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Front end

&

3 TIER ARCHITECTURE

Agenda

1. Introduction
2. client-server intro
3. HTML
4. CSS
5. Java script
6. Request - Response

- ## What is Application?

  An application or App is a type of software program meant to help a computer user to accomplish a task (or) An App is a software program that lets you do things for lack of a better work.
  Eg: An alarm clock, Remote etc.

- ## What is Logic?

  A logic is a set of rules and techniques

- ## Types of Applications:

Applications can be classified into various types based on their purpose, platform, and functionality. Here are some common types of applications:

1. Web Application
2. Mobile Application
3. Desktop Application

- ## Web Applications:

  A web application is a software that runs in web browser. It allows to access complex functionality without installing or configuring software.
  Eg: Chrome, Firefox

- ## Mobile Applications:

  A mobile application, also known as a mobile app or app, is a software program designed to run on a mobile device, such as a smartphone or tablet.
  Eg: WhatsApp, Instagram

- ## Desktop Applications:

  A desktop application is a software program designed to run on a personal computer
  Eg: Calculator, Gallery

- **What is SEO?**

SEO stands for Search Engine Optimization. It is the process of improving the visibility and ranking of a website or a web page in search engines, such as Google, Bing, and Yahoo. The goal of SEO is to attract more organic (non-paid) traffic to a website through search engines.

- **What is URL?**

A URL or Uniform Resource Locator is a reference (an address) to a web resource to access the resource by entering the URL into a web browser's address bar.

- **What is IP?**

An IP, or Internet Protocol, is a unique identifier assigned to each Internet-connected device. It identifies and allows these devices to communicate with each other on an internal or external network.
Eg: https://3.6.190.78//

- ## What is DNS?

The Domain Name System (DNS) translates domain names to numerical IP addresses, allowing users to access resources using easily memorable names.

- ## What is Domain?

A domain is a unique identifier used to access a website.
Ex: "www.amazon.com," "amazon.com" is the domain name.

- ## Difference between https and https?

HTTP and HTTPS are both protocols used for communication on the web, but they have some key differences.
HTTP stands for Hypertext Transfer Protocol, and it is a protocol used for transmitting hypertext requests and information between servers and browsers.
HTTPS, on the other hand, stands for Hypertext Transfer Protocol Secure, and it is an encrypted version of HTTP. This means that data transmitted over HTTPS is secure and encrypted, making it much more difficult for hackers to intercept and access sensitive information.

1.Client

A client is a device or software that connects to a server to request and use its services or resources. The client sends requests to the server and receives responses in a request-response protocol.

2. Server

a server refers to a computer program or a device that provides resources, data, or services to other devices known as clients, over a network. It play a crucial role in enabling communication, data storage, computation, and access to shared resources.

3. API

An API, or Application Programming Interface, is a set of rules and protocols that allow software applications to communicate with each other and exchange data and functionality.

HTML

HTML is the standard markup language for creating Web pages.

- HTML stands for Hyper Text Markup Language
- HTML is the standard markup language for creating Web pages
- HTML describes the structure of a Web page
- HTML consists of a series of elements
- HTML elements tell the browser how to display the content
- HTML elements label pieces of content such as "this is a heading", "this is a paragraph", "this is a link", etc.

What is Hyper text?

Hypertext is a concept that refers to text displayed on a computer device that contains links to other texts. It allows users to navigate between different pieces of information by clicking on hyperlinks embedded within the text.

What is Markup language?

Markup is often used to define the structure, format, and layout of a document, including text, images, and other media.

What is Tags?

In the context of markup languages, a tag is a keyword that is used to define the structure, format, and layout of a document. Tags are surrounded by angle brackets, such as ** ** and ** .** Tags can be used to define the start and end of an element, and they can have attributes that are used to further define the element's behavior or appearance.

Eg: <html> and </html>, <head>and </head>, <title> and </title> etc.

