

Intro to JS - 01

JavaScript is a interpreter Language.

Why JS?

- B/c that time not too many developers learn programming languages. Mostly they have experience with HTML and CSS. So there is need to make an language that is easy to learn.
- Massive Security Nightmare:
 - Like for example if we use C++ instead of JS then when server returns css file, their might be possibilty that it hacks or may be gets the access for you personal PC or docs, folders, etc.
 - B/c there are operations in C++. B/c of it's low level language.
 - It can format the system when we use C++.
- Direct Memory Access (Pointer).
- C++ has system level access.
- Size Issue b/c at that max RAM was 4GB or may be 8GB, so when we use C++ so we need compiler to compile C++ code.
- Don't Automatic Memory Management (Garbage Collector) like JavaScript.

So to fix all these developer make an scripting language or simple language JavaScript, so it solves all the problem, like:

1. Easy to use.
2. Add Secuirty Measures or Permissions. It has access like (Html, CSS, Mouse, Keyboard). But it doesn't have memory access.
3. Light Weight.
4. Automatic Garbage Collection.



So Now Search about why we don't use JAVA then?

Who runs JavaScript Code then?

- If we talk about Google Chrome, it has a V8 Engine, it runs JS Code.
- If we talk about Mozilla Firefox, it has SpiderMonkey.

V8 Engine?

V8 is a code which is written in C++.

- It receives JavaScript input code and gives the output.
- There is a logic in V8 Engine which uses C++ Language. It is nothing then a C++ code.

Who runs then C++ Code?

- There is no compiler in Chrome Browser.
- In V8 Engine there is a machine code, so that's why it runs (b/c it has machine code) and don't need for compiler in the browser.

This C++ Machine Code are Hardware Dependent:

It means that if we have a machine code of windows and runs the same machine code on MacOS, it will not run.

- So it is machine dependent same goes for Linux.

Running First Program of JavaScript:

First Approach:

- Open the chrome browser. Right Click the mouse and click on inspect.
- Then go to console and run code of JavaScript.

Second Approach:

- Use Nodejs to run the code.
- NodeJS is a JavaScript Runtime Environment.
- Download the Nodejs in your system. B/c in Nodejs it has V8 engine which runs our code.

```
console.log("Frist code");
```