

Sigma Web Development Course - W | next.js framework - Google Search | Next.js by Vercel - The React framework

nextjs.org

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NEXT.js Showcase Docs Blog Analytics Templates Enterprise

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# The React Framework for the Web

Used by some of the world's largest companies, Next.js enables you to create **high-quality web applications** with the power of React components.

Get Started Learn Next.js

```
▲ ~ npx create-next-app@latest
```

What's in Next.js? Everything you need to build great products on the web.



14°C Haze

Search

01:45 01:45

ENG IN



A vertical column of icons representing various tools and features available in the IDE.

EXPLORER ...

VIDEO 121

> first

OUTLINE

TIMELINE

TASK EXPLORER

node

```
PS C:\Users\iitia\Downloads\Sigma Web Development Course\Sigma-Web-Dev-Course\Video 121> npx create-next-app@latest
  ✓ What is your project named? ... first
  ✓ Would you like to use TypeScript? ... No / Yes
  ✓ Would you like to use ESLint? ... No / Yes
  ✓ Would you like to use Tailwind CSS? ... No / Yes
  ✓ Would you like to use `src/` directory? ... No / Yes
  ✓ Would you like to use App Router? (recommended) ... No / Yes
  ✓ Would you like to customize the default import alias (@/*)? ... No / Yes
Creating a new Next.js app in C:\Users\iitia\Downloads\Sigma Web Development Course\Sigma-Web-Dev-Course\Video 121\first.

Using npm.

Initializing project with template: app-tw

Installing dependencies:
- react
- react-dom
- next

Installing devDependencies:
- autoprefixer
- postcss
- tailwindcss
- eslint
- eslint-config-next

[.....] / idealTree:next: sill fetch manifest postcss-value-parser@^4.2.0
```





EXPLORER

...

☒ powershell X

▷ + ⌂ ...

VIDEO 121

> first

Creating a new Next.js app in C:\Users\iitia\Downloads\Sigma Web Development Course\Sigma-Web-Dev-Course\Video 121\first.

Using npm.

Initializing project with template: app-tw

Installing dependencies:

- react
- react-dom
- next

Installing devDependencies

- autoprefixer
- postcss
- tailwindcss
- eslint
- eslint-config-next

added 357 packages, and audited 358 packages in 29s

131 packages are looking for funding  
run `npm fund` for details

found 0 vulnerabilities

Success! Created first at C:\Users\iitia\Downloads\Sigma Web Development Course\Sigma-Web-Dev-Course\Video 121\first

PS C:\Users\iitia\Downloads\Sigma Web Development Course\Sigma-Web-Dev-Course\Video 121> code -r first

> OUTLINE  
> TIMELINE  
> TASK EXPLORER



EXPLORER ...

FIRST

> app

> node\_modules

> public

.eslintrc.json

.gitignore

jsconfig.json

next.config.mjs

package-lock.json

package.json

postcss.config.js

README.md

tailwind.config.js

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

node + ... ^ X

PS C:\Users\iitia\Downloads\Sigma Web Development Course\Sigma-Web-Dev-Course\Video 121\first> `npm run dev`

> first@0.1.0 dev  
> next dev

▲ **Next.js 14.1.0**  
- Local: <http://localhost:3000>



Get started by editing app/page.js

By  Vercel

# NEXT.js

Docs →

Find in-depth information about  
Next.js features and API.

Learn →

Learn about Next.js in an  
interactive course with quizzes!

Templates →

Explore starter templates for  
Next.js.

Deploy →

Instantly deploy your  
Next.js site to a shareable  
URL with Vercel.



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nextjs.org/docs

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Using App Router Feature available in /app

Using App Router Features available in /app

Using Pages Router Features available in /pages

Building Your Application

- Routing >
- Data Fetching >
- Rendering >
- Caching >
- Styling >
- Optimizing >
- Configuring >
- Testing >
- Authentication >
- Deploying >
- Upgrading >

API Reference

- Components >
- File Conventions >
- Functions >
- next.config.js Options >
- create-next-app >
- Edge Runtime >

# Introduction

Welcome to the Next.js documentation!

## What is Next.js?

Next.js is a React framework for building full-stack web applications. You use React Components to build user interfaces, and Next.js for additional features and optimizations.

Under the hood, Next.js also abstracts and automatically configures tooling needed for React, like bundling, compiling, and more. This allows you to focus on building your application instead of spending time with configuration.

Whether you're an individual developer or part of a larger team, Next.js can help you build interactive, dynamic, and fast React applications.

## Main Features

Some of the main Next.js features include:

Feature	Description
Routing	A file-system based router built on top of Server Components that supports layouts, nested routing, loading states, error handling, and more.
Rendering	Client-side and Server-side Rendering with Client and Server Components. Further

On this page

- What is Next.js?
- Main Features
- How to Use These Docs
- App Router vs Pages Router
- Pre-Requisite Knowledge
- Accessibility
- Join our Community

Edit this page on GitHub ↗



14°C Haze

Search

01:4 ENG IN

Subscribe

File Edit Selection View Go ... ← → first

EXPLORER ... JS page.js X

FIRST

.next app favicon.ico globals.css layout.js page.js node\_modules public .eslintrc.json .gitignore jsconfig.json next.config.mjs package-lock.json package.json postcss.config.js README.md tailwind.config.js

OUTLINE

TIMELINE

TASK EXPLORER

Initialization JS/TS language features

Ln 111, Col 5 (7 selected) Spaces: 2 UTF-8 LF { } pt

14°C Haze

Search

Removing all code

1 import Image from "next/image";  
2  
3 export default function Home() {  
4 return (  
5 > <main className="flex min-h-screen flex-col items-center justify-between p-24">...  
111 </main>  
112 );  
113 }  
114

14°C Haze

Search

014 ENG IN

Subscribe

Thu

A screenshot of a Microsoft Visual Studio Code (VS Code) interface showing a Next.js project named "FIRST".

The Explorer sidebar on the left shows the project structure:

- .next
- app
  - favicon.ico
  - globals.css
  - layout.js
  - page.js
- node\_modules
- public
  - .eslintrc.json
  - .gitignore
  - jsconfig.json
  - next.config.mjs
  - package-lock.json
  - package.json
  - postcss.config.js
  - README.md
  - tailwind.config.js

The "page.js" file in the "app" folder is open in the main editor area. The code is as follows:

```
1 import React from 'react'
2
3 const page = () => {
4     return (
5         <div>
6             <div>I am homepage</div>
7         </div>
8     )
9 }
10
11 export default page
12
```

The line `<div>I am homepage</div>` is highlighted with a green selection bar.

The status bar at the bottom shows:

- Ln 6, Col 25
- Spaces: 2
- UTF-8
- LF
- {} (empty brace)
- 01:45 (time)
- Subscribe (button)

A circular video overlay in the bottom right corner shows a man with glasses and a beard, wearing a blue shirt with a React logo, speaking. The video interface includes a play/pause button and volume controls.

The bottom taskbar includes icons for File, Edit, Selection, View, Go, Search, and other system functions.

localhost:3000



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I am homepage



File Edit Selection View Go ... ← → first

EXPLORER ... page.js app globals.css 3 JS page.js ...\\about X

FIRST .next app about JS page.js favicon.ico globals.css 3 JS layout.js page.js node\_modules public .eslintrc.json .gitignore jsconfig.json next.config.mjs package-lock.json package.json postcss.config.js README.md tailwind.config.js

File based Routing

```
app > about > JS page.js > [e] page
1 import React from 'react'
2
3 const page = () => {
4   return (
5     <div>
6       | I am about
7     </div>
8   )
9 }
10
11 export default page
```

Ln 6, Col 17 Spaces: 4 UTF-8 CRLF

14°C Haze

Search

14°C Haze

14°C Haze

localhost:3000/about

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I am about

/about





## EXPLORER

...

## FIRST

&gt; .next

&gt; app

&gt; about

&gt; contact

JS page.js

★ favicon.ico

globals.css 3

JS layout.js

JS page.js

&gt; component

JS Navbar.js

&gt; node\_modules

&gt; public

.eslintrc.json

.gitignore

jsconfig.json

N next.config.mjs

npm package-lock.json

npm package.json

postcss.config.js

README.md

&gt; OUTLINE

&gt; TIMELINE

&gt; TASK EXPLORER

page.js app

globals.css 3

page.js ...\\about

page.js ...\\contact

Navbar.js X

component &gt; JS Navbar.js &gt; [e] Navbar

```
1 import React from 'react'  
2  
3 const Navbar = () => {  
4   return [  
5     <div>  
6       | I am navbar  
7       </div>    abc Navbar  
8     [  
9   }  
10  
11 export default Navbar  
12
```



EXPLORER ...

FIRST

- > .next
- > app
  - > about
  - > contact
  - favicon.ico
  - globals.css 3
- > JS layout.js
- page.js
- > component
- > node\_modules
- > public
- .eslintrc.json
- .gitignore
- jsconfig.json
- next.config.mjs
- package-lock.json
- package.json
- postcss.config.js
- README.md
- tailwind.config.js

OUTLINE

TIMELINE

TASK EXPLORER

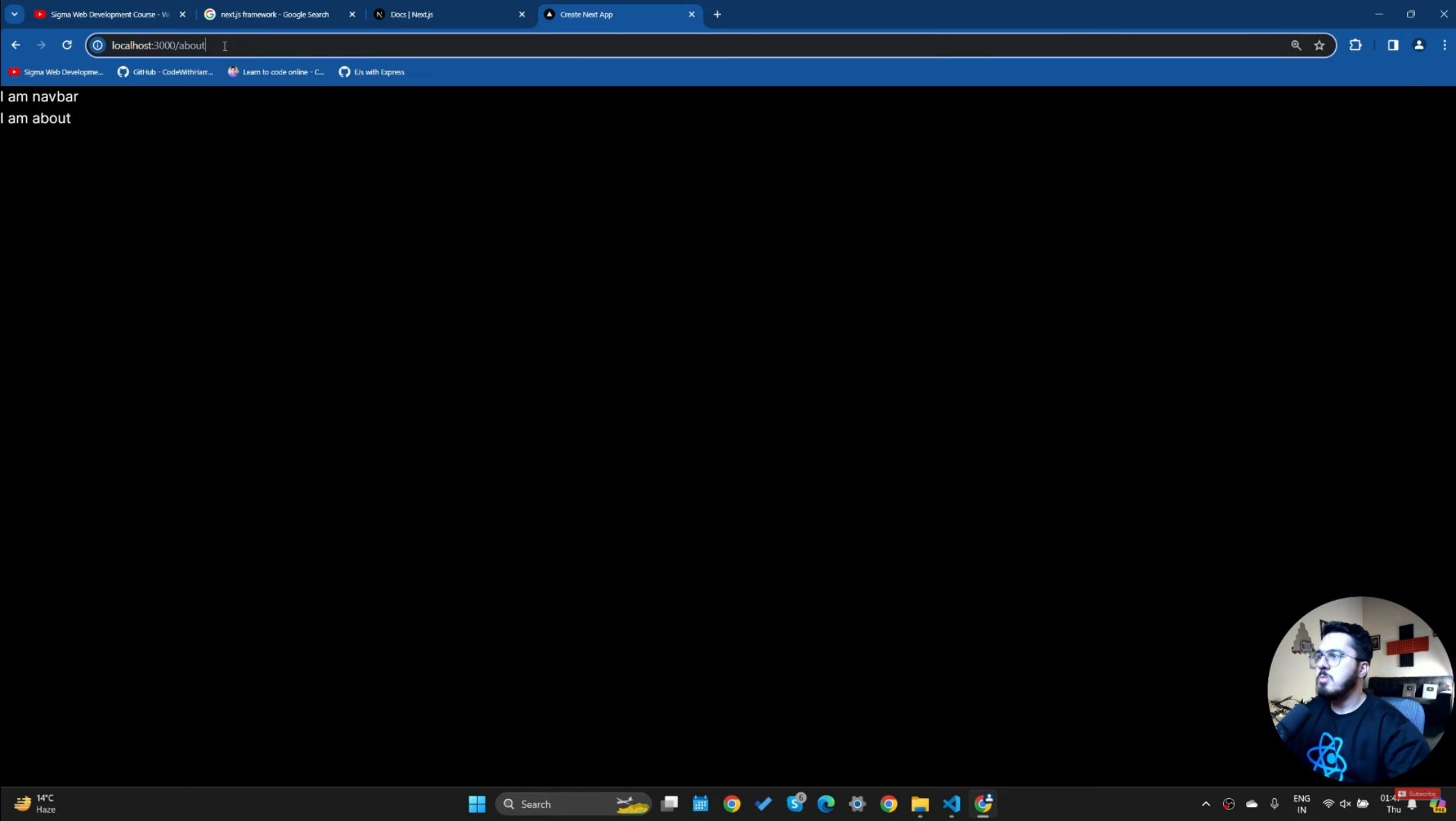
page.js app | globals.css 3 | JS page.js ...\\about | JS layout.js X | JS page.js ...\\contact | JS Navbar.js | ...

