



GDG DEV BOOTCAMP



Session 02

Introduction to web development

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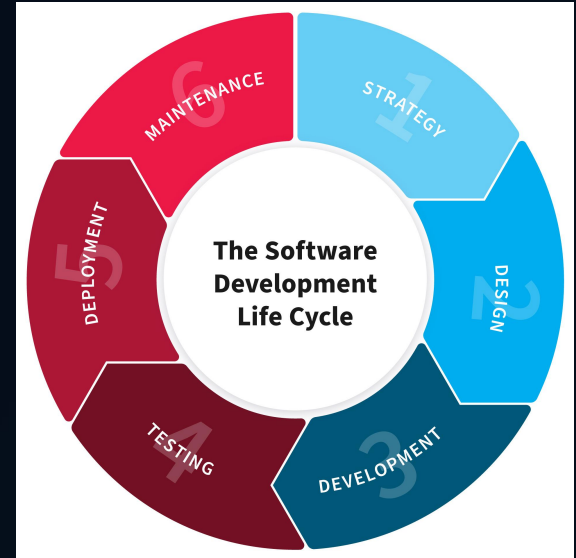
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What is software development ?

Software development is the process programmers use to build computer programs. The process, also known as the Software Development Life Cycle (SDLC), includes several phases (creating, designing,deploying) that provide a method for building products that meet technical specifications and user requirements.





Some Types of Software Development

- Mobile Development
- Desktop Development
- **Web Development**
- Cloud Computing
- Data Science



What is **Web development** ?

Web development refers to the building, creating, and maintaining of websites. It includes aspects such as web design, web publishing, web programming, and database management. It is the creation of an application that works over the internet i.e. websites.

Web: It refers to websites, web pages or anything that works over the internet.

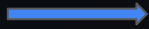
Development: Building the application from scratch.



Evolution of Internet / Web

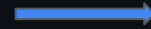
Web 1.0

- Read Only
- simple Web Pages
- Static



Web 2.0

- Interactive
- Web Applications
- Dynamic



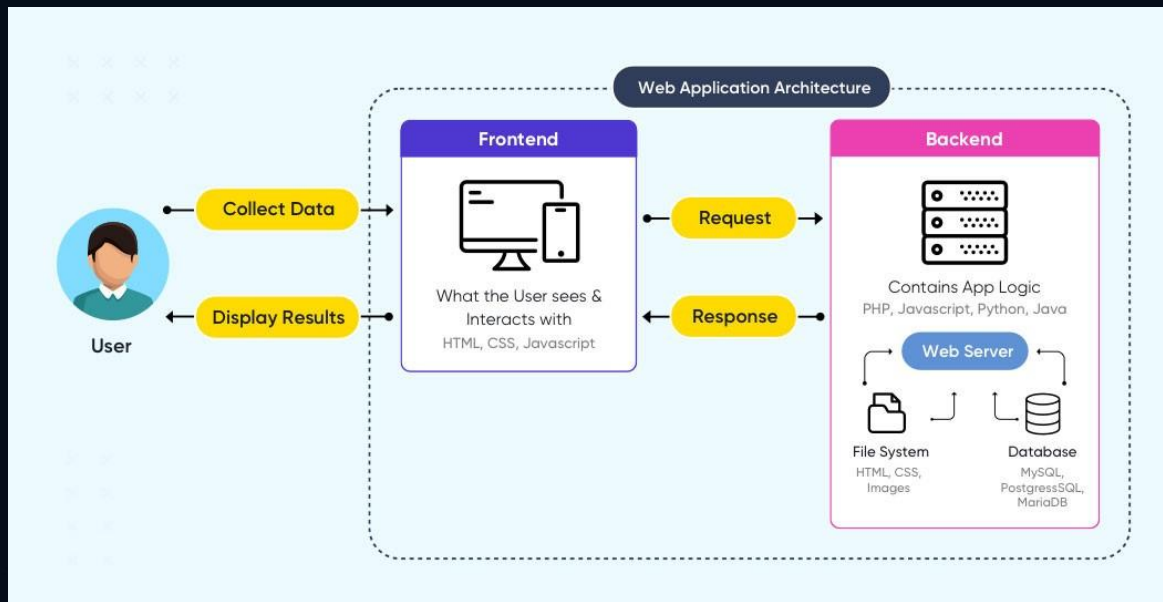
Web 3.0

- Portable and personal
- Individual focus
- Smart Apps



How Does the web Work ?

