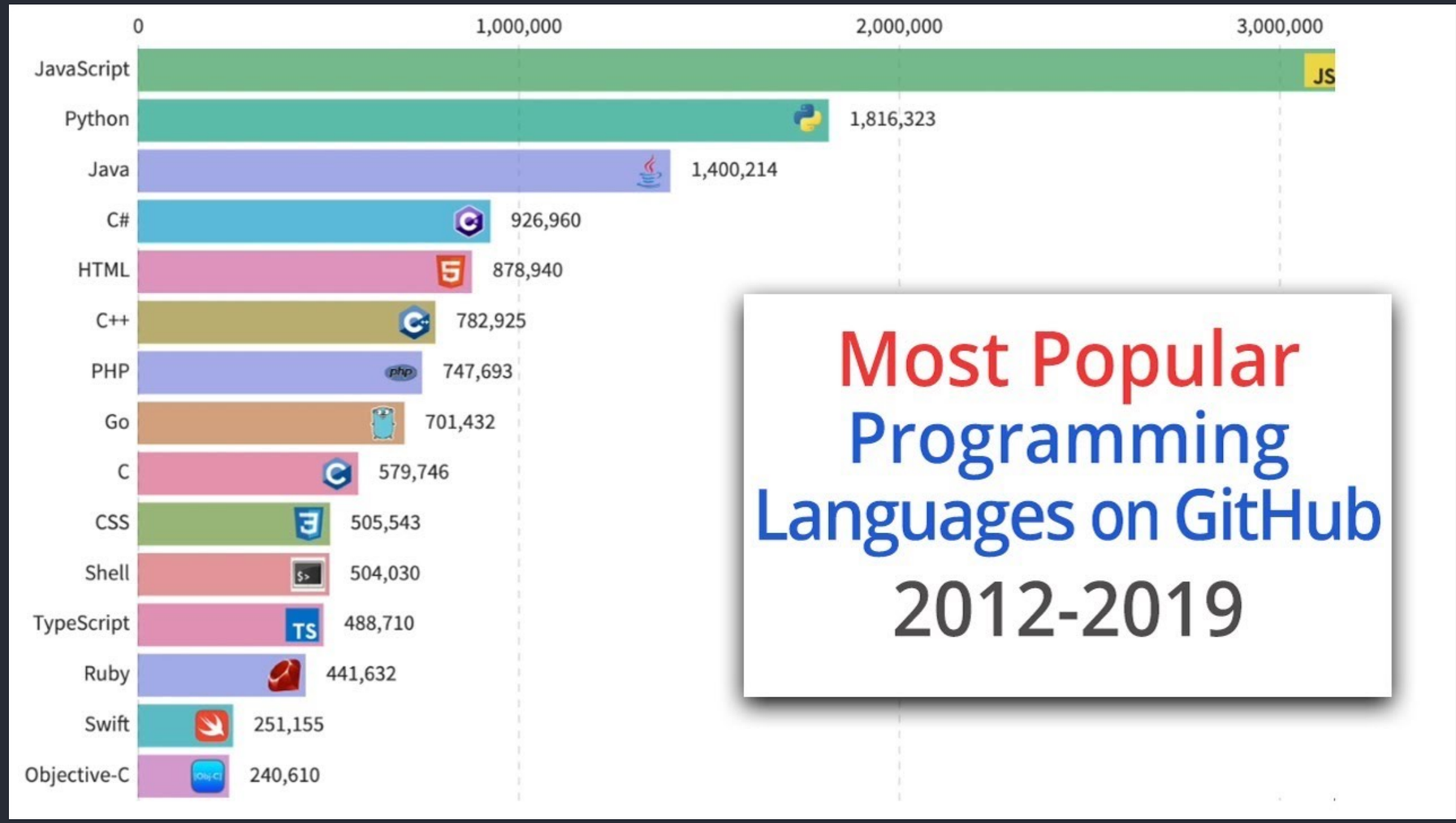
Hvis I havde glemt det 🤷



Most popular technologies

https://survey.stackoverflow.co/2023/#most-popular-technologies-language

Integrated development environment

https://survey.stackoverflow.co/2023/#section-worked-with-vs-want-to-work-with-integrated-development-environment

Most common web technologies

https://survey.stackoverflow.co/2023/#most-popular-technologies-webframe

“The cool thing about JavaScript is that you can create stuff that will put a smile on your face, as a developer.

You can create stuff and it will visually look like something, and it'll do stuff, and it makes you feel good, **it makes you fall in love with programming.**”

Lex Fridman

Computer Scientist

https://www.youtube.com/watch?v=GLhyjVZp0cw&t=252s

Intro til full-stack programmering

2. semester

Formål

- Intro til backendprogrammering med Node.js og Express.js
- Udvikle et simpelt REST API
- Kobling mellem frontend (1. semester) og backend.
- Semesteroversigt og -indhold

Agenda

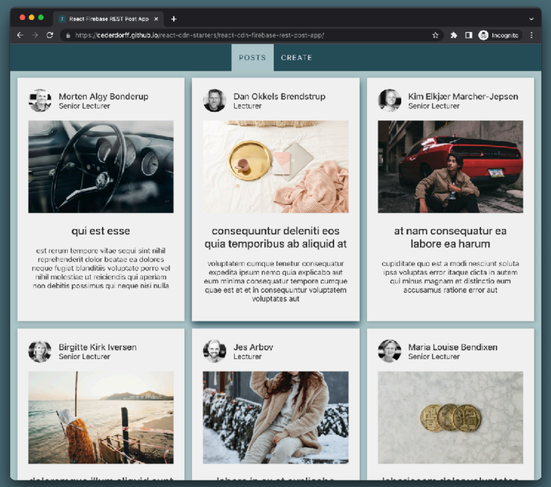
1. Velkommen til 2. semester
2. Webudvikling og intro til dagens øvelse
3. Øvelse: Backendapp med Node.js og Express
4. Semesterstruktur og -oversigt

Fetch, REST, HTTP Request & Response

WEB APP

FIREBASE REST API

DATA SOURCE



FETCH(GET, POST, PUT, DELETE)