app > JS layout.js > RootLayout

```
1 import { Inter } from "next/font/google";
2 import "./globals.css";
3 import Navbar from "@/component/Navbar"; ← @ in place of ../../..
4
5 const inter = Inter({ subsets: ["latin"] });
6
7 export const metadata = {
8   title: "Create Next App",
9   description: "Generated by create next app",
10 };
11
12 export default function RootLayout({ children }) {
13   return (
14     <html lang="en">
15       <body className={inter.className}>
16         <Navbar/> ← outermost folder
17         {children}
18       </body>
19     </html>
20   );
21 }
```

@ in place of ../../..  
outermost folder





EXPLORER ... page.js app globals.css 3 page.js ...\\about X JS page.js ...\\contact JS Navbar.js

first

FIRST

.next app about

page.js contact favicon.ico globals.css 3 layout.js page.js component node\_modules public .eslintrc.json .gitignore jsconfig.json next.config.mjs package-lock.json package.json postcss.config.js README.md tailwind.config.js

OUTLINE

TIMELINE

TASK EXPLORER

app > about > page.js > ...

```
1 import React from 'react'
2
3 const page = () => {
4     return (
5         <div>
6             <h1 className="text-xl">Problems solved by Next.js</h1>
7             <ul>
8                 ●<li>Full Stack Solution</li>
9                 ●<li>File based Routing</li>
10                ●<li>Additional features like router from next/navigation</li>
11                ●<li>Optimized rendering</li>
12            </ul>
13        </div>
14    )
15 }
16
17 export default page|
```

Ln 17, Col 20 Spaces: 4 UTF-8 CRLF {} ↻



EXPLORER ...

FIRST

- > .next
- > app
  - about
    - page.js
  - contact
  - favicon.ico
  - globals.css 3
- JS layout.js
- page.js
- component
- node\_modules
- public
- .eslintrc.json
- .gitignore
- jsconfig.json
- next.config.mjs
- package-lock.json
- package.json
- postcss.config.js
- README.md
- tailwind.config.js

OUTLINE

TIMELINE

TASK EXPLORER

page.js app | globals.css 3 | page.js ...\\about | JS layout.js X | JS page.js ...\\contact | JS Navbar.js | ⌂ ...

app > JS layout.js > [o] metadata > 📝 description

```
1 import { Inter } from "next/font/google";
2 import "./globals.css";
3 import Navbar from "@/component/Navbar";
4
5 const inter = Inter({ subsets: ["latin"] });
6
7 export const metadata = {
8   title: "Blog",
9   description: "I am a blog", ←
10 };
11
12 export default function RootLayout({ children }) {
13   return (
14     <html lang="en">
15       <body className={inter.className}>
16         <Navbar/>
17         {children}
18         </body>
19     </html>
20   );
21 }
```





