

In the above pictures languages and respective frameworks to that.

**What is the framework?** What it means is that it actually has the built in libraries (library means it is code it works for to solve specific tasks or Library means → a built in reusable code to perform the tasks ). By using the just keywords of that library we can solve the large application issues .

**Ex:** with the express js framework can easily write API's


From the above picture we can say nodejs neither language nor a framework (means→not a language and not a not a framework

What ? 🤔

★ Node js is a runtime environment for javascript Library

What is the runtime environment ? .

Ans : It is an environment that executes the program. basically its job is to memory management and the converting the javascript or python or java code to the **low level language** (means → machine level language so , machine can understand)

So, nodejs is a runtime environment to run the javascript code on the server side (this means it converts the javascript code to machine level so that machine can understand ) 

**Question:** why server side not client side or how nodejs is a runtime environment on server side and what is v8 ?

Ans: we know javascript language code will execute on different browsers like chrome ,firefox ,,,etc. **How are the browsers executing ?**

Because every browser has the javascript engine so due to this the browsers execute the javascript code .

Ex: Chrome has the → V8 javascript engine

Firefox has the → Spider monkey

Just like how the browser executes the javascript code using the javascript engine the same principle is used in node js to run the javascript code (here also using the same javascript engine and used as a node js wrapper over it ).

So with that javascript code can run outside the browser that means server side .

**Question:** what is the difference between the **runtime environment** and a **framework** ?

**Ans:**

1.**Runtime environment** primarily focuses on providing the necessary infrastructure for code execution ,including services like memory management and input/ output operations

**Framework** primarily focuses on simplifying the development process by offering a structured set of tools , libraries and best practices.

**Question :** what is the difference between the node js and express js ?

**Ans:**

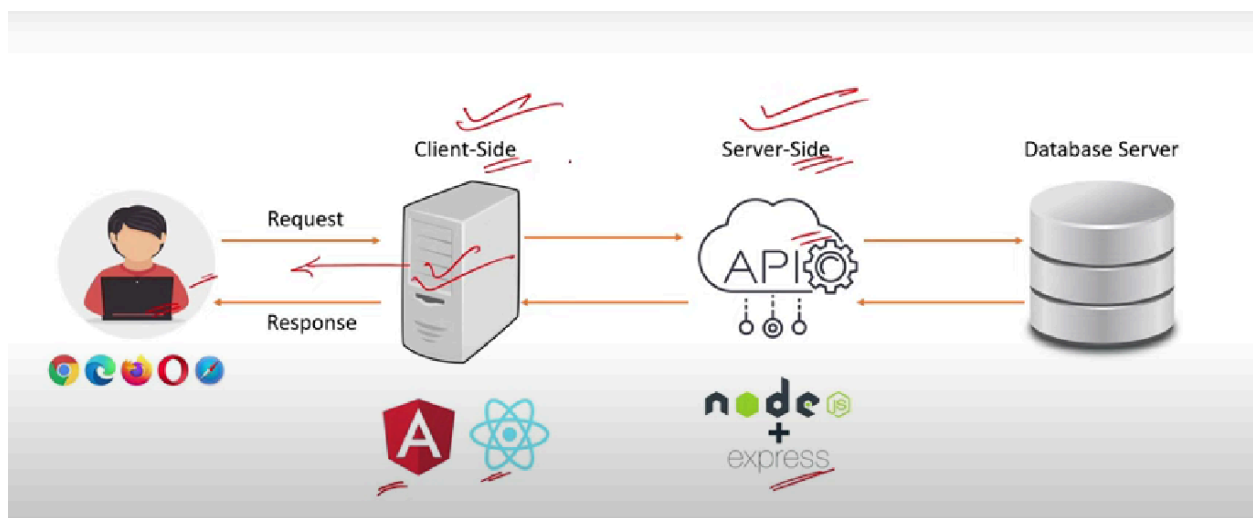
1. **Node.js** is a runtime environment that allows the execution of the javascript code on server side ..

Express.js is a framework built on top node.js

It is designed to simplify the process of building web applications and API's by providing the set of features like simple routing system , middleware support system etc

**Question :** what are the difference between the client side (browser) and the server side (node.js) ?

**Ans:**



	Client-Side (Browser)	Server-Side (Node.js/Server)
Environment Location	Runs on the user's web browser.	Runs on the server.
Primary Languages	HTML, CSS, JavaScript.	JavaScript
Document/ Window/ Navigator/ Event Objects	Yes <i>document, window, navigator, event</i>	No
Request/ Response/ Server/ Database Object	No <i>X</i>	Yes
Responsibilities	Handles UI <u>display</u> , <u>interactions</u> , and client-side logic.	Handles business logic, data storage/ access, authentication, authorization etc.