REQUEST

JSON DATA

RESPONSE

Firebase
Realtime Database

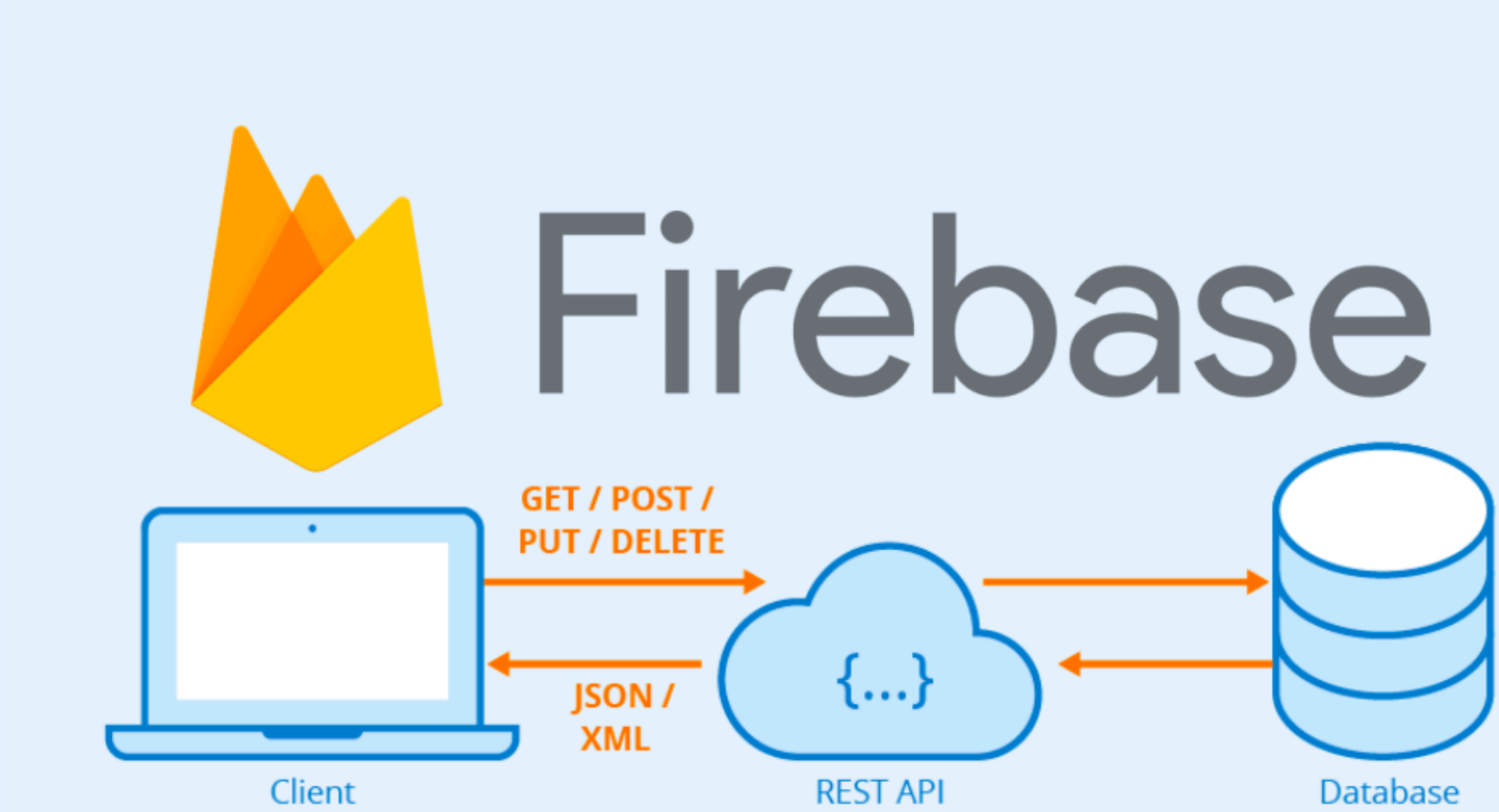
posts

users

CLIENT

SERVER

When someone asks you how to get data from a database in a js code



javascript.plainenglish.io/firebase-cloud-functions-tutorial-creating-a-rest-api-8cbc51479f80


Rasmus
Firebase
made with mematic

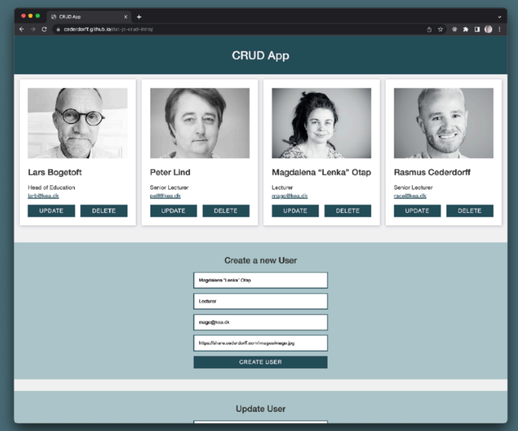
https://www.instagram.com/p/CVqbCzgsZUF/

Web Development

WEB APP

FIREBASE REST API

DATA SOURCE



FETCH(GET, POST, PUT, DELETE)

REQUEST

JSON DATA

RESPONSE

Firebase
Realtime Database

users

CLIENT

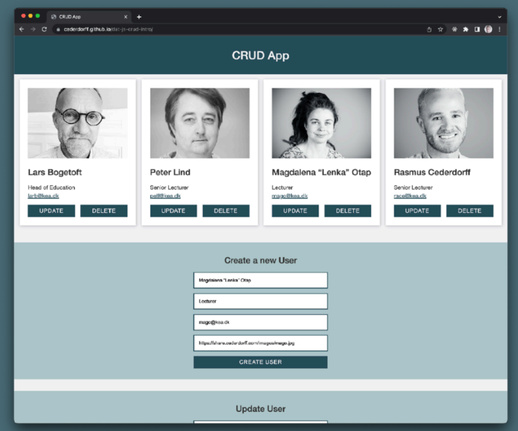
SERVER

Web Development

WEB APP

FIREBASE REST API

DATA SOURCE



FETCH(GET, POST, PUT, DELETE)

