

MERN Stack development

How Internet Works.

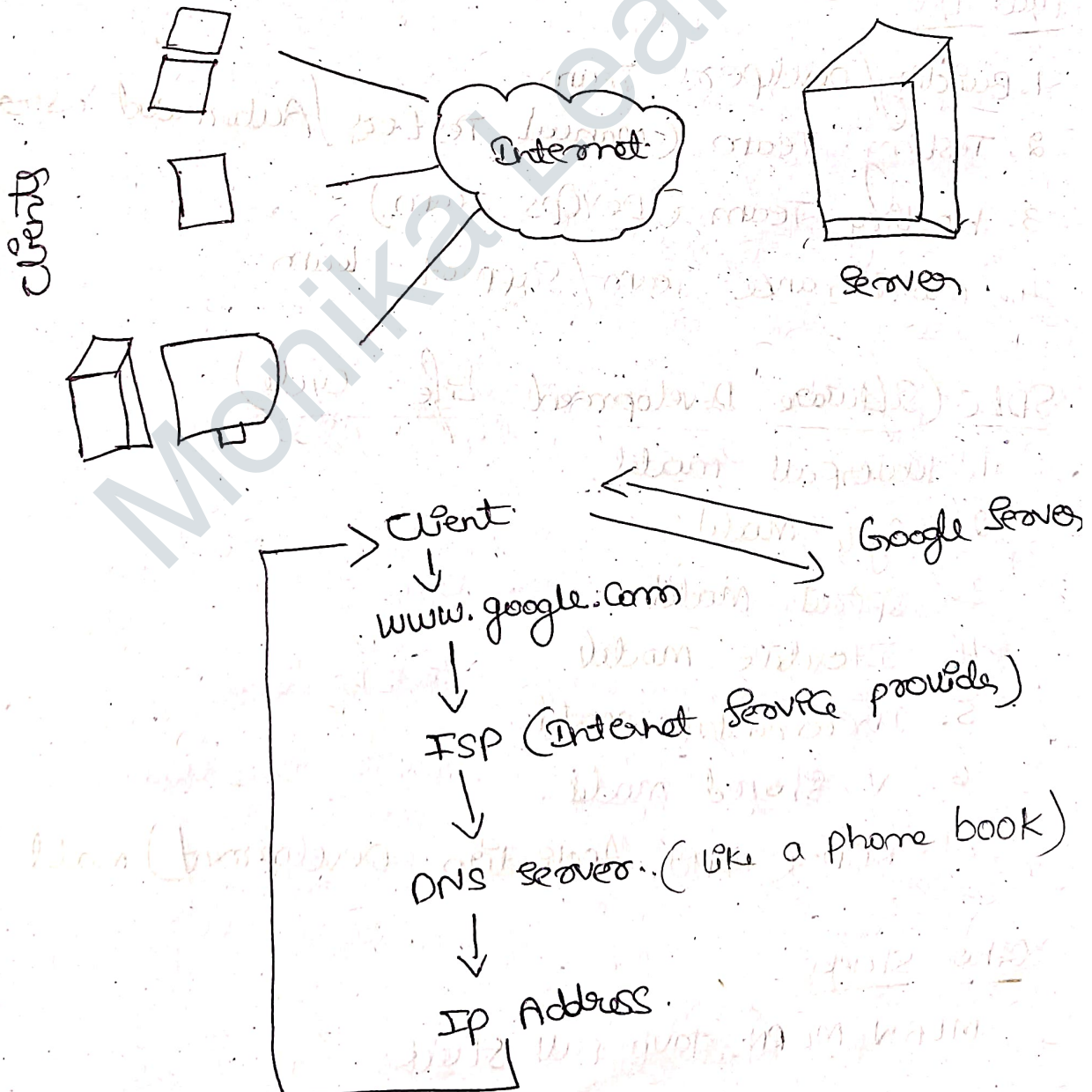
What is Internet?

Internet = International Network.

The word Internet comes from "Interconnected Network".

It means a big system that connects computers and phones all over the world.

So, they can talk to each other.



Fundamentals of Web Technology (largely)
MEAN Stack of Three pillars
M → MongoDB (database) HTML (Hyper Text Markup)
E → ExpressJS (Backend) CSS (Cascading Styling Sheet)
A → Angular (Frontend) JS (Java Script)
N → NodeJS (Backend)

MERN Stack

M → MongoDB
E → Express JS
R → React (Frontend)
N → NodeJS

Web Dev

1. Building/Developers Team.
2. Testing Team (Manual Testers / Automated Testers)
3. Hosting Team (DevOps Team).
4. Maintenance Team / Support team

SDLC (Software Development Life Cycle):

1. Waterfall model
2. Agile Model.
3. Spiral model.
4. Iterative model.
5. Incremental model.
6. V Shaped model.
7. RAD (Rapid Application Development) model

Other Stacks

MEAN, MERN, Java Full Stack

URL (Uniform Resource Location)

[https:// www.monikaleash.com](https://www.monikaleash.com)

[https:// education.monikaleash.edu/fullstack](https://education.monikaleash.edu/fullstack)

https → HyperText Transfer protocol Secure

* HTTP is the basic protocol used by browsers like (chrome, Firefox) to talk to websites.

