Synopsis of article What exactly is Node.js?

What is Node.js? (Java Script run-time environment)

Before use node.js java script was only a client side language because it run with browsers engine only but with using V8 node.js: The environment includes everything you need to execute a program written in JavaScript. So with node.js we can write server side programs with java script.

Analogy:

how the JavaScript Event Loop works?
What is Event?
Something that has happened in our app that we can respond to.

You may be asking, okay so I can write JavaScript on the server side, but
what's the big deal?
Why shouldn't I use other languages that are all Ready being used on
the server side?
Imagine I have an assistant that I gave a stack of invoices to and asked them to send them out on my behalf.
The assistant sends the first invoice out and waits for the check for payment.

Once they receive the payment, they deposit it in the bank and send out the next invoice.

Now this isn't good for me, I'm not getting paid as quickly as I could.

I've got two options, getting more assistants who will do the same thing or get a new more efficient one.

The new more efficient assistant would send out all invoices and process each payment as soon as it comes in(asynchronous callback). this assistant saving me a lot of resources by not having to employ

extra inefficient assistance.

However, **Node.js** works like the second, more efficient system

How JS Language works?

Node.js run on the V8(is an open source runtime engine written in C++. ECMAScript was created by Ecma International to standardize JavaScript) JavaScript runtime engine. This engine takes your JavaScript code and converts it into a faster machine code.

Machine code:

low level code which the computer can run without needing to first interpret it.

Why node.js?

Node.js is non-blocking and that's why you'd want to build JavaScript.

1- Node.js uses an event-driven, non-blocking I/O model that makes it lightweight and efficient.

> I/O refers to input/output. It can be anything ranging from reading/writing local files to making an HTTP request to an API.

2- Node.js' package manager, npm, is the largest ecosystem of open source libraries in the world.

> Require in npm does three things:
>
> 1- It loads modules that come bundled with Node.js like file system and HTTP from the Node.js API .
> 2- It loads third party libraries like Express and Mongoose that you install from npm.
> 3- It lets you require your own files and modularize the project.