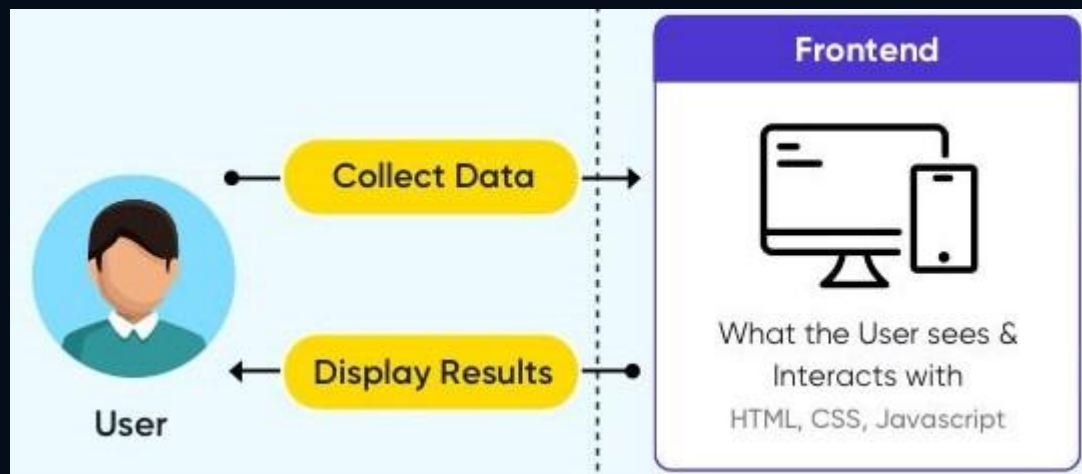
The Web structure





The client Side

The Front-end





HTML



STRUCTURE

CSS



PRESENTATION

JS

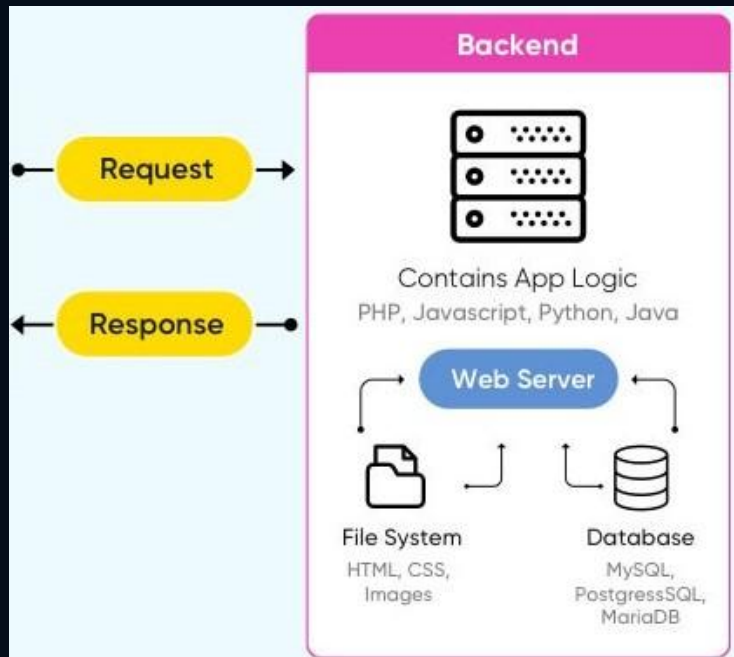


FUNCTIONALITY



The Server Side

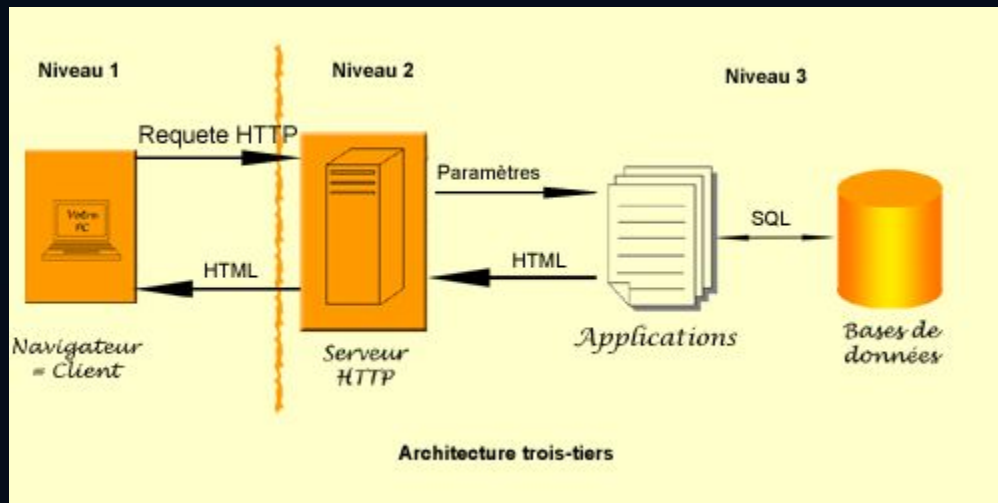
The Back-end





The Big Picture

Web dev in a simple diagramme

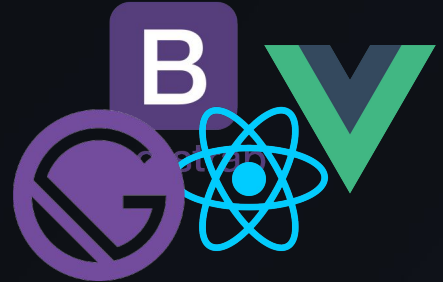




Roles in Web Development

Front-end Web Developer

Front-end web development, also known as client-side development is the practice of producing HTML, CSS and JavaScript for a website or Web Application so that a user can see and interact with them directly.





Roles in Web Development

Back-end Web Developer

A back-end web developer is responsible for server-side web application logic and integration of the work front-end developers do. Back-end developers are usually write the web services and APIs used by front-end developers and mobile application developers.