localhost:3000/about

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I am navbar

Problems solved by Next.js

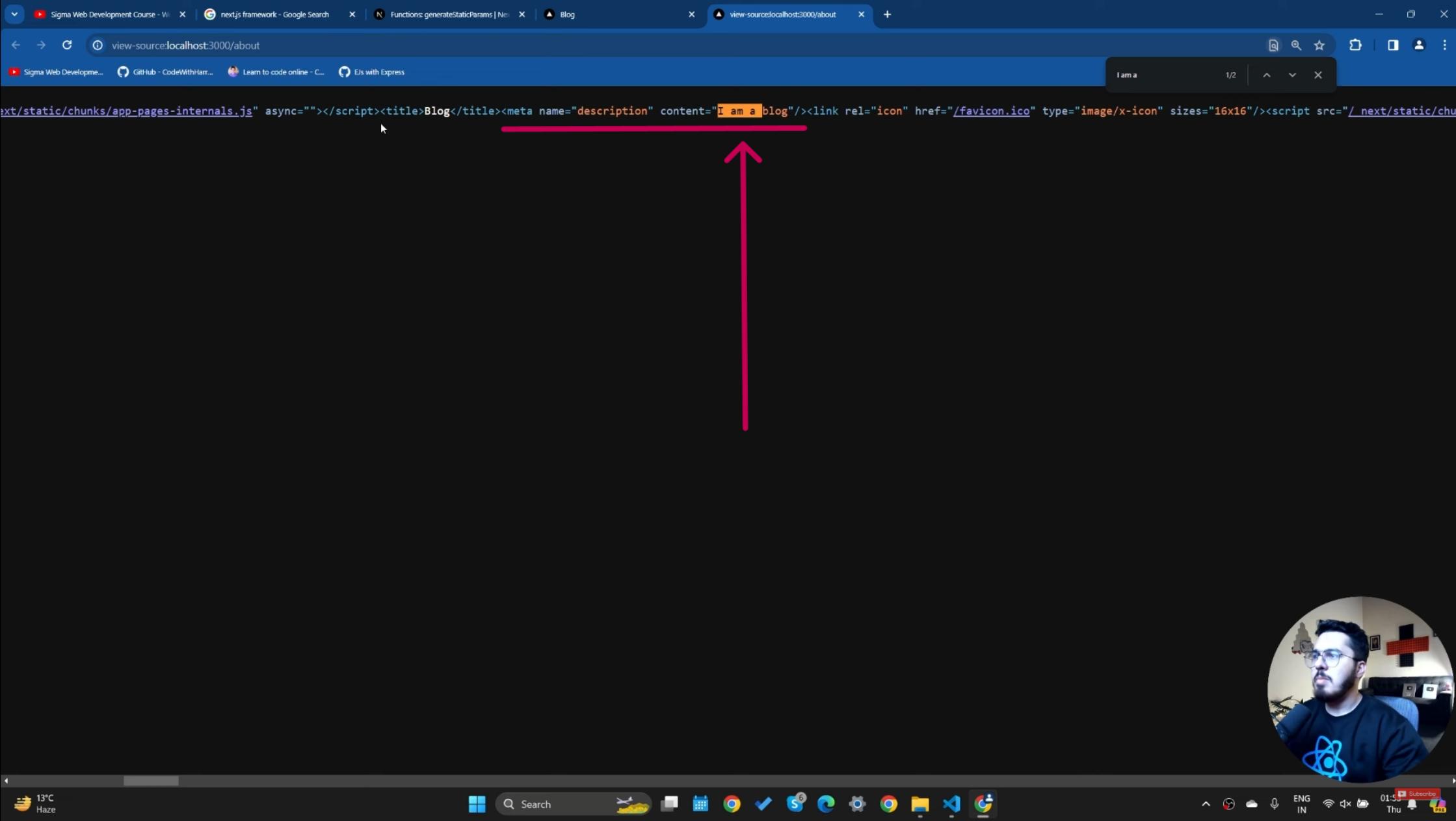
Full Stack Solution

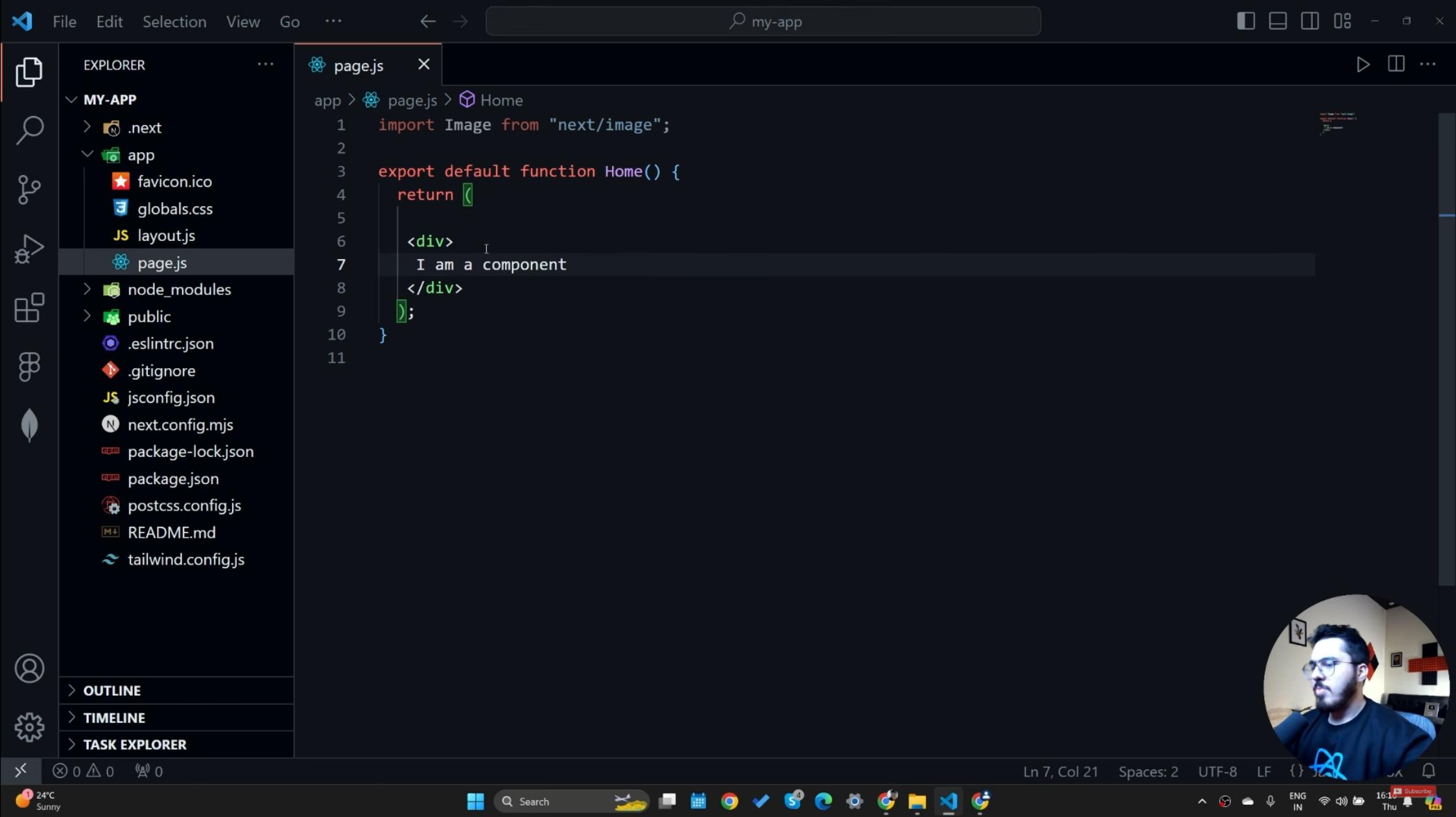
File based Routing

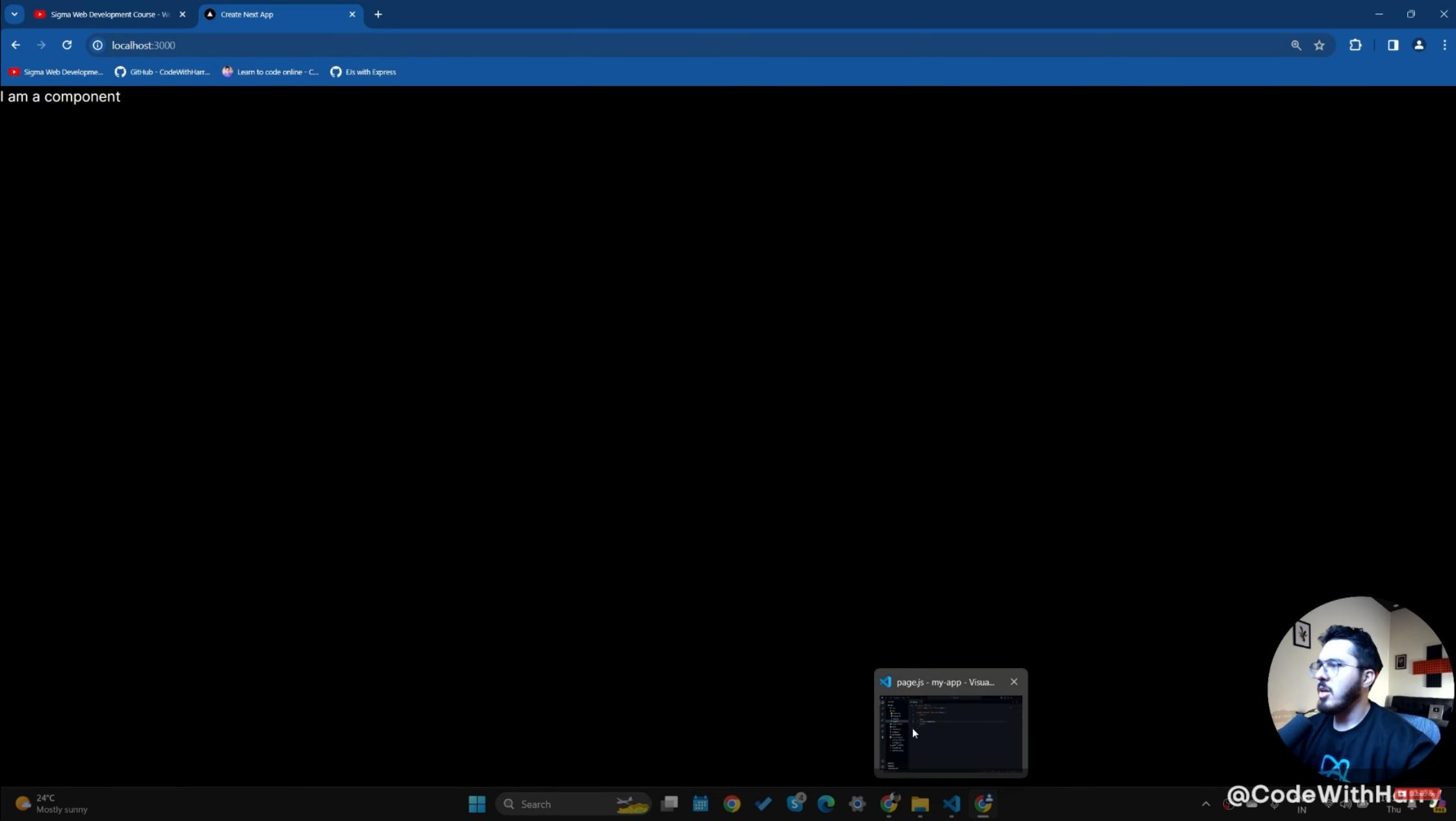
Additional features like router from next/navigation

Optimized rendering









I am a component



@CodeWithHarry

EXPLORER ...

MY-APP

- > .next
- > app
  - favicon.ico
  - globals.css
  - layout.js
  - page.js
- > node\_modules
- > public
  - .eslintrc.json
  - .gitignore
  - jsconfig.json
  - next.config.mjs
  - package-lock.json
  - package.json
  - postcss.config.js
  - README.md
  - tailwind.config.js

OUTLINE

TIMELINE

TASK EXPLORER

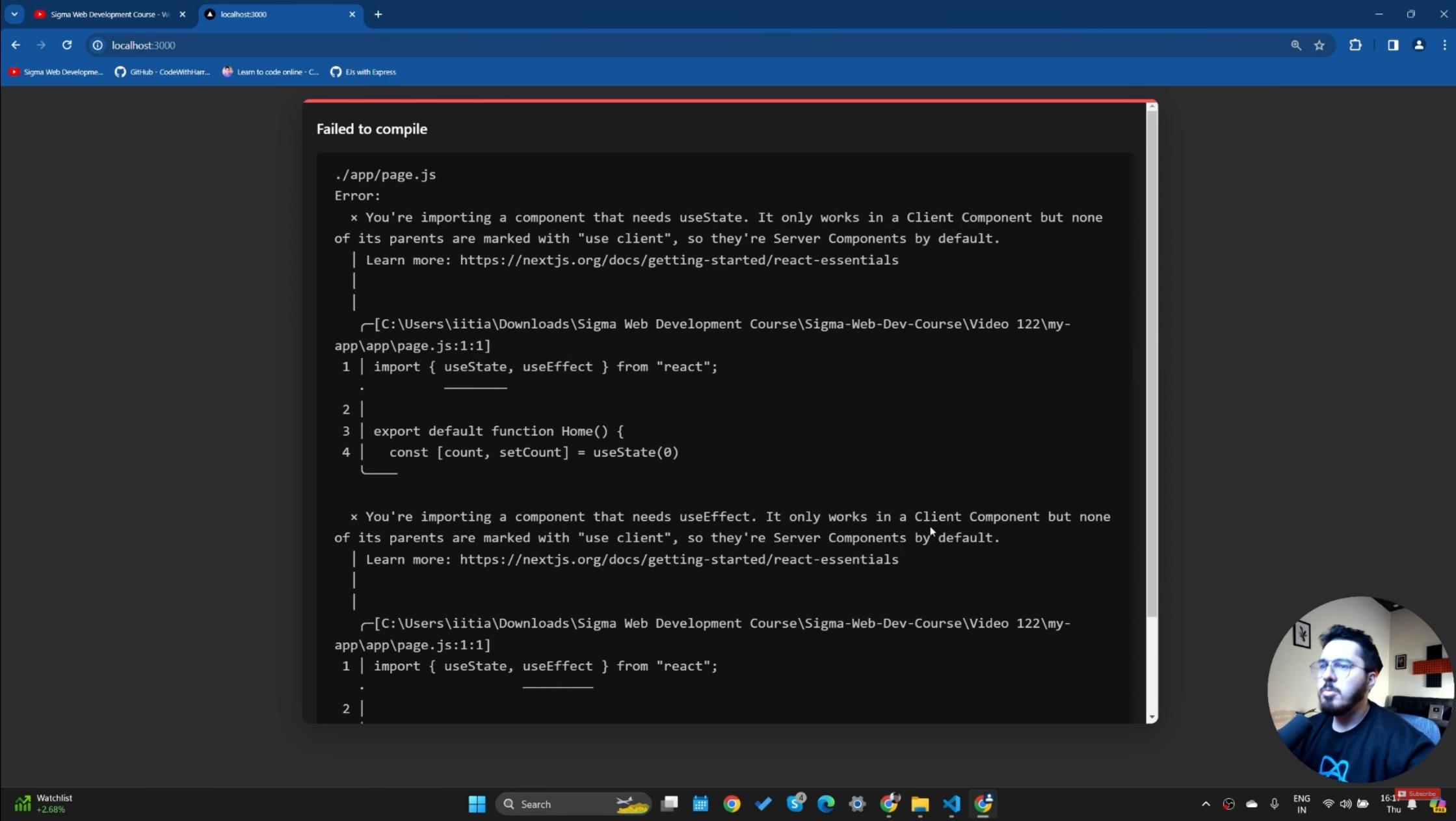
page.js

app > page.js > Home

```
1 import { useState, useEffect } from "react";
2
3 export default function Home() {
4     const [count, setCount] = useState(0)
5     return (
6         <div>
7             I am a component {count}
8         </div>
9     );
10 }
11
```

By default everything is a server component in Next.js





EXPLORER ...

