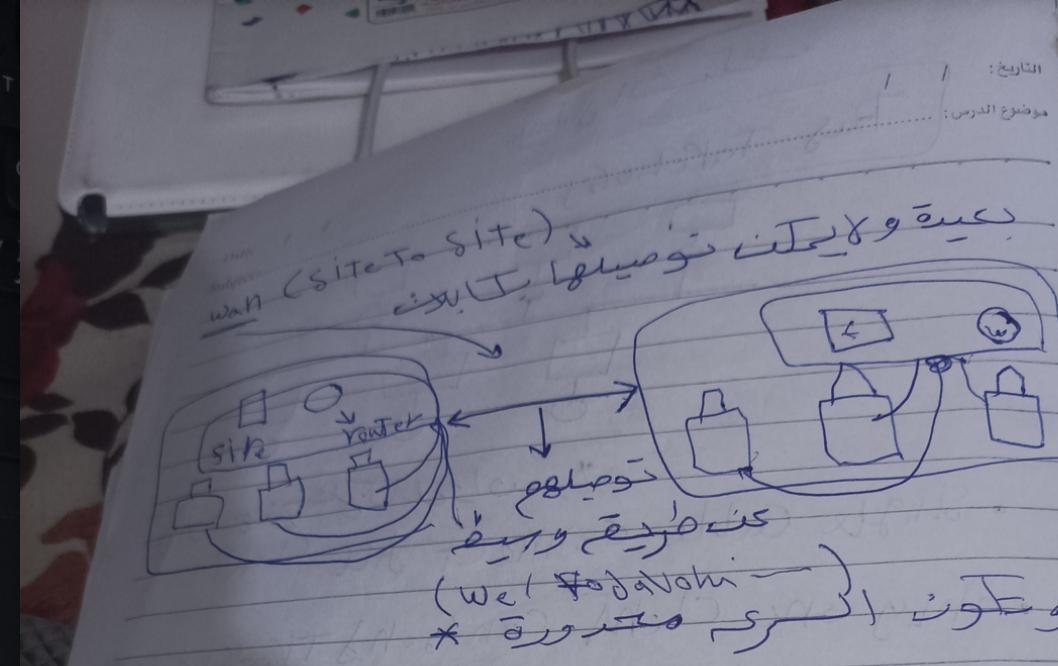
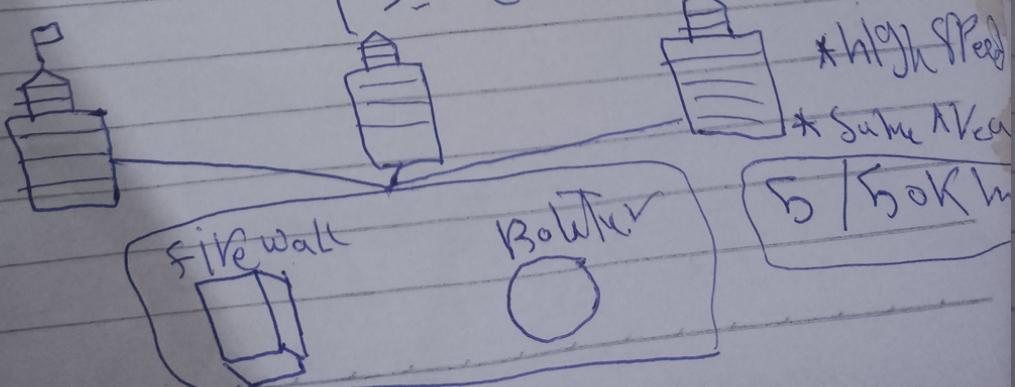


Layer 1 → Cable - RJ

Layer 2 → Router / Switch (Devices)



CAN → علاقة بين الأجهزة المترابطة (Relate between interconnected devices)



if Same Company → Intra-Net

if Different Company → Inter-Net

Path →reichheit

High Speed

ان حام وارجع

High Range (1)

Region

Lan → ~~High~~ Very high

CAN high

Wan light

Path light

دال وارجع

يسار وارجع

دال وارجع

wifi ←

بلوتوث (B)

staticnat

class public static void main(String[] args) {  
 System.out.println("Hello World");}

DYNAMIC ALLOC.

سیستم میزگرد  
سیستم میزگرد  
کاربری اینترنیت  
جذب کردن  
داینامیک

Part / Nat  
over look

public int addTwoNumbers()  
{  
 return 5 + 6;

ROUTING

وایرلنس

OCEANIC ROUTING

DYNAMIC

روز

شب

عمر

عمر

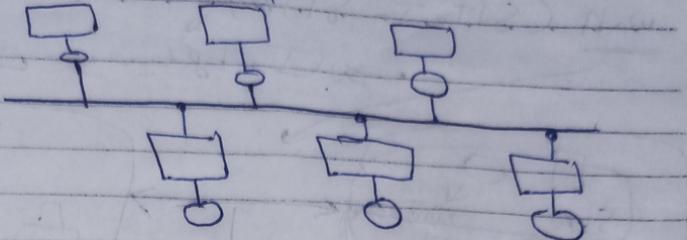
dest all vector

وایرلنس

hub

اتصالات

## Bus Topology



\* كل الأجهزة على نفس خط واحد

- Single Cable Connect ALL clients
- Only one client can send traffic in time
- Not Compliant in troubleshooting and very cheap

unreliable, if any device in path got  
disconnected All down.

(No Security) attack

Collision دعوى اصطدام

↓  
(خط)

↓  
العنوان

Protocol Selection

TCP UDP

Ethernet

UDP

TCP

بروتوكول

بيانات

أداة

IP 200T

8 بظمة

→ Email

Wi-Fi

WAN

→ Webkit/BSA

Drop Cap

IP و موجه

Host IP

cyber  
lesson 1  
network

computer network

is a group of devices connected with others through any type of medium

(wisi / cable) → (الرقمي / الكابل)

وأليه

The purpose of network connection is to share common resource or to exchange information

(بيانات الموارد المترابطة) ↓



**END**