Roles in Web Development

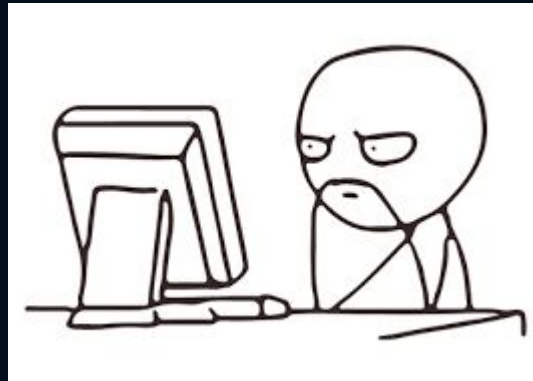
full-stack Web Developer

A full stack developer is someone who works with both the front end and back end of a web application. The front end is responsible for the visual look and feel of the website, while back end is responsible for the behind the scenes logic and infrastructure of the site.





Which One to choose ?





Why

Why Should You Become a Web Developer ?

- 1 - Now Hiring! There Are Web Dev Jobs Available
- 2 - A Great Income
- 3 - No Wasted Time in Learning How to Code
- 4 - You Can Work From Anywhere
- 5 - Web developers come from different backgrounds.
- 6 - There Are Always Freelance Opportunities
- 7 - It's Creative and Fun



Web Development RoadMap



Basic Tools



- Computer
- Operating System (Windows, Linux, Mac)
- Text Editor (VS Code, Atom, Sublime Text...)
- Web Browser (Chrome, Firefox, Edge, Brave...)
- Terminal (CMD, PowerShell, Bash...)



