FULL-STACK DEVELOPMENT/WEB DEVELOPMENT

Generally full-stack development is classified into 2 types:

1) Frontend development
2) Backend development

Who is Frontend Developer?

+ Frontend developer is used to create websites and web applications and front-end developer is a type of software developer who specializes in creating and designing the user interface (UI) and user experience (UX) of websites and web applications.
+ Frontend developer works with various languages, technologies and tools like HTML (Hypertext markup language), CSS (Cascading Style Sheets), JavaScript.

Who is Backend Developer?

+ Backend developer is used to build and maintain the mechanisms that process data and perform actions on websites.
+ Unlike frontend developers who control everything you can see on a website, back-end developers are involved in data storage, security, and other server-side functions that you cannot see.
+ Backend developers work with various languages (Python, Java, Ruby), tools, frameworks (Django) & Databases (MySQL, MongoDB).

What is an application?

+ To provide set of instructions to a device (or) a collection of programming languages to perform certain functions in a device.
+ The application is classified into 2 types,
    1) Standalone application
    2) Web application

1) **Standalone application:**
   - Software programs that can be installed and run on a device without requiring an internet connection.
   Ex: Pre-installed applications like calculator, Notepad, clock, etc.
   - It is also known as offline application.
   - Standalone application can be classified as the following,

1) <u>Desktop Standalone application</u>: Software programs that can be installed and run on a desktop without internet is known as "Desktop Standalone application".

2) <u>Mobile Standalone application</u>: Software programs that can be installed and run on a mobile without internet is known as "Mobile Standalone application".

2) Web application:

- Software programs that can be installed and run on a device with the help of internet connection.
  Ex: Instagram, WhatsApp, Google photos, etc.
- Web application can be classified as the following,
  1) <u>Desktop web application</u>: Software programs that can be installed and run on a desktop with the help of internet is known as "Desktop web application".
  2) <u>Mobile web application</u>: Software programs that can be installed and run on a mobile with the help of internet is known as "Mobile web application".

What is a cloud?

- Generally, the cloud is known as virtual storage.
  Ex: Google cloud, Microsoft Azure, Amazon web services (AWS).
- In cloud remote servers around the world are connected.
- A cloud consists of a virtual machine, and there we can observe
  1) Client
  2) Server
  3) Database

1) **<u>Client</u>:** A client is a program that makes request to the server.
2) **<u>Server</u>:** A server is a program that fulfills those requests.
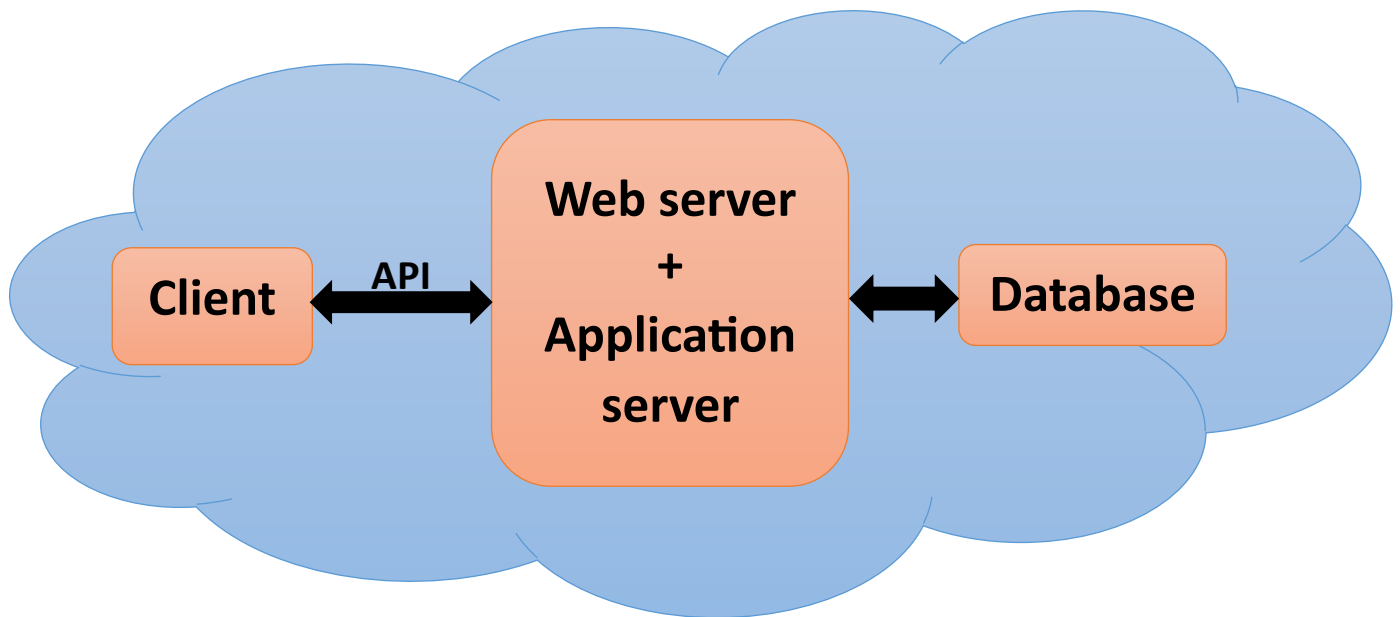3) **<u>Database</u>:** A database helps to organize, store & manage the data.

What is Web Development?

- Web development refers to the creating and maintaining of the websites.
- The websites work with the help of Internet.
- It involves using a combination of programming languages, tools, and frameworks to build a website.

Web Development Architecture

- Generally, client is a frontend.
- Server is a backend.
- API stands for Application Program Interface. It acts as a mediator between client and server.

What is IP Address

- IP address stands for internet protocol address.
- It is a unique identifying number that is assigned to every device that was connected to the internet.
  Ex: 109.117.3.45
- When connected to the internet, the IP address allows the computers to send and receive information.