NODE.JS

NodeJS is a **Javascript runtime environment.**

It allows Javascript to be used for servers/backend much like how we're using Python to handle files and databases, Javascript was the popular choice for it back then.

V8 is the Javascript engine inside of node.js that parses and runs Javascript. (same as chrome)

Babel - *for frontend development*
Jasmine - *for testing*
Log.io - *for project management*
Webpack - *for module binding*

NODE.JS
- ❖ **Can specify version to run**
- ❖ **Has access to file systems**
  - ➢ *Can modify and create files*
- ❖ **Node.js has built-in libraries for HTTP and socket communication**
  - ➢ *it can create a web server and thus be a replacement for other types of servers*

- ❖ Fast, event-driven, non-blocking
- ❖ Asynchronous, great for I/O tasks
- ❖ AI, ML, automation, data science
- ❖ Easy, readable syntax
- ❖ More complex, full-stack potential
- ❖ **node <file name> to run file**

```
*const fs = require('fs');
 const file_content =
 fs.readFileSync('./{file_name}',
     '{content_formate}').toString();

 // For show the data on console
 console.log(file_content);
```

```
** const http = require('http');

 const server = http.createServer((req, res) => {
   res.statusCode = 200;
   res.setHeader('Content-Type', 'text/plain');
   res.end('Hello, DevoNation!');
 });

 server.listen(3000, () => {
   console.log('Server running at
 http://localhost:3000/');
 });
```

```
***
 from http.server import
 SimpleHTTPRequestHandler, HTTPServer

 server = HTTPServer(('localhost',
 3000), SimpleHTTPRequestHandler)
 print("Server running at
 http://localhost:3000/")
 server.serve_forever()
```

VS BROWSER JS

- ❖ **Cannot control version**
  - ➢ *May need older version of JS*
  - ➢ **Browser support for JavaScript APIs - Mozilla**

VS PYTHON

- ❖ **Slower, single-threaded**
- ❖ **Multiprocessing support**
- ❖ **AI, ML, automation, data science**
- ❖ **Easy, readable syntax**

V8 JavaScript engine
Node.js | Bug Bounty Program Policy | HackerOne
Node.js — The V8 JavaScript Engine

Node.js | Bug Bounty Program Policy | HackerOne
Browser support for JavaScript APIs - Mozilla | MDN
NodeJS vs Python - Which Language is Best for Backend Web Development?

* Sample code to read files
** Sample code to load a webpage in js
*** Sample code to load a webpage in python