NETWORKING DEVICES

HOSTS

Hosts are any device thet send or recive traffic

- Computer , phone , printer , server ...

And also the Internet Of Things devices

- TV , fridge , speaker , lights , watch ...

We have 2 type of hosts : **Client | server**

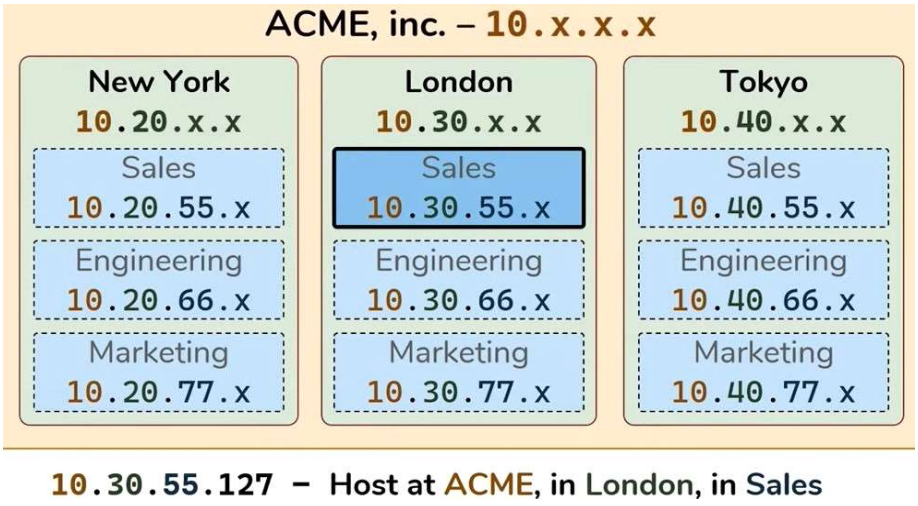
- **Client** : is the device that initiate the requests (He talk first)
- **Server** : is the device that respond to the requests (He listen)

IP ADDRESS

Ip address ins the identity of each host connected to the internet
Each request on the internet have an src and dest IP (from X to Y)
an IP itself is a set of **32 bits** | **4 Octets** | and each **octet [0 - 256]**

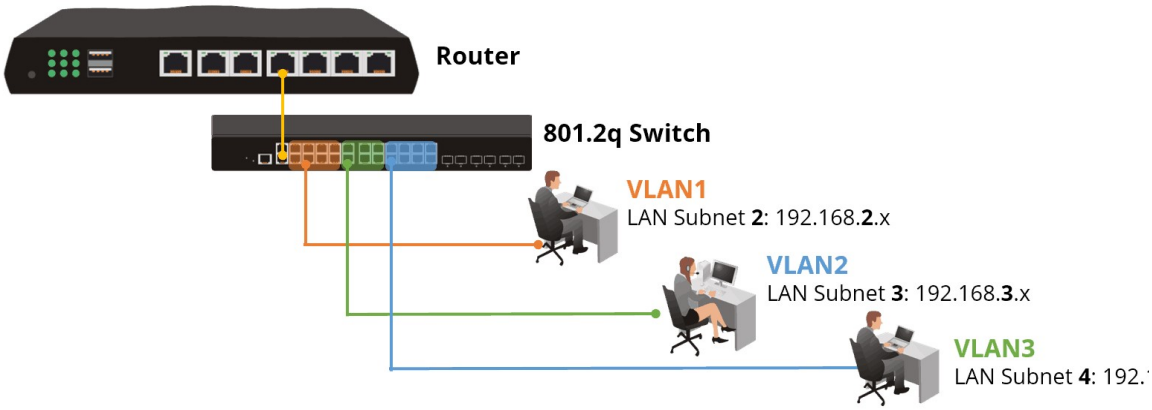
1 1 0 0 0 0 0 0 1 0 1 0 1 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 1
11000000 . 10101000 . 00000001 . 00000001
192 . 168 . 1 . 1

SUBNETTING



NETWORK

A network is what transport the traffic between two hosts or more
Networks can have other networks wich we call them **subnets**



INTERNET

The internet basiclly is a huge collection of hosts all over the world connected on to another

REPEATER

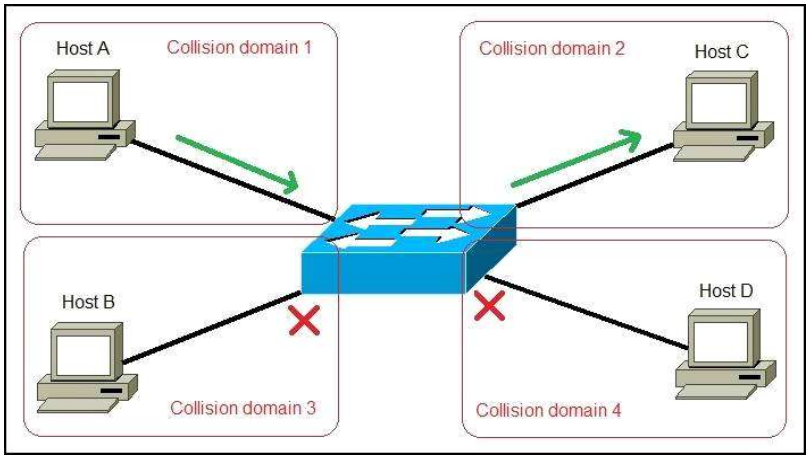
A repeater is a dynamic network device used to reproduce the signals when they transmit over a greater distance so that the signal's strength remains equal.

HUB

A hub is a device that simply broadcasts all incoming data to all other output ports. means if a hub has eight ports, then any input data that arrives on port 1 will be transmitted on all ports 2 to 8..

SWITCH

Switchs are networking devices operating at layer 2 or a data Link layer they are like a hub that trasmit the data but it's moe intelligent from the hub cuz the switch send the packet to the specific destination without brodcasting it or sending it to all the other hosts .



ROUTER

Routers are networking devices operating at layer 3 or a network layer of the OSI model. They are responsible for receiving, analysing, and forwarding data packets among the connected computer networks. When a data packet arrives, the router inspects the destination address, consults its routing tables to decide the optimal route and then transfers the packet along this route .