Front-end Web Development



1. Web Fundamentals

- Network Basics
- How Websites Work





1. HTML & CSS

- HTML5 Page Structure & Semantic Tags
- Basic CSS Styling
- Positioning
- Alignment (Flexbox & CSS Grid)
- Transitions & Animation
- Responsive Design / Media Queries

Try to work on a mini-project or two using what you learnt before moving to the next step.





3. CSS/UI Frameworks

- Tailwind CSS
- Bootstrap
- Materialize
- Bulma

CSS frameworks can be a great tool to create websites and UIs quickly, however, it is important to learn CSS fundamentals first.





4. Basic UI Design Knowledge

- Color & Contrast (Make sure text is readable)
- White Space (Spacing between elements)
- Scale (Sizing relative to other elements)
- Visual Hierarchy (Arrange in order of importance)
- Typography (Text typefaces, sizing ...)

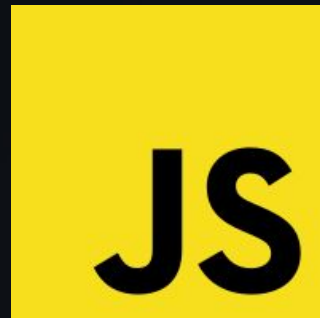




5. JavaScript

- Basics (Variables, arrays, functions, loops...)
- DOM & Styling (Selecting and manipulating elements)
- Array Methods (foreach, map, filter, reduce...)
- JSON (JavaScript Object Notation)
- HTTP Requests (Fetch API - GET, POST, PUT, DELETE)

Try to work on a mini-project or two using what you learnt before moving to the next step.



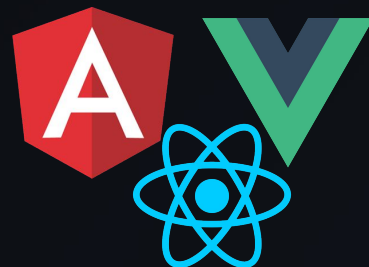


6. Front-end Frameworks (JavaScript Frameworks)

- React
- Vue
- Angular
- NextJS , Gatsby, Remix, NuxtJS

Before learning a JS Framework, you need to sharpen your skills in JavaScript.

Try to work on a mini-project or two using what you learnt before moving to the next step.







