

## Namaste Node.js

### Chapter - 02 - JavaScript on the Server.

(Q) What is a Server?

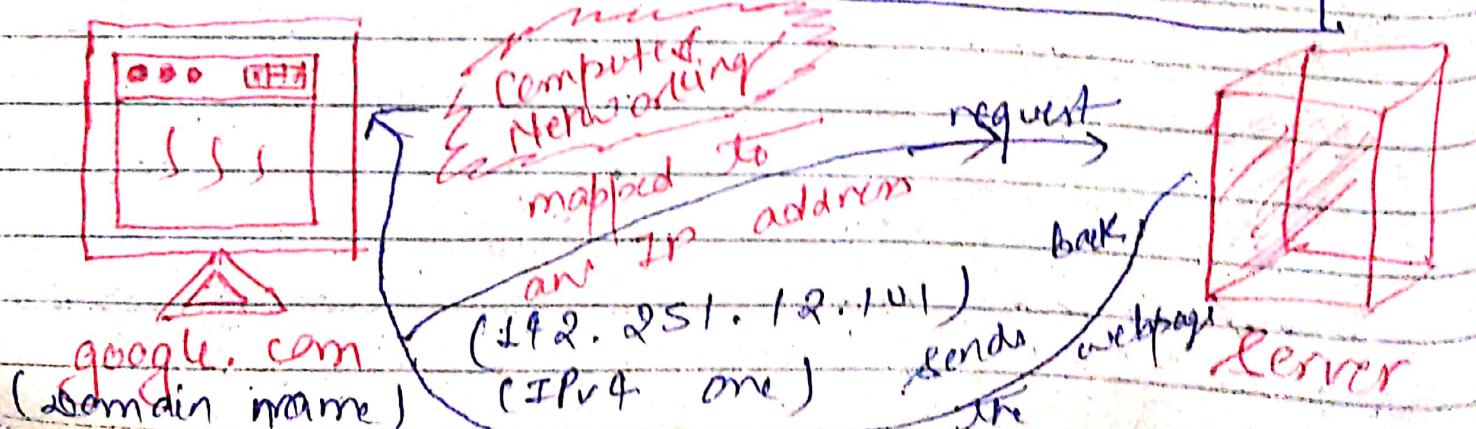
- A) i) A server is a phone / computer or software system that provides services, data, or functionality to other computer (called clients) over a network.
- ii) When we open a website, our phone / computer sends a request → the server receives it → processes it → sends back the webpage or any service we requested e.g. API server, web server, database server.

Host → The machine / computer where the server is stored and run.

e.g. AWS EC2 instance.

Server → service

Host = house where service lies.



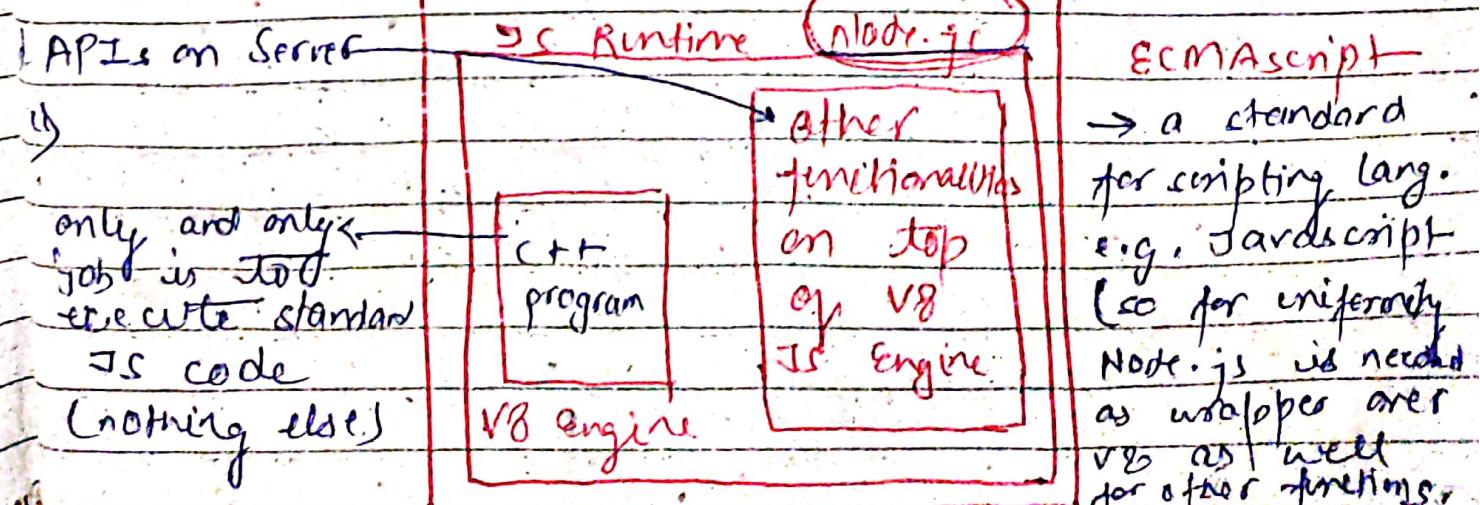
→ on the both sides because of Node.js, only one programming language, Javascript getting used heavily.

Q1 What is V8?

- A) i) V8 is Google's open source high-performance Javascript and WebAssembly engine; written in C++.
- ii) It is used in Chrome and Node.js among others.
- iii) It is cross-platform.
- iv) V8 can be embedded into any C++ application and it itself alongwith Node.js is written in C++ (mostly).

Node.js is an C++ application with V8 embedded into it.

C++ program



→ ECMAScript standards (managed by TC39)

i) sets the standard / rules for scripting languages including JavaScript, JScript and ActionScript.

(i) JS engine and their browsers or used in

a) V8 → Chrome, Node.js, MS-Edge

b) SpiderMonkey → Firefox

c) JavaScriptCore → Safari

d) Chakra → Internet Explorer  
(deprecated)

(ii) these engines must follow these standards for uniformity among users, developers,

• Node.js at its very core a C++ (0.14) program but also ~~rely~~ heavily used JavaScript (about 62%). Python (11%) as according to its GitHub Repo among others.

Program  
(written by developer in JavaScript language)  
High level language

↓  
JS Engine (a C++ application)  
High level language

↓  
Machine code  
(Assembly language) (Assembly language)  
(Low level language)

↓  
Computer under stands Binary  
or 0 or 1 (Binary)  
closer to machine

{ An overview  
{ doesn't go in details }