MY-APP

- > .next
- app
  - favicon.ico
  - globals.css
  - layout.js
  - page.js
- > node\_modules
- > public
- .eslintrc.json
- .gitignore
- jsconfig.json
- next.config.mjs
- package-lock.json
- package.json
- postcss.config.js
- README.md
- tailwind.config.js

OUTLINE

TIMELINE

TASK EXPLORER

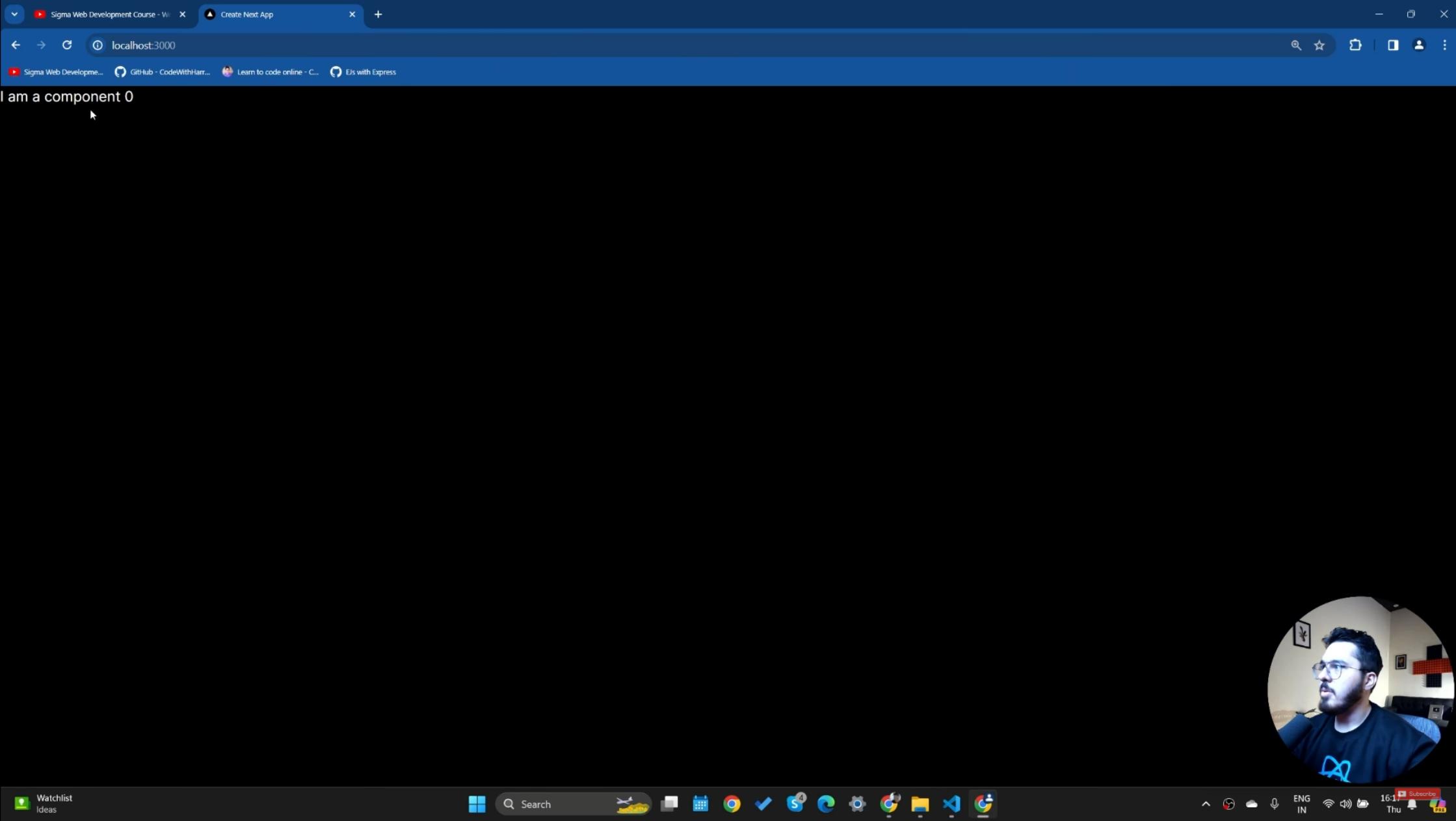
page.js

app > page.js > ...

```
1 "use client" ←
2 import { useState, useEffect } from "react";
3
4 export default function Home() {
5   const [count, setCount] = useState(0)
6   return (
7     <div>
8       I am a component {count}
9     </div>
10  );
11 }
12
```

To make it  
client component





A screenshot of a Microsoft Visual Studio Code (VS Code) interface showing a Next.js application named "my-app".

The Explorer sidebar on the left shows the project structure:

- MY-APP
  - .next
  - app
    - favicon.ico
    - globals.css
    - layout.js
    - page.js
  - node\_modules
  - public
  - .eslintrc.json
  - .gitignore
  - jsconfig.json
  - next.config.mjs
  - package-lock.json
  - package.json
  - postcss.config.js
  - README.md
  - tailwind.config.js
- OUTLINE
- TIMELINE
- TASK EXPLORER

The current file being edited is "page.js" in the "app" folder. The code is as follows:

```
1 "use client"
2 import { useState, useEffect } from "react";
3
4 export default function Home() {
5     // const [count, setCount] = useState(0)
6     console.log("Hey I am harry")
7     return (
8         <div>
9             I am a component
10            {/* {count} */}
11            {/* <button onClick={()=> setCount(count + 1)}>Click me</button>
12            */}
13        </div>
14    );
15}
```

The "use client" directive at line 1 is highlighted with a yellow circle. The code uses React hooks like useState and useEffect.

The status bar at the bottom shows the following information:

- Ln 1, Col 1 (12 selected)
- Spaces: 2
- UTF-8
- LF
- 161 Subscribers

A small circular video overlay in the bottom right corner shows a man with glasses and a beard speaking.

System tray icons at the bottom include: GBP/INR (+0.22%), Search, Calendar, Chrome, Task View, File Explorer, and Google Drive.

Sigma Web Development Course - W... Create Next App

localhost:3000

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I am a component

Elements Console Sources Network Performance Security > Default levels ▾ No Issues

main-app.js?v=1708598938360:94

Download the React DevTools for a better development experience: <https://reactjs.org/link/react-devtools>

Hey I am harry

Hey I am harry

page.js:6

page.js:6

Console What's new Issues

Highlights from the Chrome 122 update

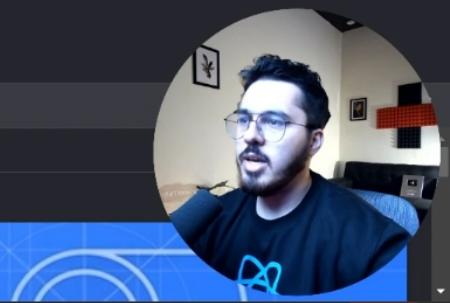
Third-party cookie phaseout warnings in Network and Application

GBP/INR +0.22%

Search

16:13 ENG IN

Subscribe



A screenshot of a Microsoft Visual Studio Code interface showing a Next.js application named 'my-app'. The Explorer sidebar on the left shows the project structure under 'MY-APP', including '.next', 'app' (with 'favicon.ico', 'globals.css', 'layout.js', and 'page.js'), 'node\_modules', 'public' (with '.eslintrc.json', '.gitignore', 'jsconfig.json', 'next.config.mjs', 'package-lock.json', 'package.json', 'postcss.config.js', 'README.md', and 'tailwind.config.js'). The 'page.js' file in the 'app' folder is open in the main editor area. The code defines a functional component 'Home' that logs 'Hey I am harry' and contains a single 

element with the text 'I am a component'. A handwritten annotation in green at the bottom right of the code area says '/ use-client removed'. The status bar at the bottom shows 'Ln 7, Col 9' and other settings. A circular video overlay in the bottom right corner shows a man with glasses and dark hair.

```
// import { useState, useEffect } from "react";
export default function Home() {
  // const [count, setCount] = useState(0)
  console.log("Hey I am harry")
  return (
    <div>
      I am a component
      {/* {count} */}
      {/* <button onClick={()=> setCount(count + 1)}>Click me</button>
      */}
    </div>
  );
}
```

'use-client' removed

The screenshot shows a Microsoft Edge browser window with a Next.js application running at [localhost:3001](http://localhost:3001). The page content is "Hello". Below the browser, the developer tools' Source tab is open, showing the file `page.js` with the following code:

```
1 // import { useState, useEffect } from "react";  
2  
3 export default function Home() {  
4     // const [count, setCount] = useState(0)
```

A red error message is displayed below the code:  
✖ You're importing a component that needs `useEffect`. It only works in a Client Component but none of its parents are marked with "`use client`", so they're Server Components by default.  
Learn more: <https://nextjs.org/docs/getting-started/react-essentials>

Below the code, the import trace is shown:

```
[C:\Users\iitja\Downloads\Sigma Web Development Course\Sigma-Web-Dev-Course\Video 122\my-app\app\page.js:1:1]  
1 import { useState, useEffect } from "react";  
2  
3 export default function Home() {  
4     // const [count, setCount] = useState(0)
```

At the bottom of the screen, a small video player shows a man with glasses and a beard, likely the instructor, speaking.

A screenshot of a Microsoft Visual Studio Code (VS Code) interface showing a Next.js application named "my-app".

The Explorer sidebar on the left shows the project structure:

- MY-APP
  - .next
  - app
    - favicon.ico
    - globals.css
    - layout.js
    - page.js
  - node\_modules
  - public
  - .eslintrc.json
  - .gitignore
  - jsconfig.json
  - next.config.mjs
  - package-lock.json
  - package.json
  - postcss.config.js
  - README.md
  - tailwind.config.js
- OUTLINE
- TIMELINE
- TASK EXPLORER

The code editor shows a file named "page.js" with the following content:

```
import { promises } from "fs/promises"
export default function Home() {
  // const [count, setCount] = useState(0)
  console.log("Hey I am harry")
  let a = fs.readFile(".gitignore")
  a.then(e=>{console.log(e.toString())})
  return (
    <div>
      <h1>Home</h1>
      <p>${count}</p>
    </div>
  )
}
```

The "TERMINAL" tab is selected at the bottom, showing the output of the command "node" running the application. The output includes:

- .pnp.js
- .yarn/install-state.gz
- # testing  
/coverage
- # next.js  
.next/  
/out/
- # production  
/build
- # misc  
.DS\_Store  
\*.pem

A large blue arrow points from the handwritten text "Output" to the terminal window.

Handwritten text "Output" is written in pink marker over the blue arrow.

Bottom status bar: Ln 8, Col 38 Spaces: 2 UTF-8 LF {} ⚡

Bottom icons: 24°C Mostly sunny, Search, Calendar, Chrome, Task Manager, File Explorer, GitHub, and others.

A screenshot of a Microsoft Visual Studio Code (VS Code) interface showing a Next.js application named "my-app". The Explorer sidebar on the left shows the project structure under "MY-APP", including ".next", "app" (with "favicon.ico", "globals.css", "layout.js", and "page.js"), "node\_modules", "public", ".eslintrc.json", ".gitignore", "jsconfig.json", "next.config.mjs", "package-lock.json", "package.json", "postcss.config.js", "README.md", and "tailwind.config.js". The "page.js" file in the "app" folder is selected in the Explorer.

The main editor area displays the content of "page.js":

```
1 "use client" ←
2 // import { useState, useEffect } from "react";
3 import fs from "fs/promises"
4
5 export default function Home() {
6     // const [count, setCount] = useState(0)
7     console.log("Hey I am harry")
8     let a = fs.readFile(".gitignore")
```

The code uses the "use client" directive at line 1, imports "useState" and "useEffect" from "react" at line 2, imports "fs/promises" at line 3, and defines a function "Home" at line 5. A yellow arrow points to the "use client" directive. A red arrow points to the import statement for "fs/promises".

The bottom status bar shows the URL <https://nextjs.org/docs/messages/module-not-found>.



Sigma Web Development Course - W localhost:3000

localhost:3000

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www.youtube.com is now full screen (Press Esc to exit full screen)

Failed to compile

```
./app/page.js:3:0
Module not found: Can't resolve 'fs/promises'
1 | "use client"
2 | // import { useState, useEffect } from "react";
> 3 | import fs from "fs/promises"
4 |
5 | export default function Home() {
6 |   // const [count, setCount] = useState(0)

https://nextjs.org/docs/messages/module-not-found
```

This error occurred during the build process and can only be dismissed by fixing the error.