REQUEST

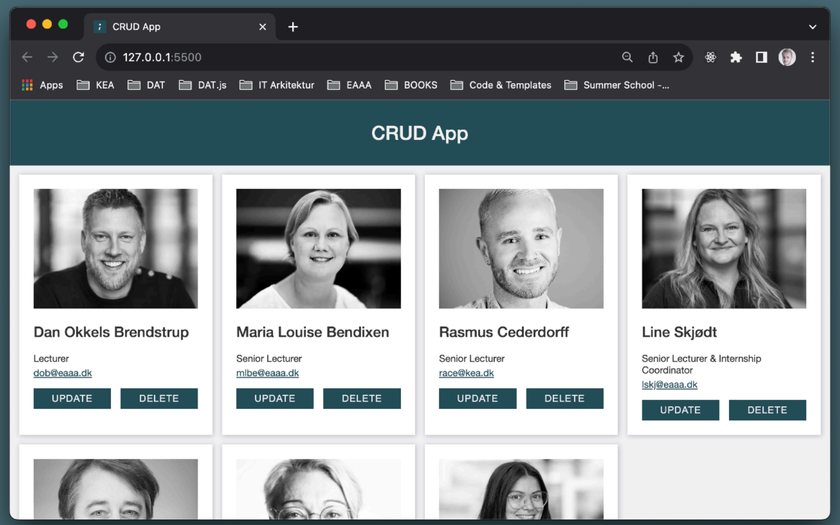
JSON DATA

RESPONSE

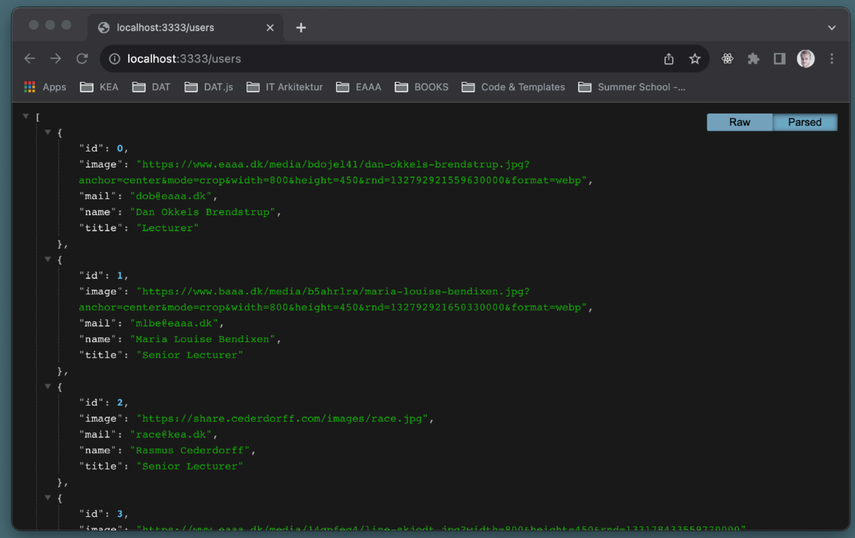
Express

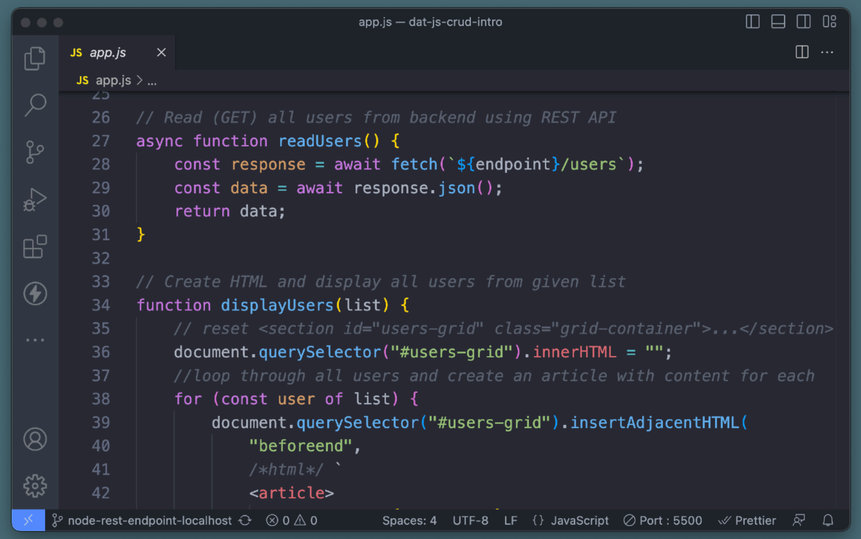
CLIENT

SERVER

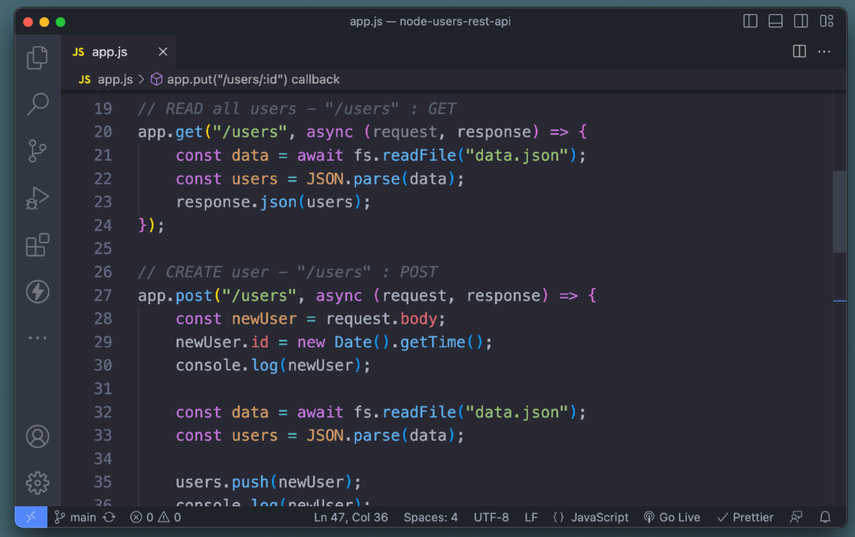