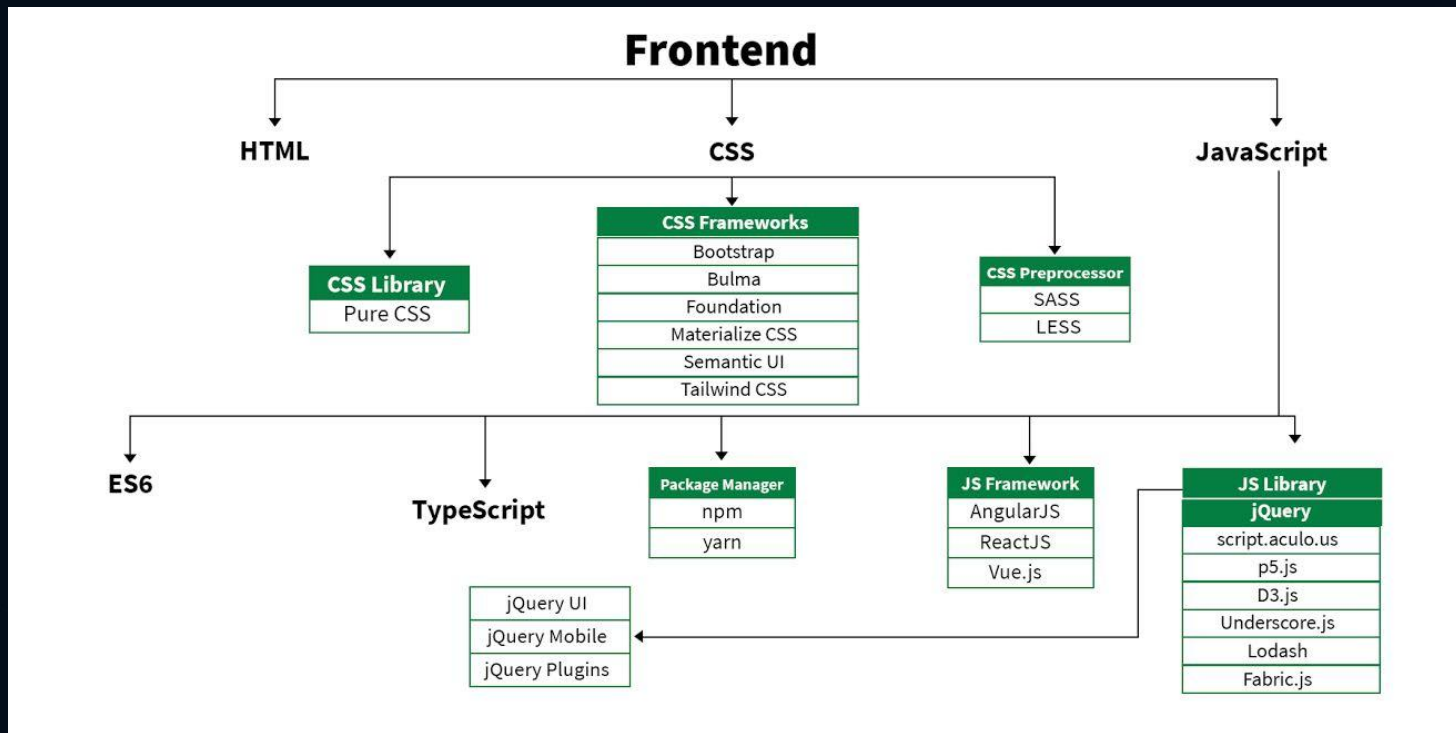
7. More Tools For a Better Front End Development

- Version Control (Git)
- Repo Manager (Github)
- Package Manager (NPM, Yarn)
- Browser Developer Tools
- Editor Extensions & Helpers (Linting, Prettier)





The Big Picture





Back-end Web Development



1. Fundamentals of The Server-Side Development

- Basic Frontend Knowledge
- General Architecture of The Web
- OS and General Knowledge



2. Server Side Languages

- Node.js
- Python
- C#
- PHP
- Java
- Ruby .





3. Server Side Frameworks (Depending on the chosen SSL)

- Node.js (Express, Hapi)
- Python (Django)
- C# (ASP.NET)
- PHP (Laravel)
- Java (Spring)

django

ex



4. Databases

- PostgreSQL
- MongoDB
- MySQL
- Firebase

Try to work on a mini-project or two using what you learnt before moving to the next step.