Elements Console Sources Network Performance Security > Default levels ▾ No Issues 1 hidden

<https://nextjs.org/docs/messages/module-not-found>

```
at <unknown> (https://nextjs.org/docs/messages/module-not-found)
at getNotFoundError (file:///C:/Users/iitia/Downloads/Sigma Web Development Course/Sigma-Web-Dev-Course/Video 122/my-app/node_modules/next/dist/build/webpack/plugins/wellknown-errors-plugin/parseNotFoundError.js:120:16)
at process.processTicksAndRejections (node:internal/process/task_queues:95:5)
at async getModuleBuildError (file:///C:/Users/iitia/Downloads/Sigma Web Development Course/Sigma-Web-Dev-Course/Video 122/my-app/node_modules/next/dist/build/webpack/plugins/wellknown-errors-plugin/webpackModuleError.js:102:27)
at async (file:///C:/Users/iitia/Downloads/Sigma Web Development Course/Sigma-Web-Dev-Course/Video 122/my-app/node_modules/next/dist/build/webpack/plugins/wellknown-errors-plugin/index.js:29:49)
at async (file:///C:/Users/iitia/Downloads/Sigma Web Development Course/Sigma-Web-Dev-Course/Video 122/my-app/node_modules/next/dist/build/webpack/plugins/wellknown-errors-plugin/index.js:27:21)
```

[HMR] connected

<https://nextjs.org/docs/messages/module-not-found>

websocket.js:46

client.js:26

✖ ▶ ./app/page.js:3:0

```
Module not found: Can't resolve 'fs/promises'
1 | "use client"
2 | // import { useState, useEffect } from "react";
> 3 | import fs from "fs/promises"
4 |
5 | export default function Home() {
6 |   // const [count, setCount] = useState(0)
```

Console What's new Issues

Highlights from the Chrome 122 update

Third-party cookie phaseout warnings in Network and Application



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16:2 ENG IN

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EXPLORER ...

MY-APP

- > .next
- > app
  - favicon.ico
  - globals.css
  - JS layout.js
  - page.js
- > components
  - Navbar.js
- > node\_modules
- > public
  - .eslintrc.json
  - .gitignore
  - { } data.json
  - JS jsconfig.json
  - N next.config.mjs
  - npm package-lock.json
  - npm package.json
  - postcss.config.js
  - M README.md
  - tailwind.config.js
- > OUTLINE
- > TIMELINE
- > TASK EXPLORER

page.js Navbar.js X { } data.json

components > Navbar.js > ...

```
1 "use client"
2 import React from 'react'
3
4 const Navbar = () => {
5   return (
6     <div>
7       navbar
8     </div>
9   )
10 }
11
12 export default Navbar
13 |
```

Ln 13, Col 1 Spaces: 4 UTF-8 CRLF { } ↵



File Edit Selection View Go ... ← → ⚙ my-app

EXPLORER ...

MY-APP

- > .next
- app
  - favicon.ico
  - globals.css
  - layout.js
  - page.js
- components
  - Navbar.js
- > node\_modules
- > public
  - .eslintrc.json
  - .gitignore
  - { } data.json
  - jsconfig.json
  - next.config.mjs
  - package-lock.json
  - package.json
  - postcss.config.js
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  - tailwind.config.js
- > OUTLINE
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- > TASK EXPLORER

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page.js Navbar.js { } data.json

app > page.js > Home

```
1 // import { useState, useEffect } from "react";
2 import fs from "fs/promises"
3 import Navbar from "@/components/Navbar"
4
5 export default function Home() {
6 // const [count, setCount] = useState(0)
7 console.log("Hey I am harry")
8 let a = fs.readFile(".gitignore")
9 a.then(e=>{console.log(e.toString())})
10 return (
11   <div>
12     <Navbar/> ←
13     I am a component
14     {/* {count} */}
15     {/* <button onClick={()=> setCount(count + 1)}>Click me</button> */}
16   </div>
17 );
18 }
19
```

Using client-comp.  
in server component

Ln 18, Col 2 Spaces: 2 UTF-8 LF ⚙

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Search

Windows Start

Cloud

Calendar

Chrome

VS Code

File Explorer

Terminal

PowerShell

Taskbar

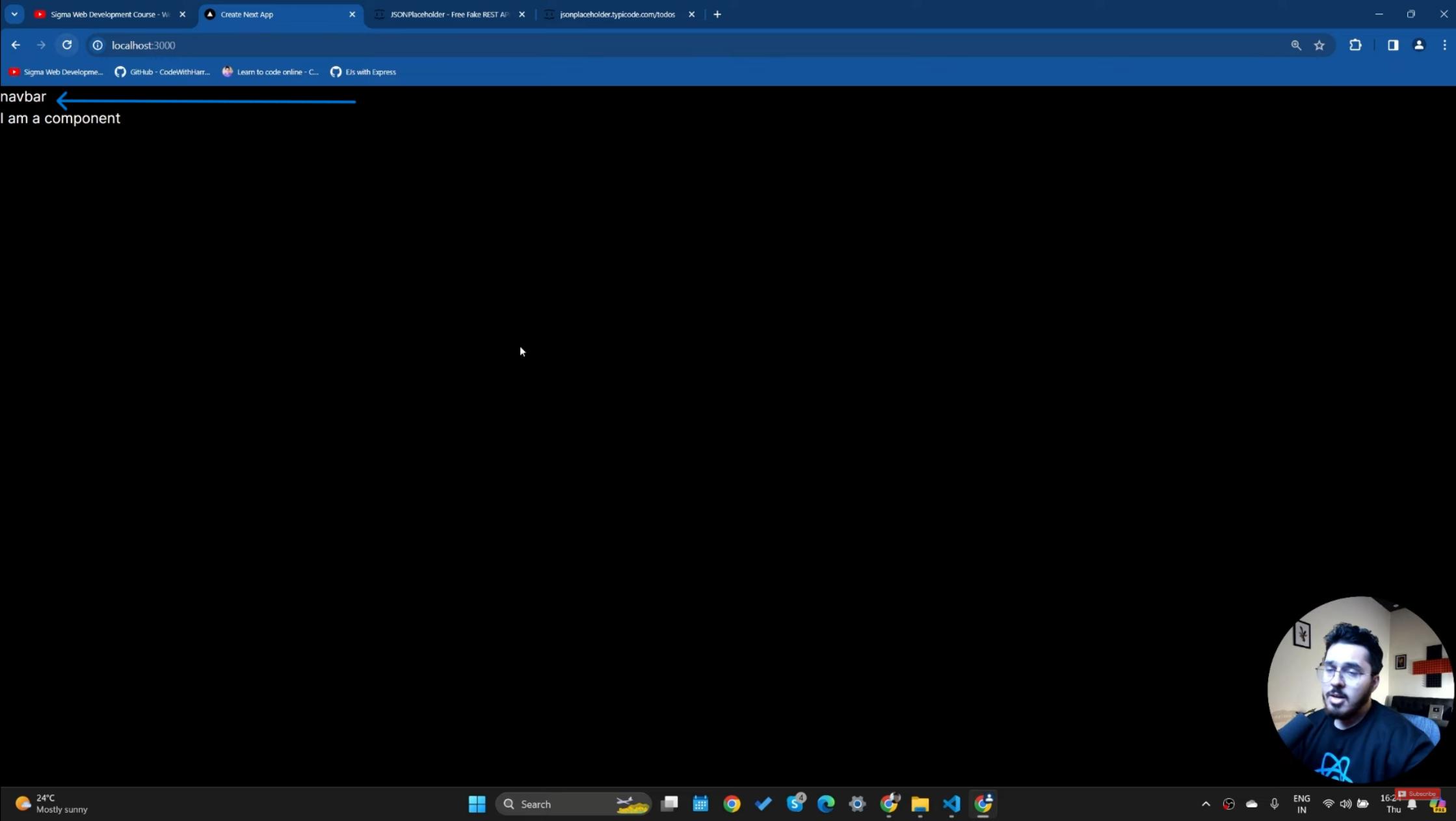
System tray

ENG IN

16:21 Thu

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localhost:3000

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navbar ←  
I am a component

24°C 24°C Mostly sunny

Search

Thu

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EXPLORER ... WEBSITE .next app favicon.ico globals.css JS layout.js JS page.js components node\_modules public .eslintrc.json .gitignore JS jsonconfig.json N next.config.mjs package-lock.json package.json postcss.config.js README.md tailwind.config.js OUTLINE TIMELINE TASK EXPLORER

JS Navbar.js JS Footer.js JS page.js Settings X

react 10 Settings Found

User Workspace Backup and Sync Settings

Text Editor (2)

Features (2)

Terminal (2)

Extensions (6)

Emmet (1)

ES React/React-Nat... (5)

Terminal > Integrated > Tabs: Default Icon

A codicon ID to associate with terminal icons by default.

terminal

Emmet: Include Languages (Default value changed)

Enable Emmet abbreviations in languages that are not supported by default. Add a mapping here between the language and Emmet supported language. For example: {"vue-html": "html", "javascript": "javascriptreact"}

Item	Value
ejs	html
javascript	javascriptreact

Add Item

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

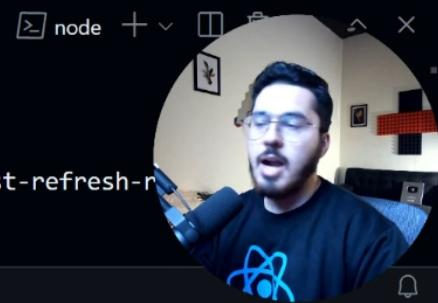
Import trace for requested module:

./app/page.js

✓ Compiled /not-found in 409ms (654 modules)

⚠ Fast Refresh had to perform a full reload. Read more: <https://nextjs.org/docs/messages/fast-refresh-reload>

✓ Compiled in 156ms (668 modules)





EXPLORER

...

JS Navbar.js

JS Footer.js

JS page.js

JS layout.js

X

...

## WEBSITE

&gt; .next

&gt; app

favicon.ico

globals.css

JS layout.js

JS page.js

&gt; components

&gt; node\_modules

&gt; public

.eslintrc.json

.gitignore

jsconfig.json

next.config.mjs

package-lock.json

package.json

postcss.config.js

README.md

tailwind.config.js

&gt; OUTLINE

&gt; TIMELINE

&gt; TASK EXPLORER

app &gt; JS layout.js &gt; ...

```
1 import { Inter } from "next/font/google";
2 import "./globals.css";
3 import Navbar from "@/components/Navbar";
4 import Footer from "@/components/Footer"; ←

5
6 const inter = Inter({ subsets: ["latin"] });
7
8 export const metadata = {
9   title: "Facebook - Connect with the world",
10  description: "This is facebook and we can connect with the world using facebook",
11};
12
13 export default function RootLayout({ children }) {
14  return (
15    <html lang="en">
16      <body className={inter.className}>
17        <Navbar/> ←
18        {children}
19        <Footer/> ←
20      </body>
```

PROBLEMS

OUTPUT

DEBUG CONSOLE

TERMINAL

PORTS

```
> 15 |       <Navbar/>
     |       ^
16 |       {children}
17 |       <Footer/>
18 |       </body>
```



Ln 4, Col 14 Spaces: 2 UTF-8 LF ENG IN 20:5 Subscr...