REQUEST



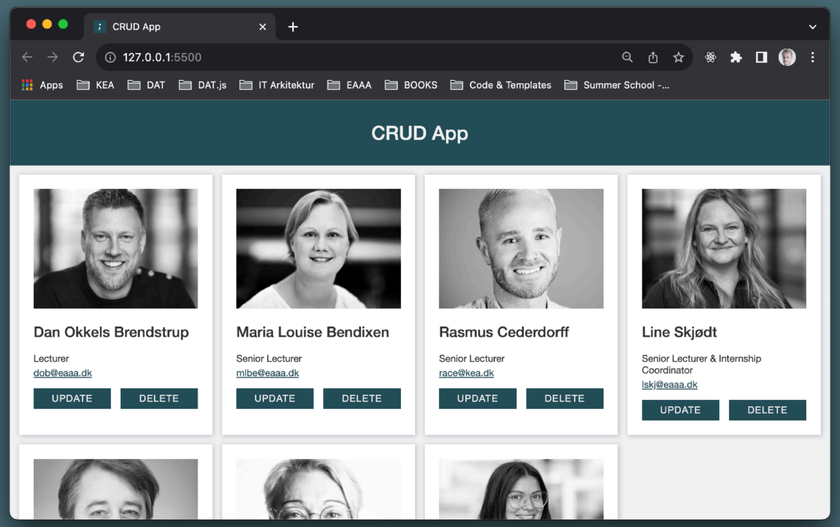


RESPONSE

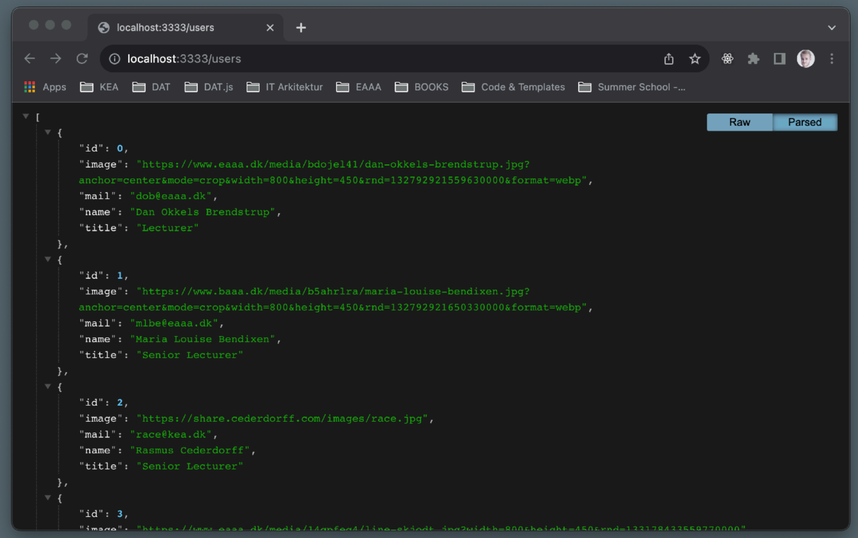


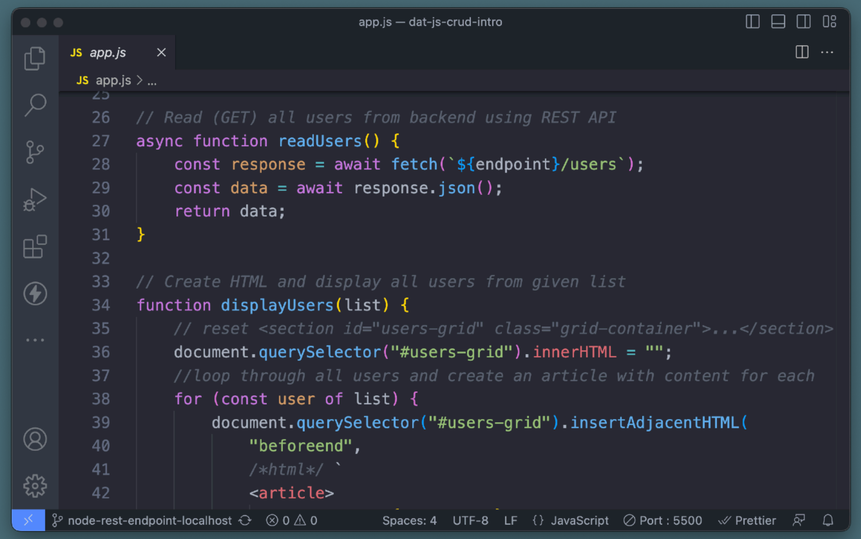
Frontend

Backend

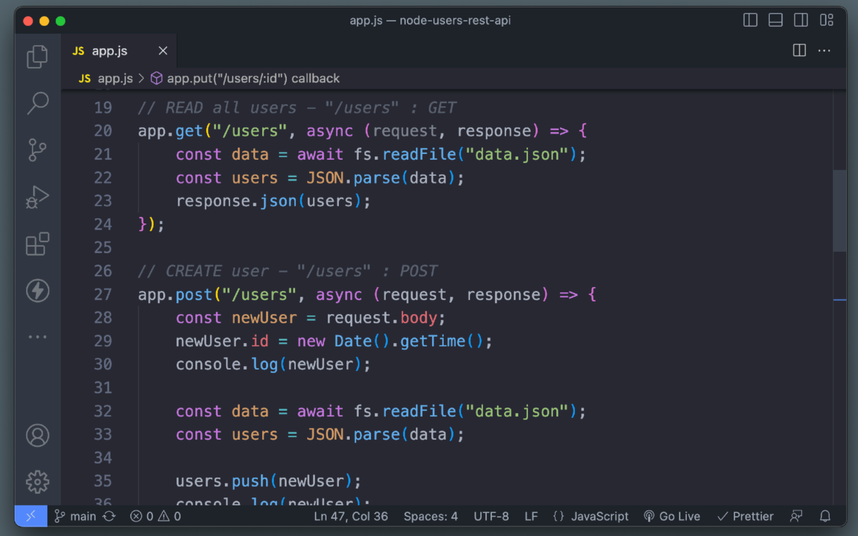


