**(01)** Identify the difference between HTTP and HTTPS.

    HTTP = HyperText Transfer protocol

    HTTPS = HyperText Transfer protocol Secure

       HTTPS = HTTP + security (encryption + certificate)

HTTP, data is sent as plain text. data can be hacking or data theft

HTTPS, data is encypted before sending. It prevents unauthorized access

    HTTP use 80 port, HTTPS use 443 port by default.

    HTTP ' browser show a often "Not secure" watching.

    HTTPS ' brower show a padlock icon 🔒

HTTP ˄ use<sub>connection</sub> for plublic blog, static website, HTTPS ˄ use for<sub>connection</sub> that handle login info, personal data, payment, banking like sites.

▸ HTTPS often use 443 port. Changing port/increasing port does not chang security. If you do not use standard port (like 443 port) Some users can't reach your site.

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• proxy server hide your ~~If~~ real If address, makes your browser anonymous.

• Cloud hosting.

    ~~Your site~~ Your site uses a cluster of servers working together, so resources (cpu, Ram, storage) are drawn from multiple machine.

• If one server fail, others take over, reducing down time.

• Speding up acces by multiple servers. (often balance traffic)

• ~~$to~~ Pay-as-you-go — You want to pay

dedicated server hosting

° security - Since you don't share the server, risk from other
    users are reduced

   ° best for buisness.

* You have all control

° High performance.

02) Compare dedicatet hosting server and Cloud hosting server.

| | dedicated hosting | cloud hosting |
|---|---|---|
| performance | • very high | • High and flexible - (load is balane by multiple servers) |
| cost | • expensive | • Pay-as-you-go (only for what you use) |
| Reliable | • If server fail downtime occur serve fixed | • one server fail, anothe takes over |
| Best for | • Buisness • high-secure apps | • Startups, growing buisness |
| Control | • full control | • Limited control |

= Static vs dynamic web page

Static web page is fixed content ~~the~~ saved in the disk and passed back to requesting browser without change. Use ~~HTML~~ HTML, CCS Technology. There is no Database connet, Load faster.

Dynamic web page, content change depending user, time, Interection. ~~Slowe~~ Slower than Static page. Buil using sever side language python, PHP, ~~database~~ ASP NET + databases. Usually connect to database.

= Client side dynamic and server side dynamic

Client side - Client / ~~I~~ browser process instructions and HTML ~~files~~ codes ( But web server looks HTML files togethe with instructions)

Server side - web server processes instructions and create the necessary HTML codes

Always server looks ~~at~~ HTML files ~~and~~ together with instruction. ~~when~~ ~~a client side~~ (where the proccessing is make client side or Server side) by named 2 types )

client side dynamic changes happen on your browser. It is Fast. server side changes happen in serer. Client side usually does not connect with the database for secultity Server side chang happen in server before sending page.