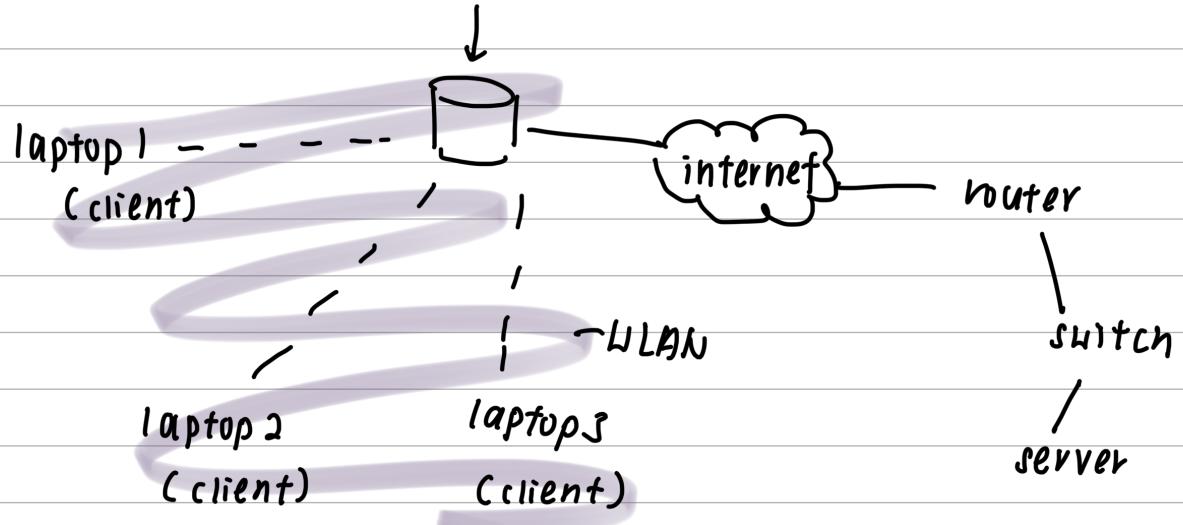


WLAN Access point (switch route)



Client → request server for content

connected by circuit (e.g. cable)

server → provide function & service for client

router

vs switch

- | | | |
|---|--|--|
| - connect multiple device from different network together | | - connect multiple devices to form a LAN |
|---|--|--|

Local Area Network (LAN)

- group of client & server sharing local circuit
- directly connected to each other using switch & cable

Backbone network (CBN)

- connect multiple LANs using router
- ↑ speed to handle network traffic between LAN

metropolitan area network (MAN)

- several km
- connect diff LAN & BN
- leased by telecom-companies

wide area network (WAN)

- connect countries (cross-countries)
- similar to MAN (but larger)

Latency & what affects it?

- Latency: how long it takes for 1 bit of data to travel from sender to receiver
- What affects latency: signal speed & device message passing through

Presentation logic : user interface

Application logic : how it behaves

Data access logic : how it manages data

Data storage : how it stores data

* Application architecture : how split work between client & server

* Popular : Thin-client

Layers & protocols :

* The Internet model (packet switching network)

Layers and Protocols

The Internet Model

- Describes a packet switching network

↳ transfer small piece of data across different network

Layer				
1	Hardware/ Physical	<ul style="list-style-type: none">• Concerned with the actual hardware, such as cables, plugs and sockets, antennas• Specifies the signals that are transmitted over cables or radio waves		
2	Data link	<ul style="list-style-type: none">• Defines the interface between hardware and software• Specifies how devices within one local area network exchange packets		
3	Network	<ul style="list-style-type: none">• Responsible for routing - deciding which path a packet takes through the network• 		
4	Transport	<ul style="list-style-type: none">• Establishes a logical connection between an application	4	Transport
			<ul style="list-style-type: none">• Establishes a logical connection between an application sending a message and the receiving application• Breaks up a large message into individual packets and reassembles them at the receiving side• Ensure that messages are received correctly, re-sending packets if they were received with errors	
			5	Application
			<ul style="list-style-type: none">• Actual application software that a user interacts with	

URL

- * SCHEME : what protocol must be used to retrieve
- * HOST : server?
- * PATH : specific document on the server

HTTP : * Hostless = send request independantly
↳ don't recognise users

* like : shopee . sign in as guest they'll remember who you are through cookies
↳ can save your stuff in the cart, they'll remember you

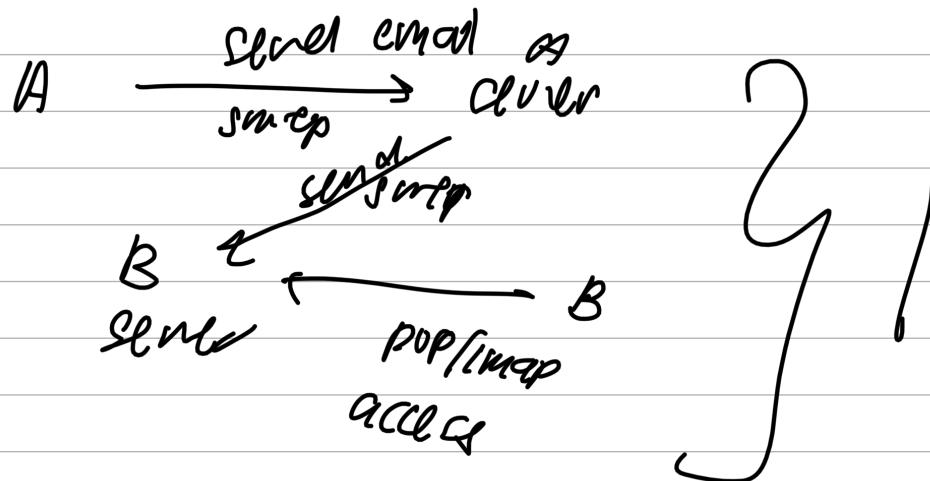
mail protocol

① smtp (simple mail transfer protocol)