REQUEST





RESPONSE

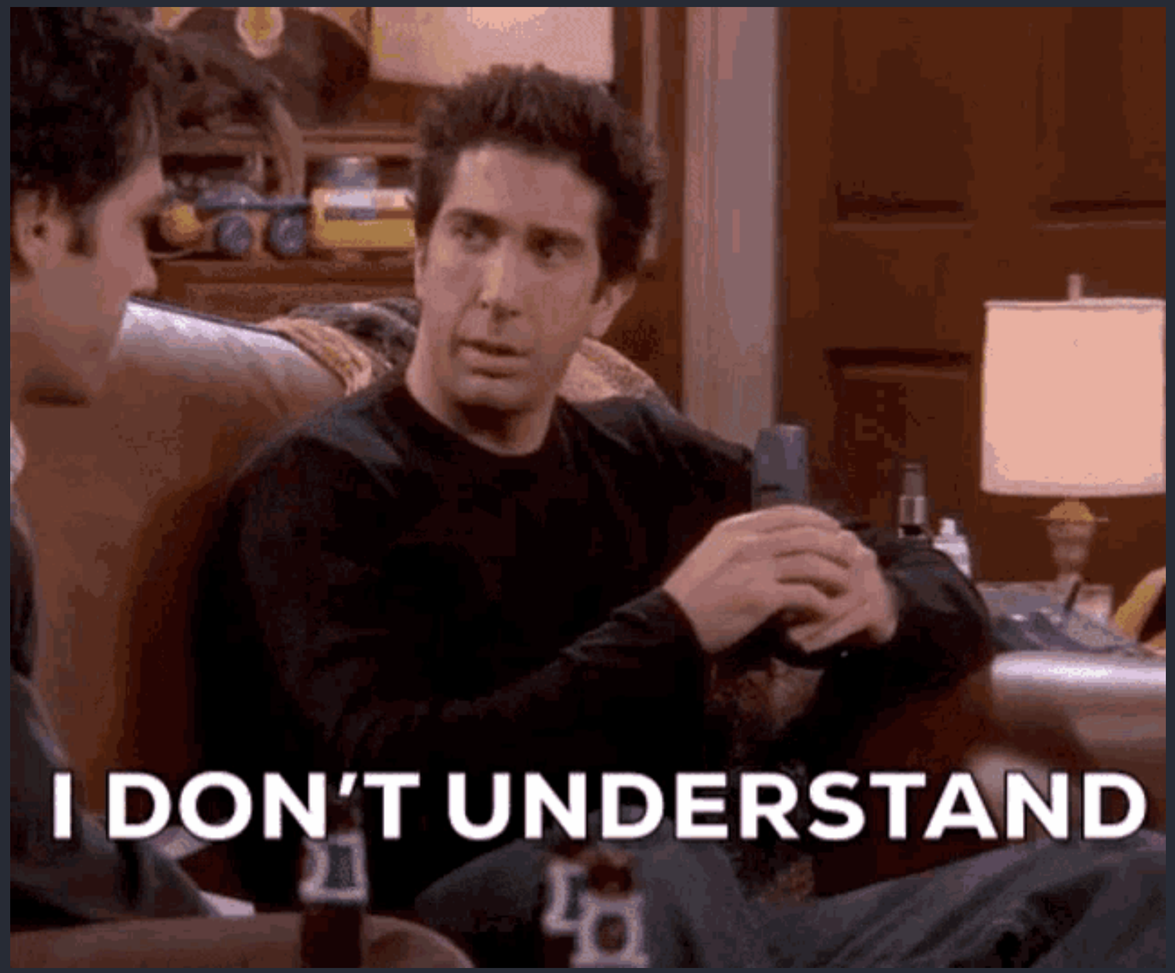


Frontend

Backend

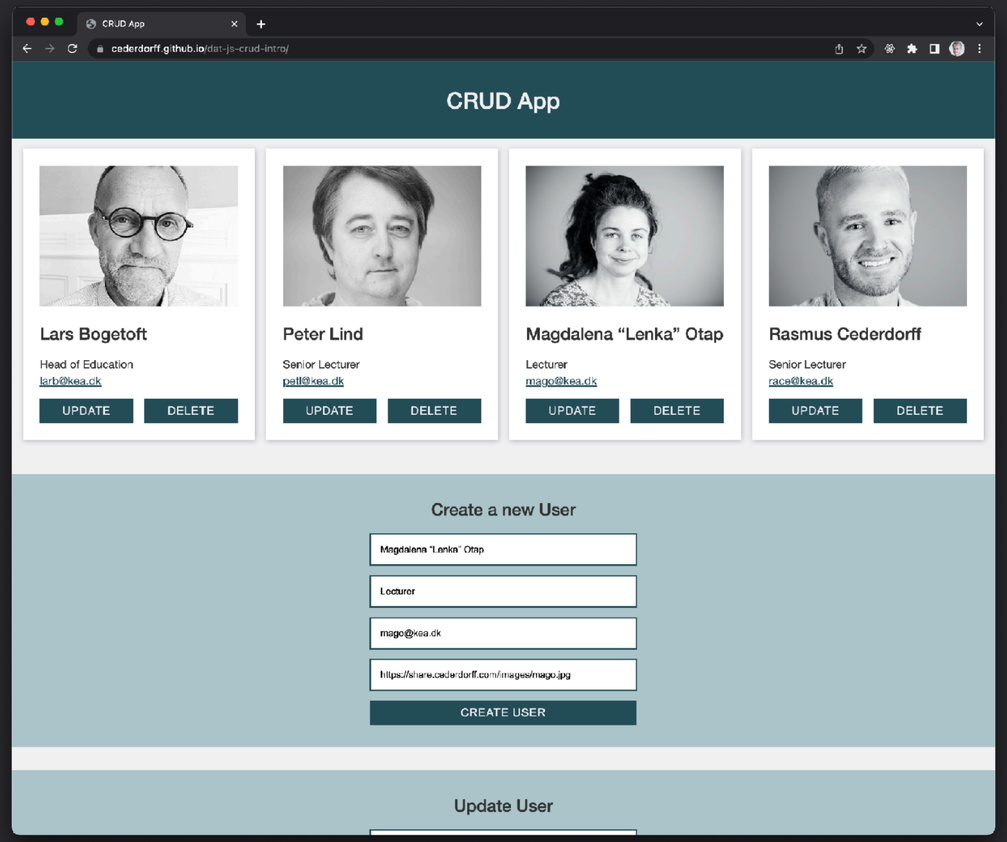
Please,

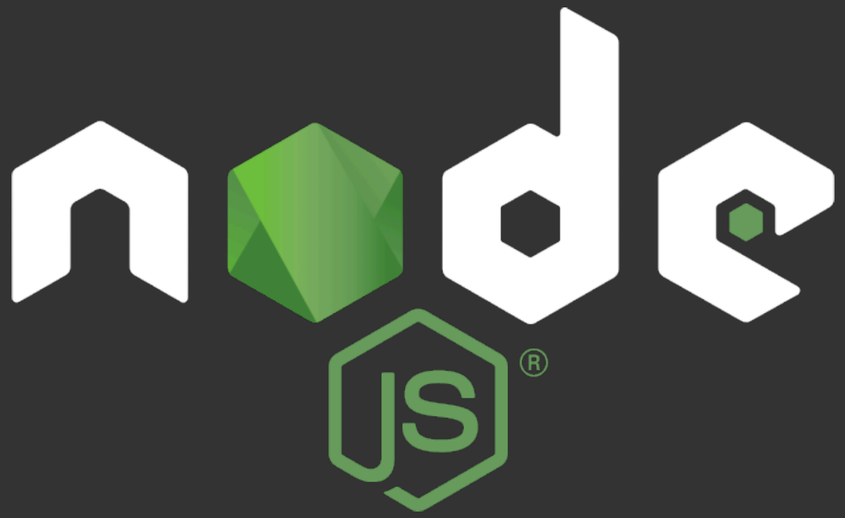
Do not try to understand everything!