EXPLORER

...

## WEBSITE

&gt; .next

&gt; app

&gt; about

JS page.js

&gt; contact

JS page.js

favicon.ico

globals.css

JS layout.js

JS page.js

&gt; components

JS Footer.js

JS Navbar.js

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jsconfig.json

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package-lock.json

package.json

&gt; OUTLINE

&gt; TIMELINE

&gt; TASK EXPLORER

JS Navbar.js X

JS Footer.js

JS page.js ...\\about

JS page.js ...\\contact

JS page.js app

JS layout.js

...

components &gt; JS Navbar.js &gt; [e] Navbar

```
1 import React from 'react'
2 import Link from 'next/link'
3
4 const Navbar = () => {
5   return (
6     <nav className='flex justify-between px-4 bg-slate-800 text-white py-4'>
7       <div className="logo font-bold">Facebook</div>
8       <ul className='flex gap-6'>
9         <a href='/'><li>Home</li></a>
10        <a href='/about'><li>About</li></a>
11        <a href='/contact'><li>Contact</li></a>
12      </ul>
13    </nav>
14  )
15}
16
17 export default Navbar
```

PROBLEMS

OUTPUT DEBUG CONSOLE TERMINAL PORTS

node

▼

▶



Import trace for requested module:

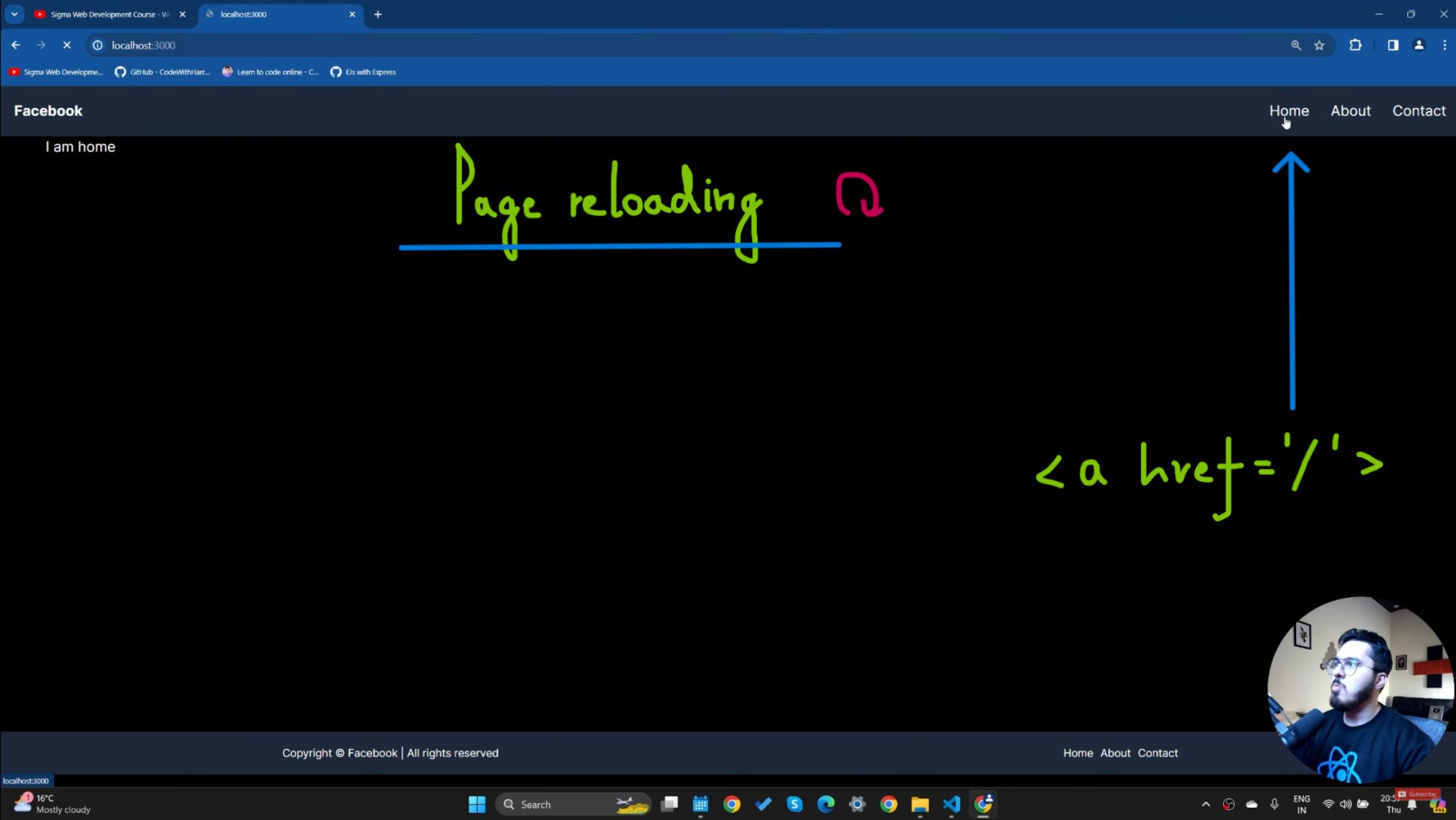
./components/Navbar.js

./app/layout.js

⚠ Fast Refresh had to perform a full reload. Read more: <https://nextjs.org/docs/messages/fast-refresh-reload>

✓ Compiled /not-found in 202ms (700 modules)

3 selections Spaces: 4 UTF-8 CRLF ENG IN



EXPLORER ... JS Navbar.js X JS Footer.js JS page.js ... \about JS page.js ... \contact JS page.js app JS layout.js ⌂ ⌃ ⌁ ⌂ ⌃ ⌁ ⌁ ⌁

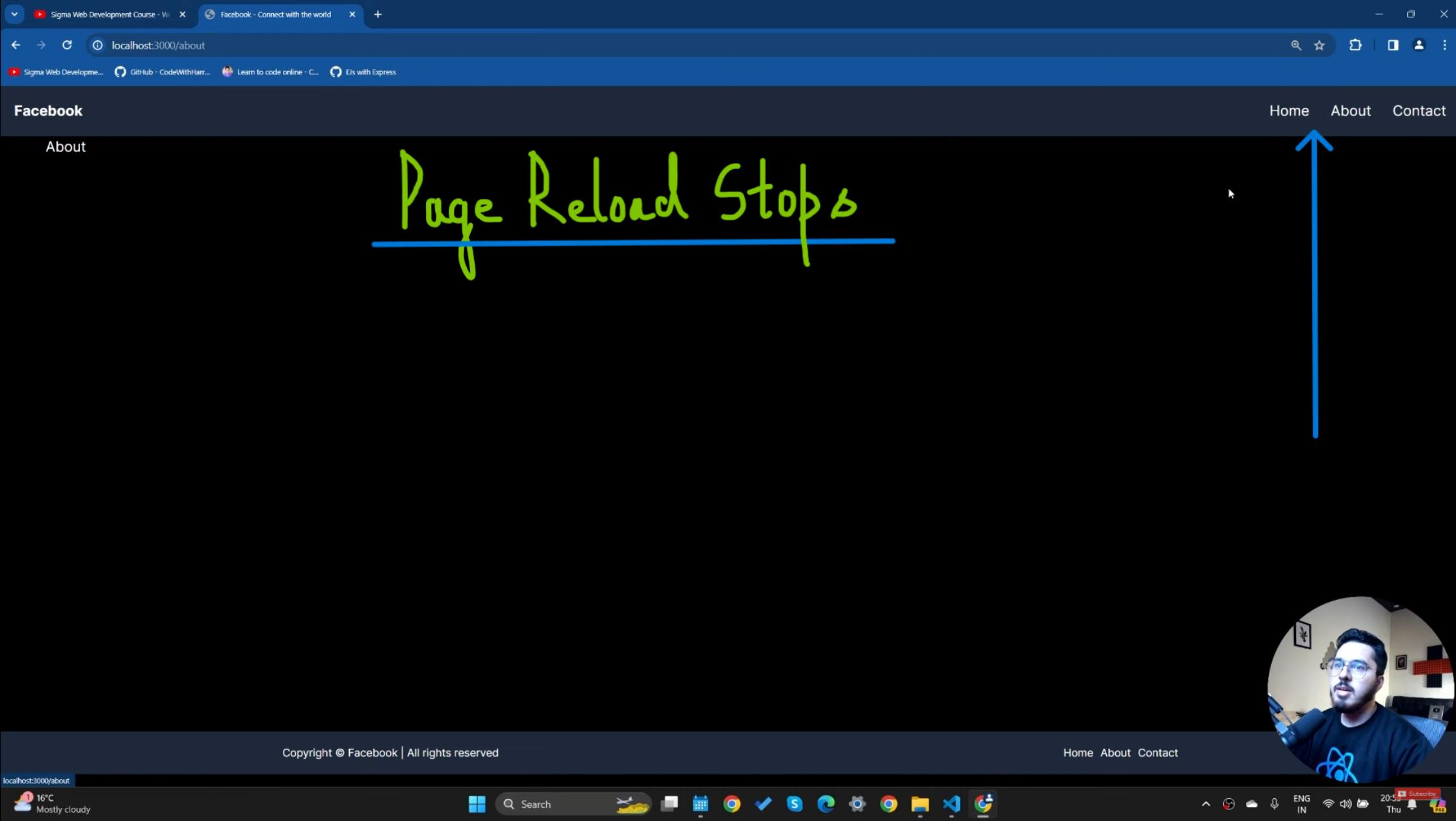
WEBSITE components > JS Navbar.js > [e] Navbar

```
1 import React from 'react'
2 import Link from 'next/link' ←
3
4 const Navbar = () => {
5   return [
6     <nav className='flex justify-between px-4 bg-slate-800 text-white py-4'>
7       <div className="logo font-bold">Facebook</div>
8       <ul className='flex gap-6'>
9         <Link href='/'><li>Home</li></Link>
10        <Link href='/about'><li>About</li></Link>
11        <Link href='/contact'><li>Contact</li></Link>
12      </ul>
13    </nav>
14  ]
15}
16
17 export default Navbar
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS node + ⌂ ⌃ ⌁ ⌂ ⌃ ⌁ ⌁ ⌁

```
./components/Navbar.js
./app/layout.js
⚠ Fast Refresh had to perform a full reload. Read more: https://nextjs.org/docs/messages/fast-refresh-reload
✓ Compiled /not-found in 202ms (700 modules)
✓ Compiled in 184ms (714 modules)
```





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localhost:3000/about

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Facebook

About

# Page Reload Stops

Home About Contact

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Home About Contact

localhost:3000/about

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nextjs.org/docs/app/api-reference/components/link

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Using App Router Features available in /app

App Router > ... > Components > <Link>

On this page

- Props
- href (required)
- replace
- scroll
- prefetch

Examples

- Linking to Dynamic Routes
- Middleware

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API Reference

Components

- Font
- <Image>
- <Link>**
- <Script>

File Conventions

**<Link>**

<Link> is a React component that extends the HTML <a> element to provide prefetching and client-side navigation between routes. It is the primary way to navigate between routes in Next.js.