② pop (post office protocol)

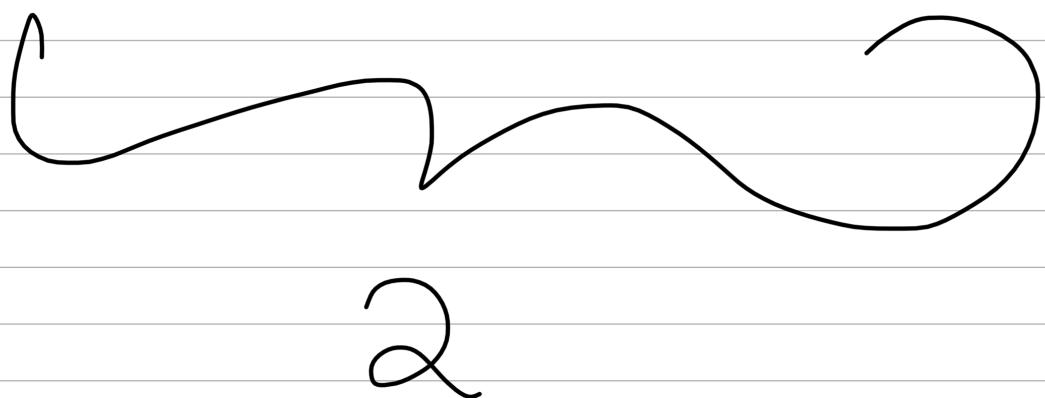
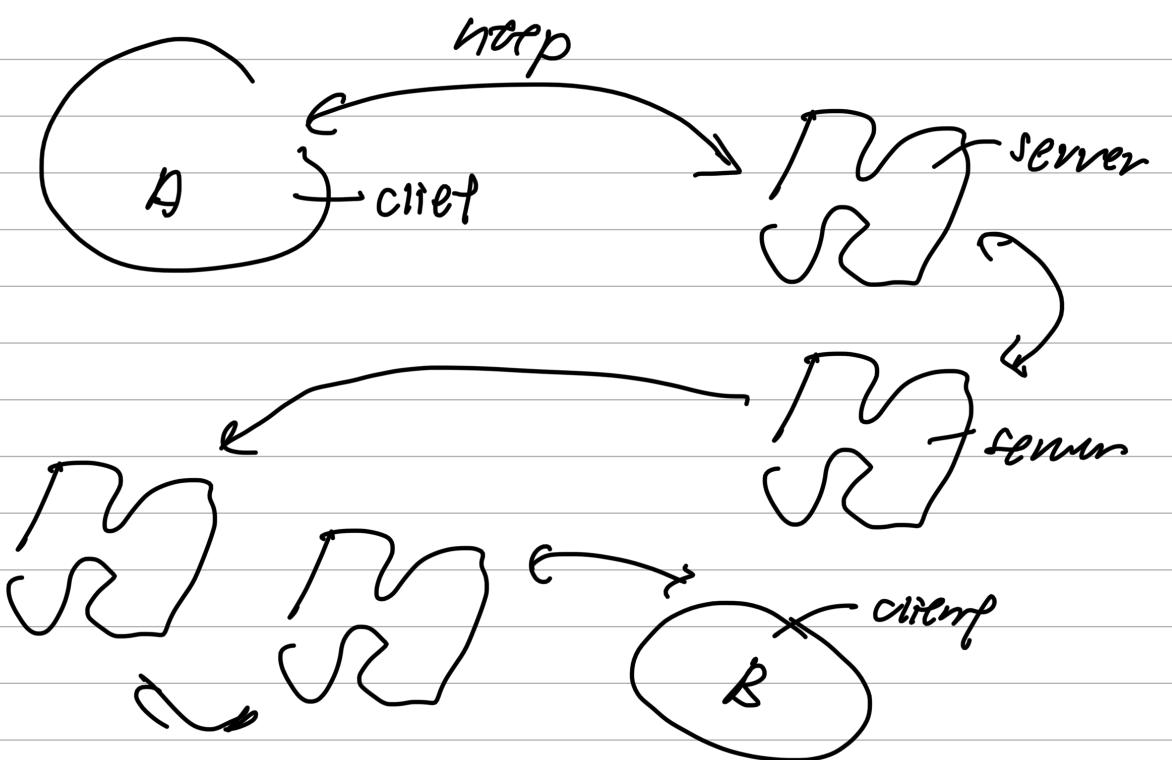
③ imap (internet mail access protocol)

} receive email



pop - delete

imap - keeps



2

URL = uniform resource locator

↳ address of a document

↳ uniquely identifies a particular documents in the Internet

↳ **https://www.digitalgasm.com / blog / seo**

scheme **host** **path**

* **scheme** = describes protocol used to retrieve the document

* **host** = identifies the server

* **path** = identifies a particular document on the server

HTML documents

↳ HTML = Hypertext markup Language

↳ web page represented by a document

HTTP = Hypertext Transfer Protocol

↳ how web browser request document from web server &
how web server responds to request

↳ request-response-cycle

↳ stateless

↳ requests sent independently

↳ server cannot recognise users

↳ session identifier = unique id assigned by web site's server
for users for duration of user's visit

↳ cookies = small piece of data returned to HTTP response header,
web browser stores the cookie and cookie will go
to specific user when the user visit the site again
to regain search / activity history of web site