Øvelse

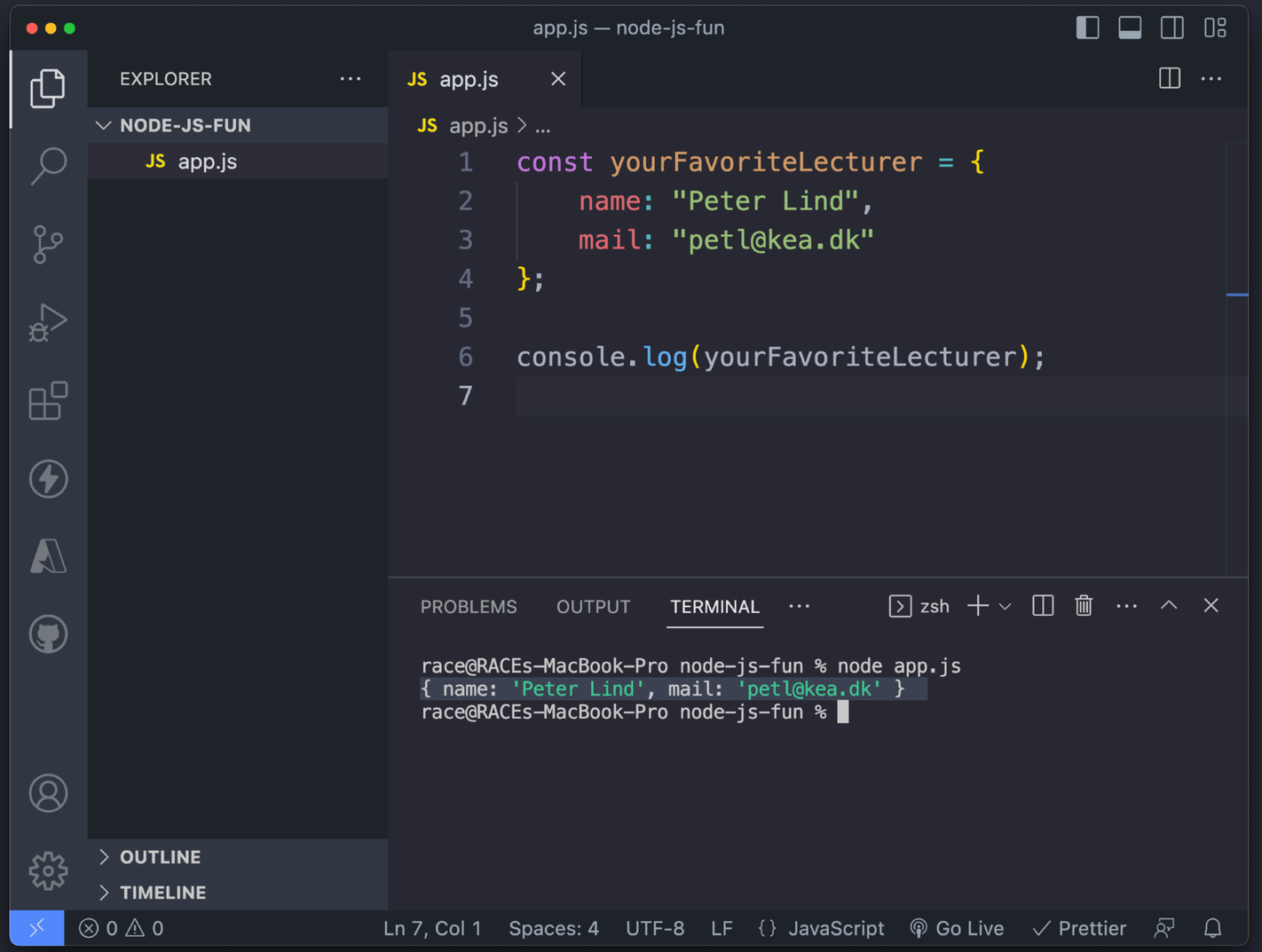
Introduction to Backend Development with Node.js & Express.js





- Server-side JavaScript runtime environment.
- Executes JavaScript outside of the browser.