CSS

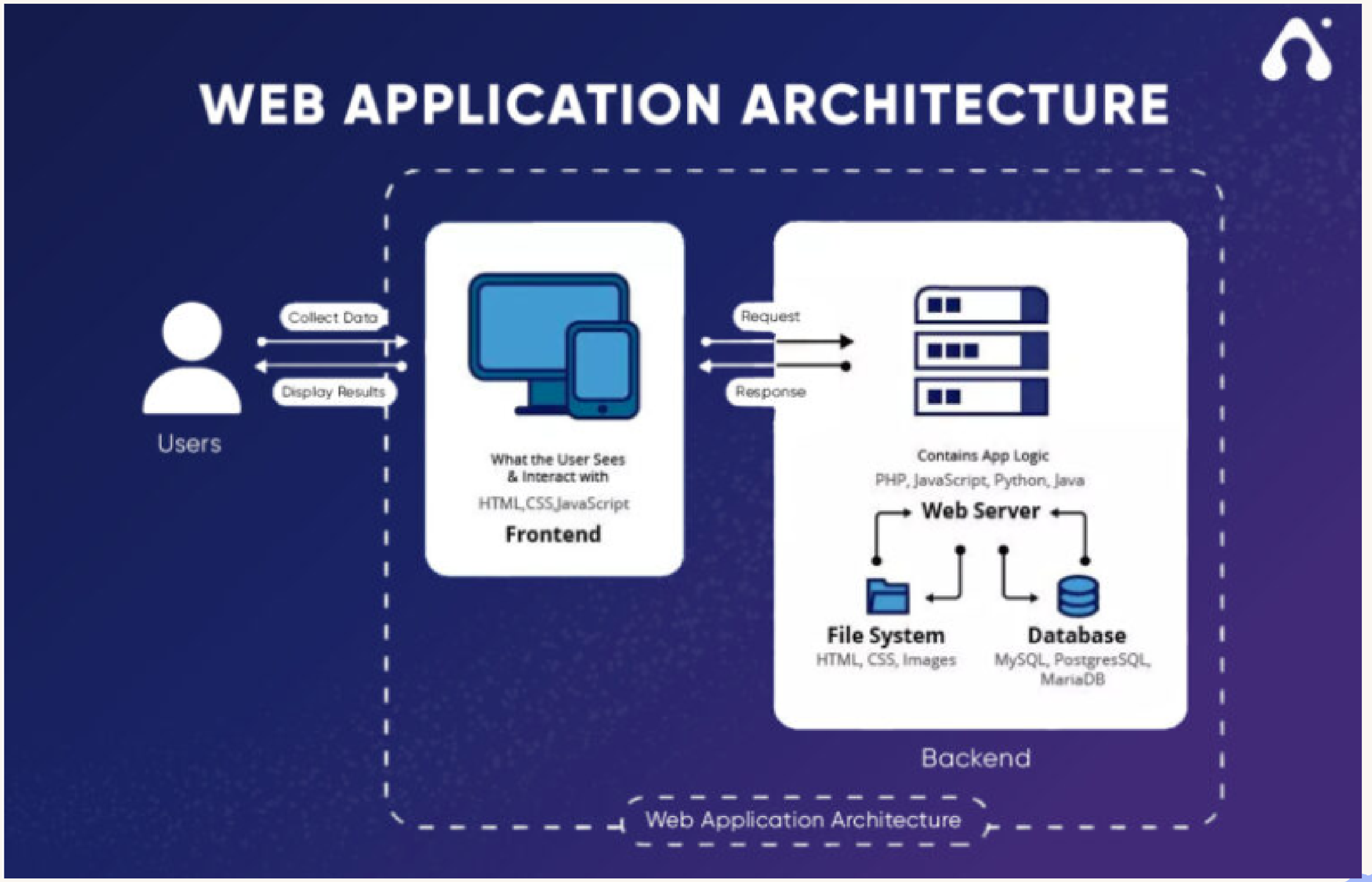
CSS (Cascading style sheets) is the language which is used to style an HTML document. CSS describes how HTML elements should be displayed.

- CSS is a style sheet language used to define the presentation and layout of a document written in a markup language, such as HTML. CSS
- CSS is used to separate the presentation and layout of a document from its structure and content, allowing for easier maintenance and customization.
- CSS can be used to define the font, color, spacing, and positioning of elements on a web page

JAVA SCRIPT

JavaScript is a high-level, dynamic, and interpreted programming language used to create interactive and dynamic web pages.

- JavaScript is commonly used in a client-side environment.
- JavaScript is executed on the user's device,
- JavaScript is also used in a server-side environment, with the help of frameworks and libraries such as Node.js,


WEB APPLICATION ARCHITECTURE
Users
Collect Data
Display Results
What the User Sees
& Interact with
HTML,CSS,JavaScript
Frontend
Request
Response
Contains App Logic
PHP, JavaScript, Python, Java
Web Server
File System
HTML, CSS, Images
Database
MySQL, PostgresSQL,
MariaDB
Backend
Web Application Architecture

Web application architecture refers to the structure and design of web-based software applications, including the components, technologies, and patterns used to build them. A well-designed web application architecture ensures scalability, reliability, security, and performance while providing a seamless user experience. Here's a comprehensive explanation of web application architecture:

Client-Server Model:

- Web applications typically follow a client-server architecture, where the client (web browser or mobile app) interacts with a server to request and receive data or services through API. The server processes client requests, executes business logic, retrieves data from databases or external services, and sends back responses to the client through API.

Components of Web Application Architecture:

- **Client-Side Components**: These components run in the user's web browser or mobile device and are responsible for rendering the user interface and handling user interactions. They are typically developed using HTML, CSS, and JavaScript.
- **Server-Side Components**: These components run on the server and handle the business logic, data processing, and communication with databases or external services. They are often developed using programming languages such as Python, Java, Ruby, PHP, or JavaScript (Node.js).
- **Database**: Web applications often rely on databases to store and retrieve data. Common types of databases used in web development include relational databases (e.g., MySQL, PostgreSQL, SQL Server) and NoSQL databases (e.g., MongoDB, Cassandra).