



# Day 7 - Networks and Protocols

**ECMA Script** - A standard for whoever wants to create JS engine, they can use the ECMA Modules.


Defines the semantics for scripting languages such as JS, Typescript, etc.

Javascript used a V8 engine.

Mozilla Firefox Spidermonkeys.

SpiderMonkey — Firefox Source Docs documentation

Overview

 <https://firefox-source-docs.mozilla.org/js/index.html>

What is ECMAScript

What is Javascript?

What is Node.js?

What is Bun?

Some smart people took out the V8 engine  
Added some Backend things (filesystem reads) on top  
to create a new runtime to compete with BE languages  
like Java.

JS was never meant to be run in the backend  
Eventually became very popular and is a popular  
choice of runtime on the backend

1. Node Js is not a language or a frame, it is a **run time**.  
Something which is used to run JavaScript.
  - a. Node JS took the V8 engine, added some fluff on top and hence became a backend engine.

- b. But recently 'Bun' is announced, which is better than JS.
- c. JS was written in C++ , while 'Bun' uses Zig- a Language which is used by traders for fast financial computations.

What is ECMAScript  
What is Javascript?  
What is Node.js?  
What is Bun?

Other than the fact that JS is single threaded,  
Node.js is slow (multiple reasons for it)  
Some smart people said they wanted to re-write  
the JS runtime for the backend and introduced Bun

It is a significantly faster runtime

It is written in Zig

<https://github.com/oven-sh/bun>

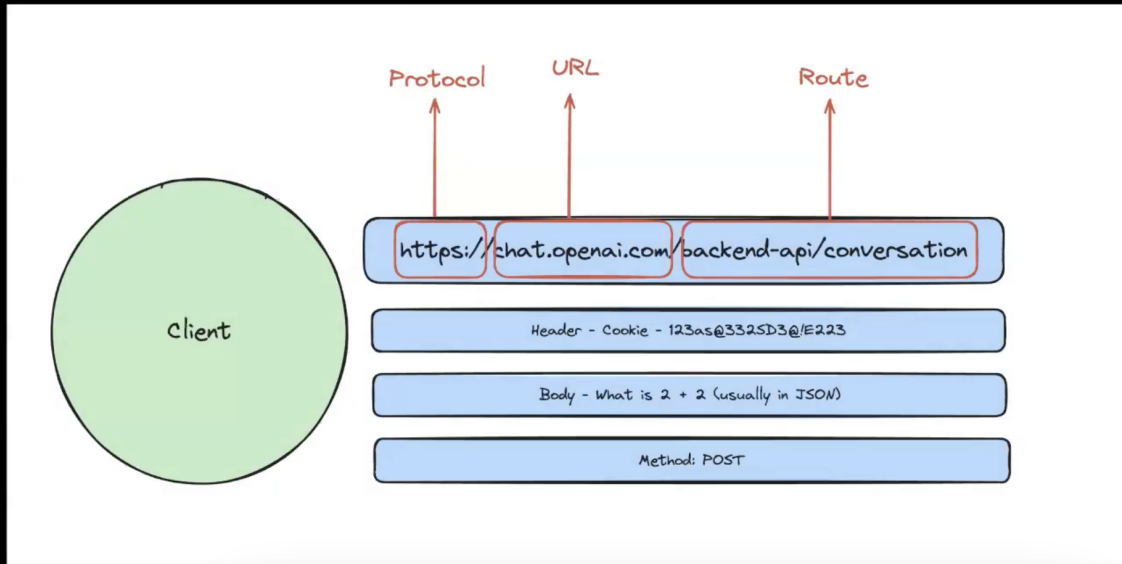
- 2. Uses of Node.js:
    - a. Command Line Interface
    - b. Create a Video Game
    - c. Create a Video Player
    - d.
- HTTP servers

- 3. HTTP Servers:  
Communication protocols between frontend and backend.  
They can be compared with functions.

- 4. HTTP Protocol:

# HTTP Protocol

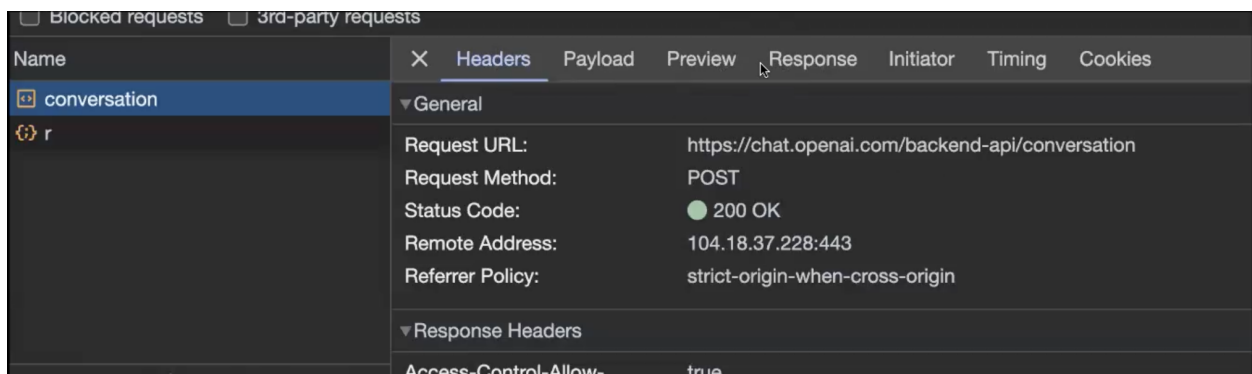
Usually communication would happen like this



## 5. DNS Response: Domain Name Service Response

Every server has an IP address associated with and it's very difficult for a common man to remember the IP addresses of every server. Hence every server bought a Domain name which maps to it's IP.

## 6. HTTP Protocol



7. Cookies are headers that your machine sends to the opposite end.

8. Common Methods:

**What are the common methods you can send to your BE server?**

- 1. GET**
- 2. POST**
- 3. PUT**
- 4. DELETE**

9. Common Status Codes:

**What are the common status codes the backend responds with?**

- 1. 200 - Everything is ok**
- 2. 404 - Page/route not found**
- 3. 403 - Authentication issues**
- 4. 500 - Internal server error**

10. **Postman**

Helps you track the post requests.

Used in Backend a lot.

11. Nodemon and Express both frameworks can be used, depends on the user.