Run JavaScript, not just in browsers 🎉

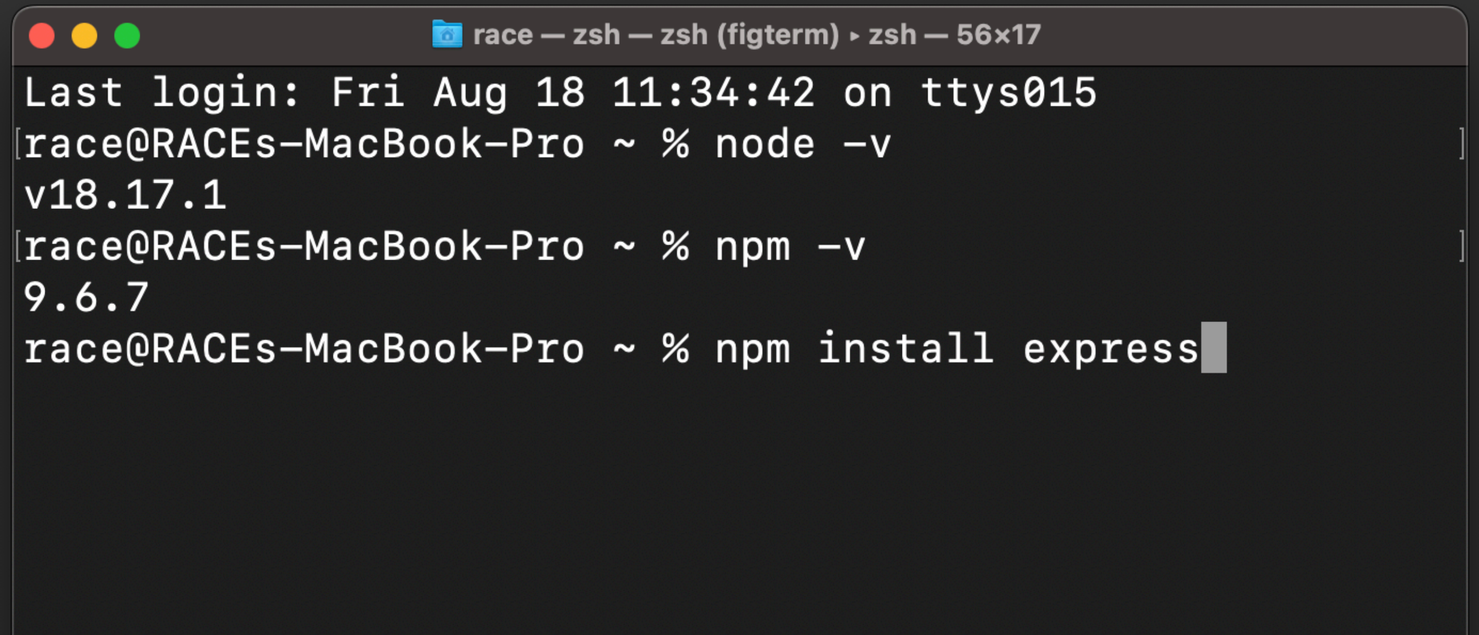


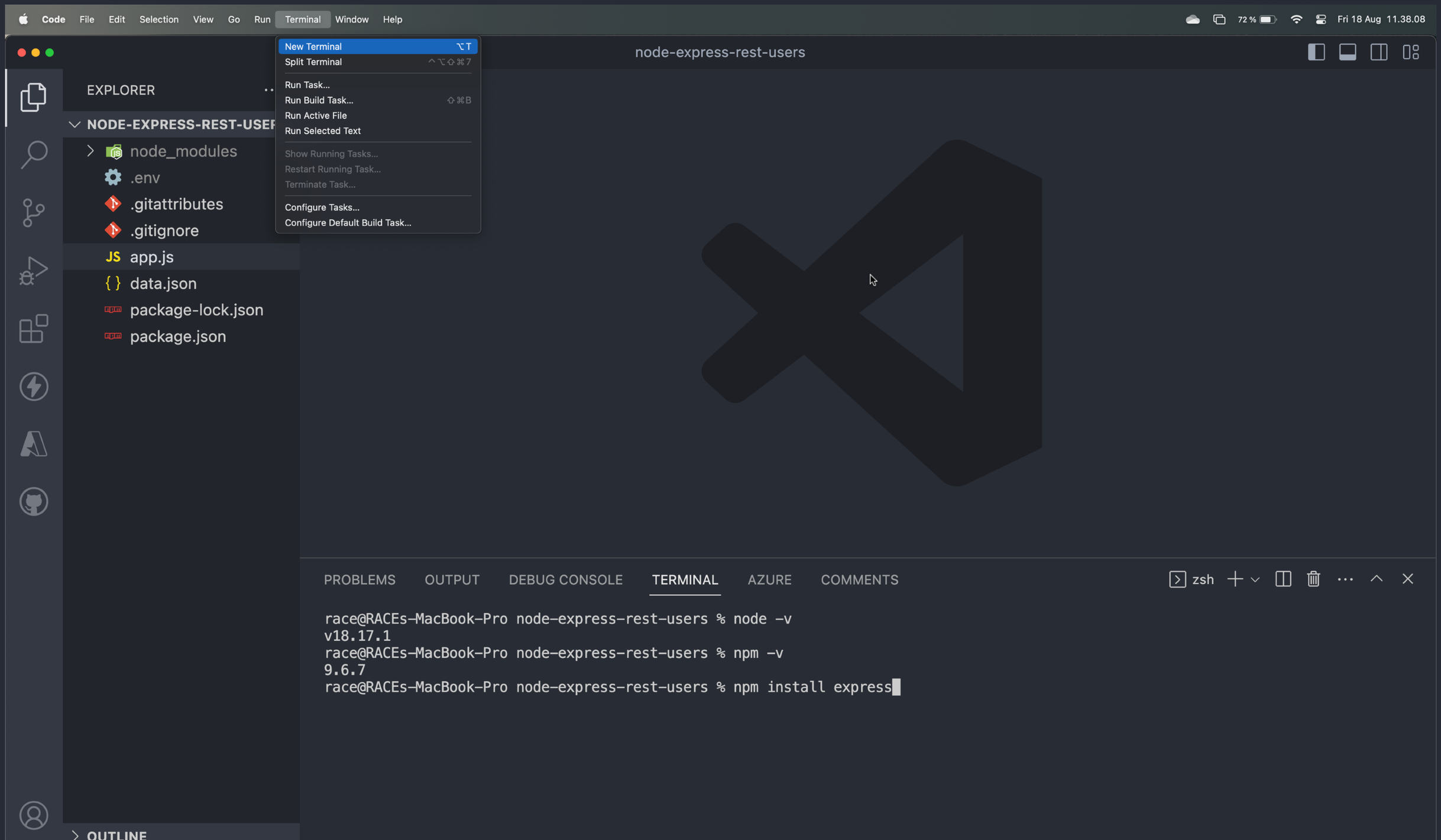
- A popular, minimalist web application framework for building APIs and web applications using Node.js.
- It simplifies the process of building web applications and APIs by providing a set of tools and utilities.

Command Line Interface

... a program that allows users to type text commands to execute functions.

npm uses CLI to install software & packages.