* HTTPS is a secure version of HTTP.

The extra S = Secure.

The security comes from SSL/TLS encryption

* It means data like passwords, card numbers, messages are encrypted before going from your browser to the website.

monikaleash → Server/Domain Name

education → Sub-Domain

.edu → TLD (Top Level Domain)

fullstack → Path/Location

protocol

Set of rules / instructions

http :- hyper text transfer protocol

https :- hyper text transfer protocol secure

tcp :- Transmission Control protocol

udp :- User Datagram protocol

smtp :- Simple mail Transfer protocol

ftp :- file transfer protocol

ip :- Internet protocol (IPv4, IPv6)

SSL (Secure Socket Layer) Certification

HTTPS

Server/Domain Name

A domain name is the name of a website that people type in the browser.

Ex:-

google.com

monikalearns.com

instagram.com

* It is like a nickname of a website/server.

* Instead of remembering IP addresses like 142.250.183.206, we use easy name like google.com.

Sub-Domain Name

A subdomain is like a smaller part of a website under the main domain.

* It comes before the main domain name.

Ex:-

subdomain.maindomain.com

main domain → monikalearns.com

subdomain → portfolio.monikalearns.com

TLD (Top-Level Domain)

* The last part of the website address (after the dot).

* It tells what type of website it is @. Sometimes the country.

Ex:-

- .com → Commercial / general websites.
- .org → organizations.
- .edu → education.
- .gov → government.
- .in → India.
- .uk → united kingdom.

monikaleash.com

Domain name: monikaleash

TLD: .com

Editors

Offline Editors

Notepad.
Notepad ++.
Sublime.
Open Broackets.
VS Code.

Online Editors

CodeSpace.
CodeSandbox.

Git and Git GitHub Command

Git Version Control

Version Control means keeping track of changes in your code @ file.

Ex:-

* Imagine you are writing a notebook. Every day you add new notes, sometimes erase, sometimes correct.

* Now, what if you want to go back and see what you wrote 5 days ago? @ Check who changed something?

That's what version control does for code.

Git Supports

GitHub.

BitBucket.

GitLab.

GitPod.

For first time need to configure github in our system.

```
git config --global user.name "manika803"
```

```
git config --global user.email "themanika803@gmail.com"
```

```
git config --global color.ui auto
```

This is the setting we are changing. It controls whether Git shows colors in the terminal.

Mandatory Commands

git init.

git remote add origin <http://github.com/monika803.git>
(repo url)

git pull origin main.

git status

git add . (it will be add all files)

git status

git commit -m "Commit message"

git push -u origin main.

To create a new branch.

git checkout -b "new branch name"

git status

Switch the branch.

git checkout "branch name which you open"

Clone the Application

git clone "repo url"

Web application Basics

Index - HTML

Style - CSS

Script - JS

URL (Uniform Resource Locator)

<https://monikalearns.com>

Introduction to HTML

HTML (Hyper text markup language)

- * It is used to create web pages.
- * HTML tells the browser what to show.
(Like text, images, links, tables, forms).
- * Markup language is a way of writing text that has tags to give meaning.
- * It doesn't do calculations or logic like a programming language.
- * It only describes the structure and presentation.

Other markup languages : XML, markdown

* A programming language is used to give instructions to a computer to perform tasks.

* It can do calculations, decisions, loops and logic.

Eg. - Java, Python, C, JavaScript.

Tags in HTML

<> :- opening tag

</> :- closing tag

< /> :- Self closing tag

<P> Hey everyone, So I am very happy to be here So one </P> element

to add some dummy text use lorem like

<P> lorem </P>

Element

An element is a opening tag + Content + closing tag

Attribute

* an attribute gives extra information about an element

* attributes are always written inside the opening tag.

Ex:-

<P align = "Center"> Hello everyone </P>

align = "center" is an attribute it tells the browser to center the text

nothing but extra details about the tag.

Comment line

- * A Comment is a line of text in the code that the browser ignores.
- * It is used for notes, explanations, @ reminders for yourself @ other developers.
- * It doesn't appear on the web page

Ex:-

<!-- This is a comment -->

It starts with <!--
and ends with -->

Shortcut key is

Ctrl with /

/ (forward slash)

head tag

Emmet Cheat Sheet (Documentation of emmet Abbreviation)

<html>

<head>

<title> our first web page </title>

</head>

</html>

- * The <head> tag is a container for information about your webpage.