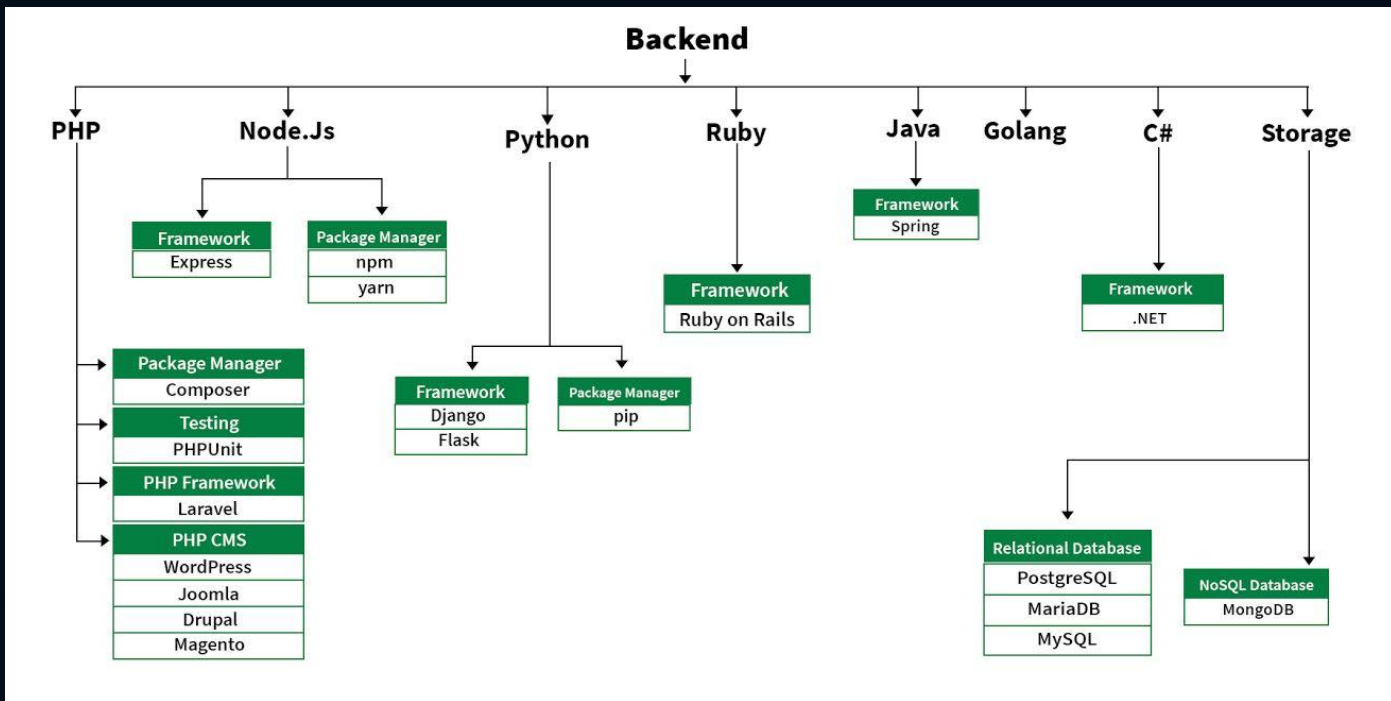
5. Deployment, Servers and DevOps

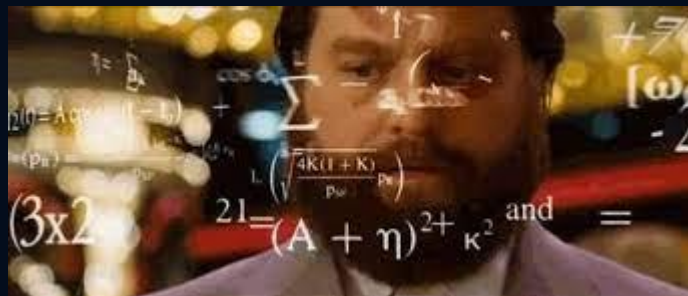
- Hosting Platforms (Heroku, AWS, Azure...)
- Web Servers (NGINX, Apache)
- Containers (Docker)
- And more.





The Big Picture







FULL STACK TECHNOLOGIES

MERN

- MongoDB
- Express
- React
- Node JS



MEAN

- MongoDB
- Express
- Angular
- Node JS



LAMP

- Linux
- Apache
- MySQL
- PHP





Advices to Become a Great Web Developer



How Can I Become a Great Web Developer?

- Love what you are doing
- Learn from other developers
- When you need help, ask for it
- Practise, practise, practise
- Never stop learning
- Write a clean code
- Balance your life
- Provide a good environment for coding
- Learn from mistakes
- Never give up
- You can't learn everything
- Accept feedback



Some Resources to Learn Web Development

w3schools.com

codecademy

Udemy

Khan Academy



edX[®]



Thank You for Attending !!

Any questions ?

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