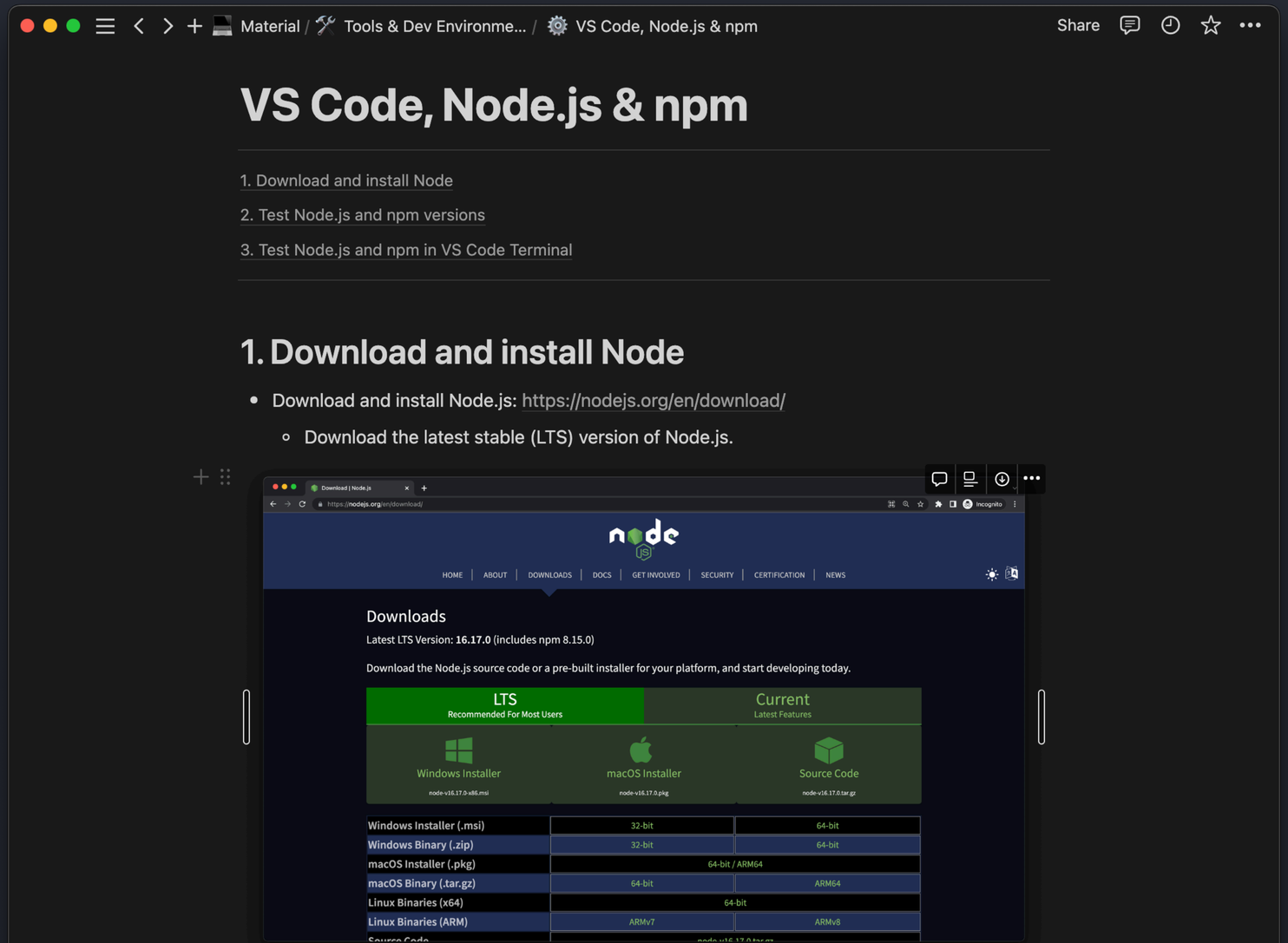

Code File Edit Selection View Go Run Terminal Window Help
72 % Fri 18 Aug 11.38.08
New Terminal ⌥T
Split Terminal ^⌥⇧⌘7
Run Task...
Run Build Task... ⇧⌘B
Run Active File
Run Selected Text
Show Running Tasks...
Restart Running Task...
Terminate Task...
Configure Tasks...
Configure Default Build Task...
node-express-rest-users
EXPLORER
NODE-EXPRESS-REST-USER
node_modules
.env
.gitattributes
.gitignore
app.js
data.json
package-lock.json
package.json
OUTLINE
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL AZURE COMMENTS
zsh
race@RACEs-MacBook-Pro node-express-rest-users % node -v
v18.17.1
race@RACEs-MacBook-Pro node-express-rest-users % npm -v
9.6.7
race@RACEs-MacBook-Pro node-express-rest-users % npm install express

1. Download & install Node.js & npm: nodejs.org/en/
2. Check your version of npm & Node.js

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL AZURE COMMENTS

```
race@RACEs-MacBook-Pro node-express-rest-users % node -v
v18.17.1
race@RACEs-MacBook-Pro node-express-rest-users % npm -v
9.6.7
```

VS Code, Node.js & npm



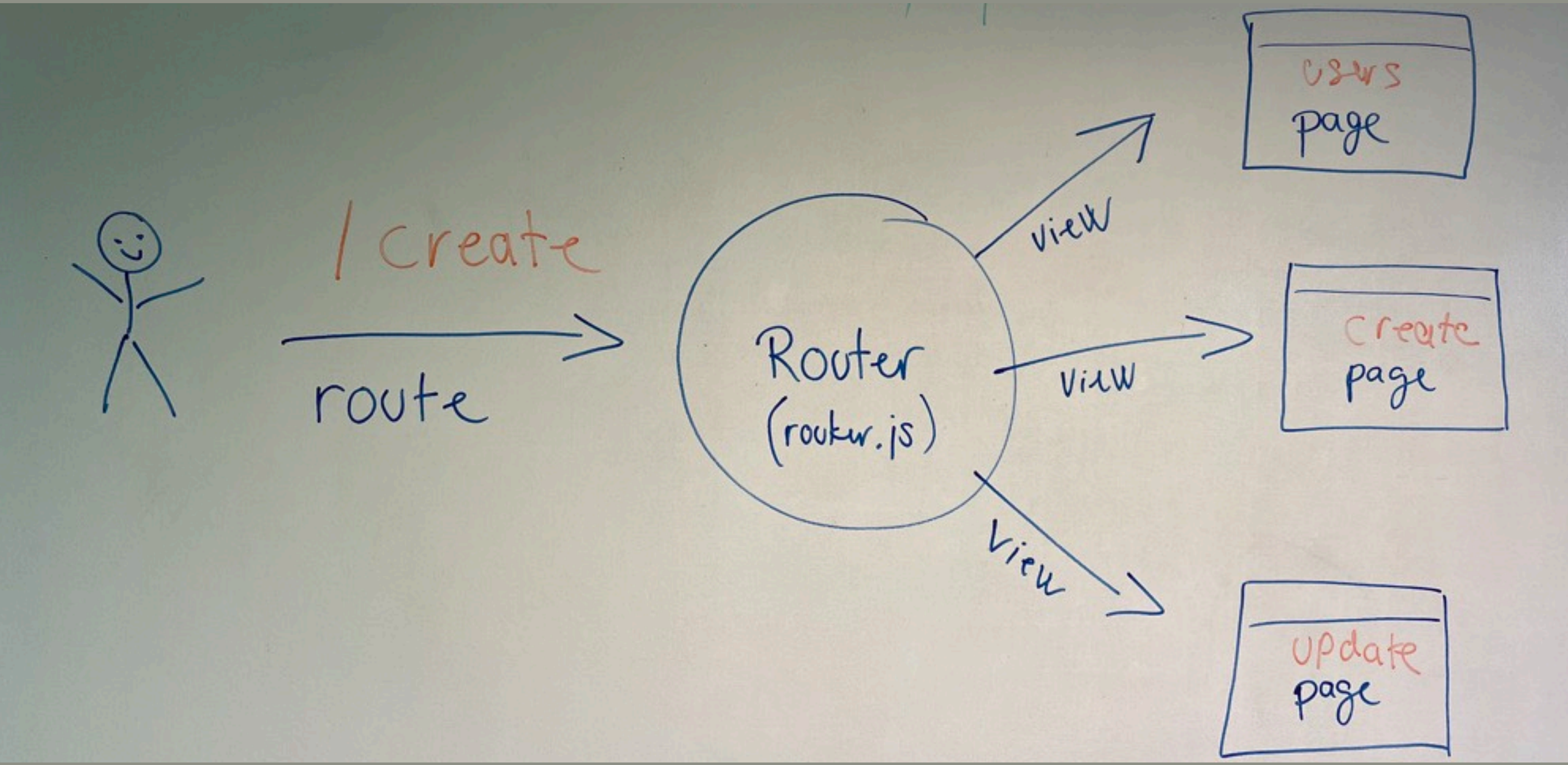
What’s a Router?

What’s a Router?

“It is the piece of software in charge to organize the states of the application, switching between different views.”

Routes organize how your application handles different requests, making your code structured and maintainable.

https://medium.com/@fro_g/routing-in-javascript-d552ff4d2921


/create
route
Router
(router.js)
view
view
view
users
page
create
page
update
page

Routes in Express.js

In Node.js with Express.js, routes are a fundamental concept that helps you define **how your web application responds to different types of HTTP requests** at different URLs. Think of routes as the paths your application can take based on the URLs that users request.

Routes in Express.js

- Routes determine how your application responds to specific URLs and HTTP methods.
- Each route combines an HTTP method (like GET, POST) with a URL path.
- When a client request matches a route, a corresponding route handler function is executed to process the request and send a response.

```
import express from "express";
const app = express();

// Define routes using app.METHOD(PATH, HANDLER)
app.get("/posts", (req, res) => {
    // return all posts
});

app.post("/posts", (req, res) => {
    const post = req.body;
    // Create a new post based on the data in req.body
});

app.put("/posts/:id", (req, res) => {
    const postId = req.params.id;
    const post = req.body;
    // Find and update the post with postId and data from req.body
});

app.delete("/posts/:id", (req, res) => {
    const postId = req.params.id;
    // Find and delete the post with postId
});

// ...and so on

app.listen(3000, () => {
    console.log("Server is running on port 3000");
});
```


Code
Every
Day