```
app/page.tsx
TypeScript
1 import Link from 'next/link'
2
3 export default function Page() {
4   return <Link href="/dashboard">Dashboard</Link>
5 }
```

## Props

Here's a summary of the props available for the Link Component:

Prop	Example	Type	Required
href	href="/dashboard"	String or Object	Yes
replace	replace={false}	Boolean	-
scroll	scroll={false}	Boolean	-
prefetch	prefetch={false}	Boolean or null	-



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...

WEBSITE

&gt; .next

&gt; app

&gt; about

JS page.js

&gt; contact

JS page.js

favicon.ico

globals.css

JS layout.js

JS page.js

&gt; components

JS Footer.js

JS Navbar.js

&gt; node\_modules

&gt; public

.eslintrc.json

.gitignore

jsconfig.json

next.config.mjs

package-lock.json

package.json

&gt; OUTLINE

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JS Navbar.js

JS Footer.js

JS page.js ...\\about X

JS page.js ...\\contact

JS page.js app

JS layout.js

...

app &gt; about &gt; JS page.js &gt; [e] metadata &gt; description

```
1 import React from 'react'
2
3 const about = () => {
4   return (
5     <div>
6       | About
7     </div>
8   )
9 }
10
11 export default about
12
13 export const metadata = [
14   title: "About Facebook - Connect with the world",
15   description: "This is about facebook and we can connect with the world using facebook",
16 ];
```

For each page

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

- ✓ Compiled in 300ms (707 modules)
- ✓ Compiled in 172ms (707 modules)
- ✓ Compiled in 156ms (707 modules)
- ✓ Compiled in 150ms (707 modules)
- ✓ Compiled in 147ms (707 modules)

node +



Ln 15, Col 33 Spaces: 4 UTF-8 CRLF

X 0 ▲ 0 ⌂ 0

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localhost:3000/about

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# Facebook

## About

Home About Contact

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Home About Contact

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A yellow arrow points from the browser's title bar to the 'About' link in the navigation bar. A blue arrow points from the browser's address bar to the 'About' link in the navigation bar.

EXPLORER ...

WEBSITE

- > .next
- ✓ app
  - ✓ about
    - JS page.js
  - ✓ contact
    - JS page.js
- JS favicon.ico
- JS globals.css
- JS layout.js
- JS page.js
- ✓ components
  - JS Footer.js
  - JS Navbar.js
- > node\_modules
- > public
- .eslintrc.json
- .gitignore
- JS jsconfig.json
- JS next.config.mjs
- npm package-lock.json
- npm package.json

OUTLINE

TIMELINE

TASK EXPLORER

JS Navbar.js JS Footer.js JS page.js ...\\about JS page.js ...\\contact X JS page.js app JS layout.js

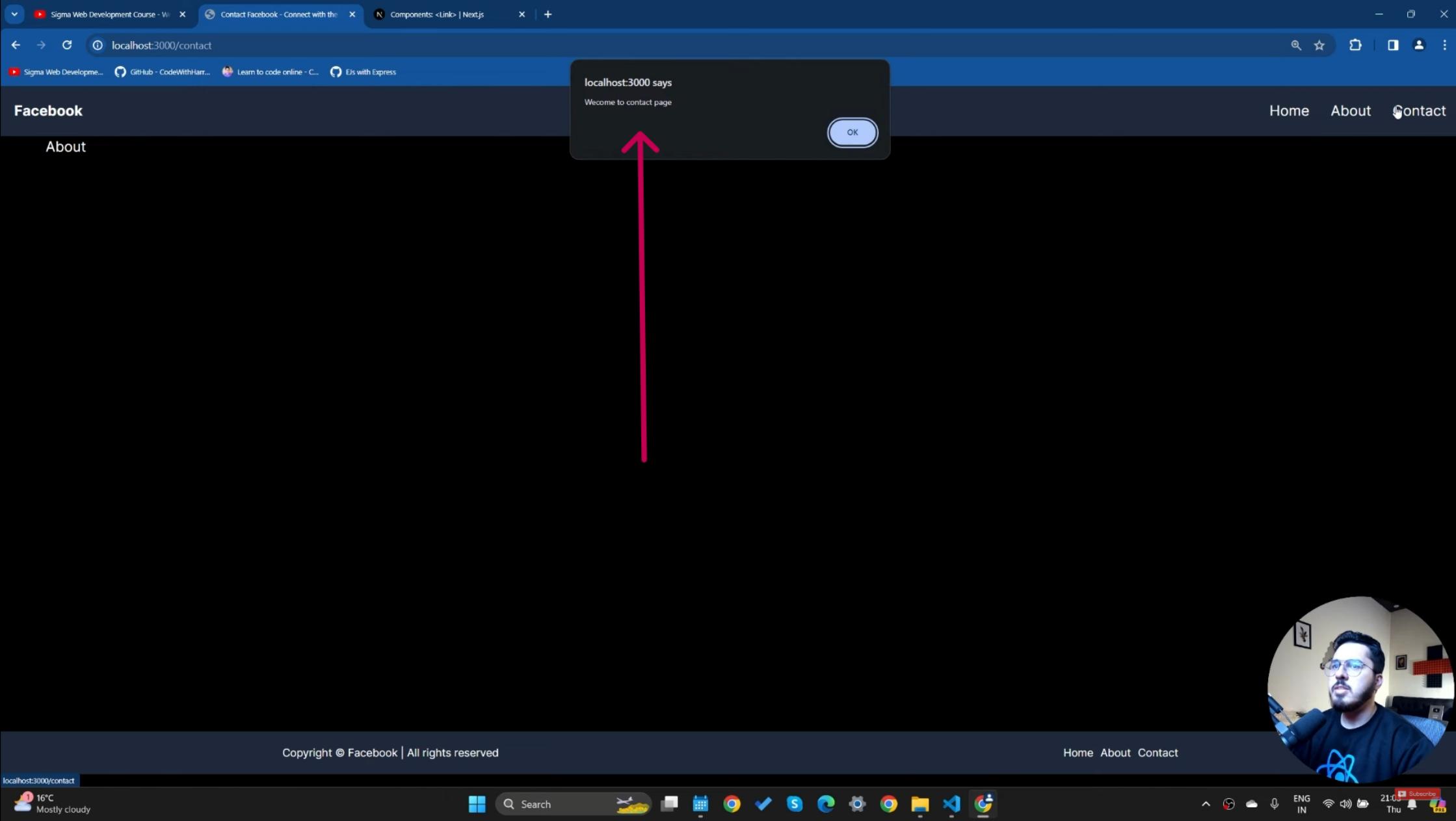
app > contact > JS page.js > [x] contact

```
1 import React from 'react'
2 import Script from 'next/script'
3
4 const contact = () => {
5   return (
6     <div>
7       <Script>
8         |`alert("Wecome to contact page");`|
9       </Script>
10      this is contact
11    </div>
12  )
13 }
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

✓ Compiled in 476ms (701 modules)  
✓ Compiled in 197ms (715 modules)  
✓ Compiled in 153ms (715 modules)  
✓ Compiled in 176ms (715 modules)  
✓ Compiled in 177ms (715 modules)

Ln 8, Col 15 Spaces: 4 UTF-8 CRLF



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localhost:3000/contact

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**Facebook**

About

localhost:3000 says

Welcome to contact page

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Home About Contact

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nextjs.org/docs/app/api-reference/components/script

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Using App Router Features available in /app

App Router > ... > Components > <Script>

On this page

- Props
- Required Props
- src
- Optional Props
- strategy
- beforeInteractive
- afterInteractive
- lazyOnload
- worker
- onLoad
- onReady
- onError

Version History

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**<Script>**

This API reference will help you understand how to use [props](#) available for the Script Component. For features and usage, please see the [Optimizing Scripts](#) page.

```
app/dashboard/page.tsx
TypeScript
1 import Script from 'next/script'
2
3 export default function Dashboard() {
4   return (
5     <>
6       <Script src="https://example.com/script.js" />
7     </>
8   )
9 }
```

## Props

Here's a summary of the props available for the Script Component:

Prop	Example	Type	Required
<code>src</code>	<code>src="http://example.com/script"</code>	String	Required unless inline script is used
<code>strategy</code>	<code>strategy="lazyOnload"</code>	String	-
<code>onLoad</code>	<code>onLoad={onLoadFunc}</code>	Function	-

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nextjs.org/docs/app/api-reference/components/script#props

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**Props**

Here's a summary of the props available for the Script Component:

Prop	Example	Type	Required
<code>src</code>	<code>src="http://example.com/script"</code>	String	Required unless inline script is used
<code>strategy</code>	<code>strategy="lazyOnLoad"</code>	String	-
<code>onLoad</code>	<code>onLoad={onLoadFunc}</code>	Function	-
<code>onReady</code>	<code>onReady={onReadyFunc}</code>	Function	-
<code>onError</code>	<code>onError={onErrorFunc}</code>	Function	-

**Required Props**

The `<script />` component requires the following properties.

**src**

A path string specifying the URL of an external script. This can be either an absolute external URL or an internal path. The `src` property is required unless an inline script is used.

**Optional Props**

On this page

- Props
- Required Props
- `src`
- Optional Props
- `strategy`
- `beforeInteractive`
- `afterInteractive`
- `lazyOnload`
- `worker`
- `onLoad`
- `onReady`
- `onError`
- Version History

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nextjs.org/docs/app/api-reference/components/script#strategy

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used.

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**API Reference**

- Components
  - Font
  - <Image>
  - <Link>
  - <Script>**
- File Conventions

**Optional Props**

The `<Script>` component accepts a number of additional properties beyond those which are required.

**strategy**

The loading strategy of the script. There are four different strategies that can be used:

- `beforeInteractive`: Load before any Next.js code and before any page hydration occurs.
- `afterInteractive`: (default) Load early but after some hydration on the page occurs.
- `lazyonload`: Load during browser idle time.
- `worker`: (experimental) Load in a web worker.

**beforeInteractive**

Scripts that load with the `beforeInteractive` strategy are injected into the initial HTML from the server, downloaded before any Next.js module, and executed in the order they are placed before *any* hydration occurs on the page.

Scripts denoted with this strategy are preloaded and fetched before any first-party code, but their execution does not block page hydration from occurring.

`beforeInteractive` scripts must be placed inside the root layout (`app/layout.tsx`) and are designed to load scripts that are needed by the entire site (i.e. the script will load when any page in the application has been loaded server-side).

This strategy should only be used for critical scripts that need to be fetched before

**On this page**

- Props
- Required Props
- src**
- Optional Props**
- strategy
- beforeInteractive
- afterInteractive
- lazyOnload
- worker
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Version History

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EXPLORER ... JS Navbar.js JS Footer.js JS page.js ...\\about JS page.js ...\\contact JS page.js app X JS layout.js ⌂ ⌂ ...

