HTML and CSS - Introduction

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WWW (World Wide Web Consortium)

- The World Wide Web allows computer users to locate and view multimedia-based documents on almost any subject over the Internet.
- In 1989, Tim Berners-Lee of CERN (the European Organization for Nuclear Research) began to develop a technology for sharing information via hyperlinked text documents. Berners-Lee called his invention the HyperText Markup Language (HTML).
- He wrote the Hypertext Transfer Protocol (HTTP)—a communications protocol used to send information over the web.
- In October 1994, Tim Berners-Lee founded an organization—called the World Wide Web Consortium (W3C)—devoted to developing nonproprietary, interoperable technologies for the World Wide Web.
- Universally Accessible

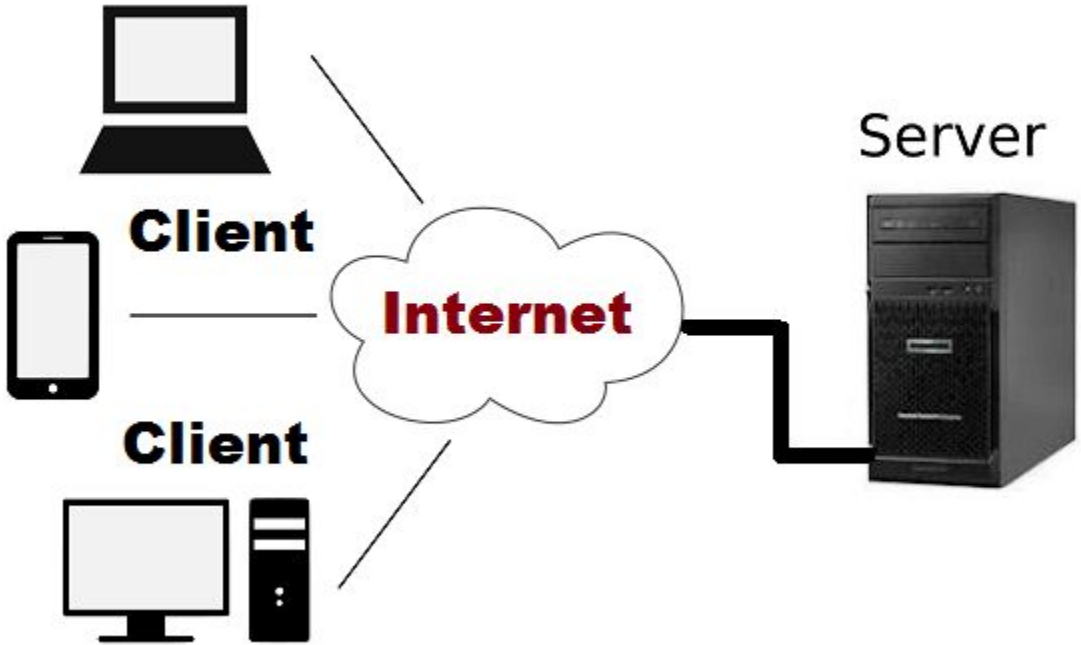
WEB 2.0

- ➔ Web 1.0 (the state of the web through the 1990s and early 2000s) was focused on a relatively small number of companies and advertisers producing content for users to access.(like lecturing)
- ➔ Web 2.0 involves the user—not only is the content often created by the users, but users help organize it, share it, remix it, critique it, update it, etc.(like conversation)

Client-Server Computing

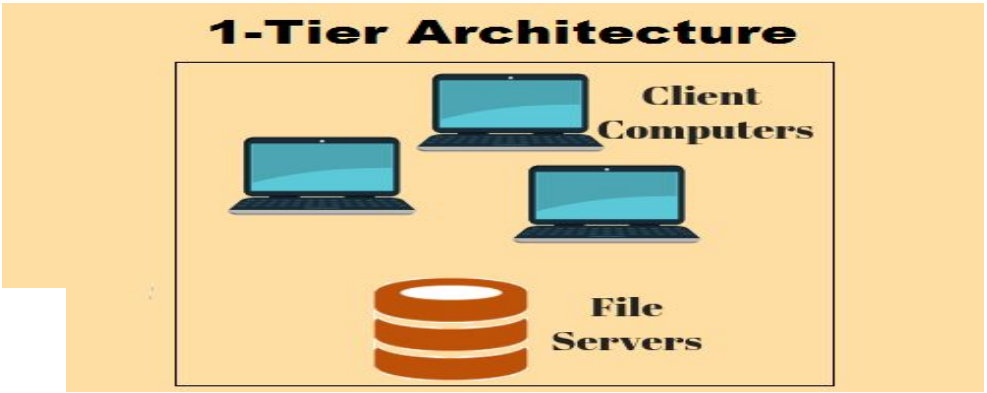
- Information is shared easily across computer networks, where computers called **servers** (file servers, database servers, web servers, etc.) offer data storage and other capabilities that may be used by **client** computers distributed throughout the network, hence the term client/server computing.
- In the client-server architecture, when the client computer sends a request for data to the server through the internet, the server accepts the request, process it and deliver the data packets requested back to the client.
- One special feature is that the server computer has the potential to manage numerous clients at the same time.
- Also, a single client can connect to numerous servers at a single timestamp, where each server provides a different set of services to that specific client.

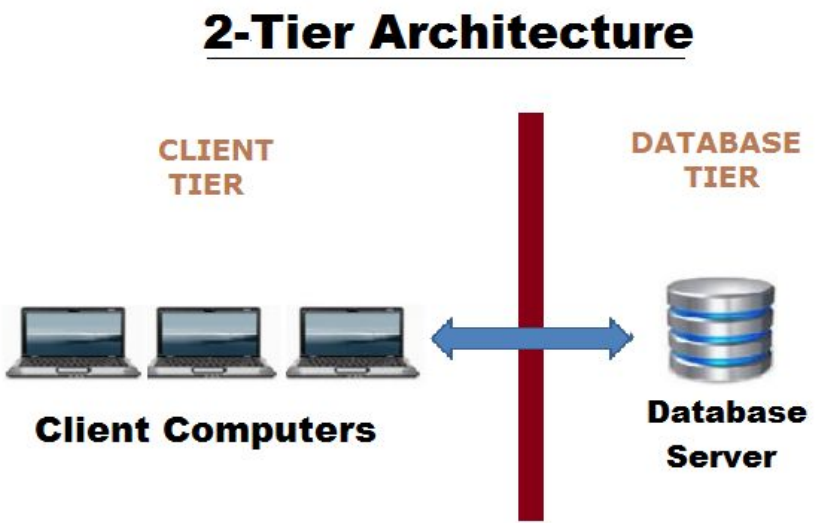
Basic Client Server Architecture

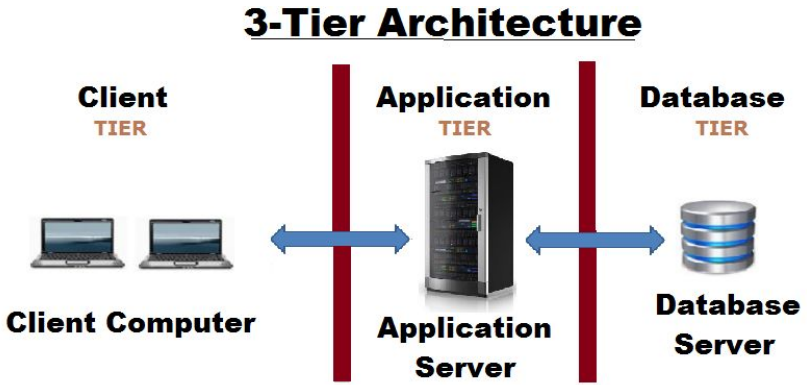


Types

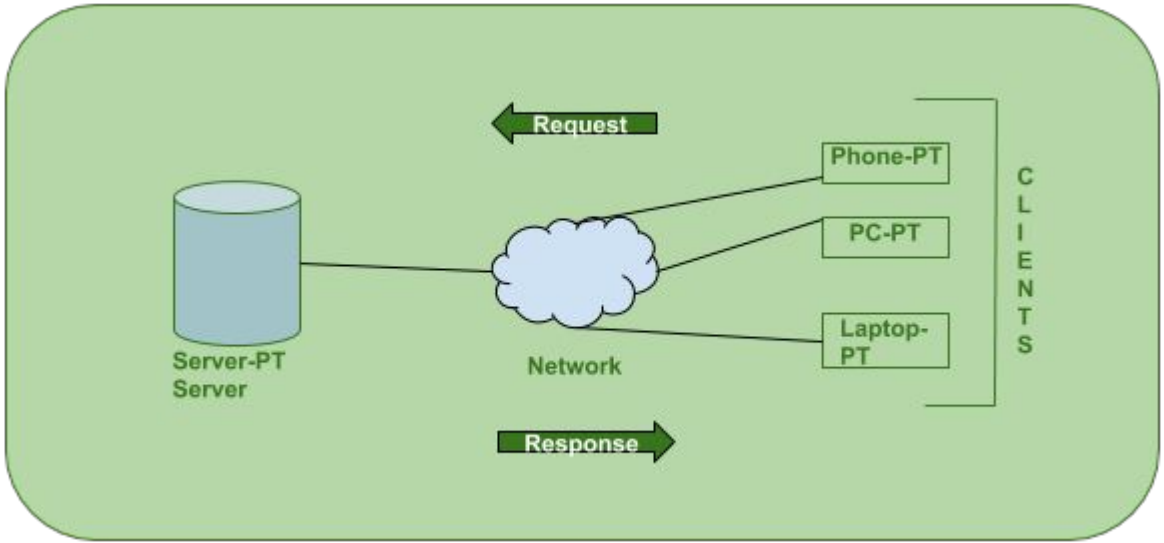
- 1-Tier Architecture
- 2-Tier Architecture
- 3-Tier Architecture







How Client Server Model Works?



How Client Server Model Works?

- ➔ User enters the **URL(Uniform Resource Locator)** of the website or file. The Browser then requests the DNS(DOMAIN NAME SYSTEM) Server.
- ➔ DNS Server **lookup** for the address of the WEB Server.
- ➔ DNS Server responds with the **IP address** of the WEB Server.
- ➔ Browser sends over an HTTP/HTTPS request to WEB Server's IP (provided by DNS server).
- ➔ Server sends over the necessary files of the website.
- ➔ Browser then renders the files and the website is displayed. This rendering is done with the help of DOM (Document Object Model) interpreter, CSS interpreter and JS Engine collectively known as the JIT or (Just in Time) Compilers.

Connecting to Internet

- Web browsers are software programs that allow users to access the web's rich content (IE,Chrome,Safari etc)
- First, a computer must have a modem or network card.
- A modem is hardware that enables a computer to connect to a network via phone lines. A modem converts data to audio tones and transmits the data over phone lines.
- A network card, also called a network interface card (NIC), is hardware that allows a computer to connect to the Internet through a network or a high-speed Internet connection, such as a local area network (LAN), cable modem or Digital Subscriber Line (DSL).

Connecting to Internet

- ➔ After ensuring that a computer has a modem or a network card (most computers come with one or both of these), the next step is to register with an Internet Service Provider (ISP).
- ➔ Computers connect to an ISP using a modem and phone line, or via a NIC using a LAN, DSL or cable modem. The ISP connects computers to the Internet.

Website Navigation - Example

Hyperlinks

- Another way to navigate the web is via visual elements on web pages called hyperlinks that,
- when clicked, load a specified web document. Both images and text may be hyperlinked.