WEBSITE app > JS page.js > Home

.next app about page.js contact favicon.ico globals.css layout.js page.js components Footer.js Navbar.js node\_modules public .eslintrc.json .gitignore jsconfig.json next.config.mjs package-lock.json package.json postcss.config.js

```
1
2
3 export default function Home() {
4   return (
5     <div className="container my-5">
6       
8     </div>
9   );
10 }
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

✓ Compiled in 167ms (715 modules)  
✓ Compiled in 174ms (715 modules)  
✓ Compiled in 209ms (715 modules)  
✓ Compiled in 167ms (673 modules)  
✓ Compiled /favicon.ico in 300ms (335 modules)

generally



Sigma Web Development Course - W Facebook - Connect with the world Components: <Script> | Next.js slider image - Google Search

localhost:3000

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# Facebook

Home About Contact

Network

Filter: Invert Hide data URLs Hide extension URLs

All Fetch/XHR Doc CSS JS Font Img Media Manifest WS Wasm Other Blocked response cookies Blocked requests

3rd-party requests

Name	Status	Type	Initiator	Size	Time	Waterfall
localhost	200	document	Other	3.4 kB	82 ms	
image-slider-3.jpg	200	jpeg	(index):0	58.1 kB	1.14 s	
layout.css?v=1708616467810	200	stylesheet	:3000:/1	6.7 kB	8 ms	
webpack.js?v=1708616467810	200	script	(index):0	10.8 kB	8 ms	
main-app.js?v=1708616467810	200	script	(index):0	1.9 MB	185 ms	
app-pages-internals.js	200	script	(index):0	42.3 kB	10 ms	
layout.js	200	script	(index):0	86.1 kB	15 ms	
c9a5bc6a7c948fb0-s.p.woff2	200	font	layout.css	46.9 kB	3 ms	
webpack-hmr	101	websocket	use-webpack.js:42	0 B	Pending	
favicon.ico	200	x-icon	Other	26.2 kB	367 ms	

10 requests | 2.2 MB transferred | 9.0 MB resources | Finish: 1.58 s | DOMContentLoaded: 95 ms | Load: 1.21 s

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nextjs.org/docs/app/api-reference/components/image

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- Styling
- Optimizing
- Configuring
- Testing
- Authentication
- Deploying
- Upgrading

API Reference

- Components
  - Font
  - <Image>
  - <Link>
  - <Script>

File Conventions

App Router > ... > Components > <Image>

# <Image>

## Examples

This API reference will help you understand how to use [props](#) and [configuration options](#) available for the Image Component. For features and usage, please see the [Image Component page](#).

```
app/page.js
```

```
1 import Image from 'next/image'
2
3 export default function Page() {
4   return (
5     <Image
6       src="/profile.png"
7       width={500}
8       height={500}
9       alt="Picture of the author"
10    />
11  )
12}
```

## Props

Here's a summary of the props available for the Image Component:

On this page

- Props
- Required Props
  - src
  - width
  - height
  - alt
- Optional Props
  - loader
  - fill
  - sizes
  - quality
  - priority
  - placeholder
- Advanced Props
  - style
  - onLoadingComplete
  - onLoad
  - onError
  - loading
  - blurDataURL
  - unoptimized

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EXPLORER ... JS Navbar.js JS Footer.js JS page.js ... \about JS page.js ... \contact JS page.js app X JS layout.js ⌂ ⌂ ...

WEBSITE app > JS page.js > Home

```
1 import Image from "next/image";
2
3 export default function Home() {
4     return (
5         <div className="container my-5">
6             <Image className="mx-auto" width={100} height={100}
7                 src="http://www.menucool.com/slider/prod/image-slider-3.
8                 jpg" alt="" />
9         </div>
10    );
}
```

mandatory



PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

node +

✖ Error: Invalid src prop (http://www.menucool.com/slider/prod/image-slider-3.jpg) on `next/image`, host 1.com" is not configured under images in your `next.config.js`  
See more info: <https://nextjs.org/docs/messages/next-image-unconfigured-host>

at Array.map (<anonymous>)

null



Sigma Web Development Course - W localhost:3000 Components: <Image> | Next.js slider image - Google Search

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localhost:3000

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1 of 1 unhandled error

Next.js is up to date

**Unhandled Runtime Error**

Error: Invalid src prop (<http://www.menucool.com/slider/prod/image-slider-3.jpg>) on `next/image`, hostname "www.menucool.com" is not configured under images in your `next.config.js`

See more info: <https://nextjs.org/docs/messages/next-image-unconfigured-host>

Call Stack

```
> N Next.js
Array.map
<anonymous>
> N Next.js
Component
node_modules\next\dist\compiled\react-dom\cjs\react-dom.development.js (11021:17)
renderWithHooks
node_modules\next\dist\compiled\react-dom\cjs\react-dom.development.js (15686:19)
updateForwardRef
node_modules\next\dist\compiled\react-dom\cjs\react-dom.development.js (16687:16)
mountLazyComponent
node_modules\next\dist\compiled\react-dom\cjs\react-dom.development.js (18388:15)
beginWork$1
node_modules\next\dist\compiled\react-dom\cjs\react-dom.development.js (26791:13)
```

Imp

Preserve log Disable cache  
No throttling Filter Invert  
Hide data URLs Hide extension URLs  
All Fetch/XHR Doc CSS JS Font Im  
Blocked response cookies  
Blocked requests 3rd-party requests  
500 ms 1000 ms

Name S. T. In... S. T. Waterfall

47 requests 2.4 Mb 9.9 Mb re

A screenshot of a browser window showing an unhandled runtime error in Next.js. The error message states: "Error: Invalid src prop (<http://www.menucool.com/slider/prod/image-slider-3.jpg>) on `next/image`, hostname "www.menucool.com" is not configured under images in your `next.config.js`". Below the error message is a "Call Stack" section listing several Next.js internal functions. A red arrow points from the error message to the link in the error message. A large red "Imp" is written on the page below the error stack. The background shows a video feed of a person in a room.

Sigma Web Development Course - W | localhost:3000 | Components: <Image> | Next.js | Optimizing: Images | Next.js | slider image - Google Search

nextjs.org/docs/app/building-your-application/optimizing/images

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Using App Router Features available in /app

- compress
- devIndicators
- distDir
- env
- eslint
- exportPathMap
- generateBuildId
- generateEtags
- headers
- httpAgentOptions
- images
- cacheHandler
- instrumentationHook
- logging
- mdxRs
- onDemandEntries
- optimizePackageImports
- output
- pageExtensions
- Partial Prerendering (experimental)
- poweredByHeader
- productionBrowserSourceMaps

To safely allow optimizing images, define a list of supported URL patterns in `next.config.js`. Be as specific as possible to prevent malicious usage. For example, the following configuration will only allow images from a specific AWS S3 bucket:

```
next.config.js
```

```
module.exports = {  
  images: {  
    remotePatterns: [  
      {  
        protocol: 'https',  
        hostname: 's3.amazonaws.com',  
        port: '',  
        pathname: '/my-bucket/**',  
      },  
    ],  
  },  
};
```

Learn more about `remotePatterns` configuration. If you want to use relative URLs for the image `src`, use a `Loader`.

## Domains

Sometimes you may want to optimize a remote image, but still use the built-in Next.js Image Optimization API. To do this, leave the `Loader` at its default setting and enter an absolute URL for the Image `src` prop.

To protect your application from malicious users, you must define a list of remote hostnames you intend to use with the `next/image` component.

On this page

- Usage
- Local Images
- Remote Images
- Domains
- Loaders
- Priority
- Image Sizing
- Styling
- Examples
- Responsive
- Fill Container
- Background Image
- Other Properties
- Configuration
- API Reference

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File Edit Selection View Go ... 🔍 website

EXPLORER ...

WEBSITE

- > .next
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  - ✓ about
    - JS page.js
  - ✓ contact
    - JS page.js
  - favicon.ico
  - globals.css
  - JS layout.js
  - JS page.js
- ✓ components
  - JS Footer.js
  - JS Navbar.js
- > node\_modules
- > public
- .eslintrc.json
- .gitignore
- JS config.json
- ✓ next.config.mjs
- ✓ package-lock.json
- ✓ package.json

OUTLINE

TIMELINE

TASK EXPLORER

JS Navbar.js JS Footer.js JS page.js ...\\about JS page.js ...\\contact X JS page.js app N next.config.mjs X JS ...

```
next.config.mjs > [x] nextConfig > images > remotePatterns > protocol
1  /** @type {import('next').NextConfig} */
2  const nextConfig = {
3    images: {
4      remotePatterns: [
5        {
6          protocol: 'http',
7          hostname: 'www.menucool.com',
8          port: '',
9        },
10       ],
11     },
12   };
13
14 export default nextConfig;
15
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

node + ×

⚠ Found a change in next.config.mjs. Restarting the server to apply the changes...

▲ Next.js 14.1.0

- Local: http://localhost:3000

✓ Ready in 2.1s

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localhost:3000

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# Facebook

Home About Contact

Network Performance Security Memory Application

Filter Preserve log Disable cache No throttling

All Fetch/XHR Doc CSS JS Font Img Media Manifest WS Wasm Other Blocked response cookies Blocked requests

3rd-party requests

Name	Status	Type	Initiator	Size	Time	Waterfall
localhost	200	document	Other	3.5 kB	156 ms	
layout.css?v=1708616810869	200	stylesheet	(index):0	4.8 kB	6 ms	
webpack.js?v=1708616810869	200	script	(index):0	10.9 kB	6 ms	
main-app.js?v=1708616810869	200	script	(index):0	1.9 MB	183 ms	
app-pages-internals.js	200	script	(index):0	42.3 kB	8 ms	
page.js	200	script	(index):0	232 kB	30 ms	
layout.js	200	script	(index):0	86.1 kB	11 ms	
c9a5bc6a7c948fb0-s.p.woff2	200	font	:3000/ next/static/c...	(memory c...)	0 ms	
image?url=http%3A%2F%2Fwww.menu...	304	webp	(index):0	230 B	5 ms	
favicon.ico	200	x-icon	Other	26.2 kB	10 ms	
webpack-hmr	101	websocket	use-websocket.js:1	0 B	Pending	

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11 requests | 2.4 MB transferred | 9.9 MB resources | Finish: 612 ms | DOMContentLoaded: 180 ms | Load: 597 ms

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File icon

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Checkmark icon

Star icon

Globe icon

Folder icon

Code icon

Database icon

Cloud icon

Power icon

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WEBSITE

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  - page.js
- components
  - Footer.js
  - Navbar.js
- node\_modules
- public
- .eslintrc.json
- .gitignore
- jsconfig.json
- next.config.mjs
- package-lock.json
- package.json

- > OUTLINE
- > TIMELINE
- > TASK EXPLORER

JS Navbar.js JS Footer.js JS page.js ...\\about JS page.js ...\\contact JS page.js app X N next.config.mjs JS D ...

app > JS page.js > Home

```
1 import Image from "next/image";
2
3 export default function Home() {
4   return (
5     <div className="container my-5 size-80 bg-red-300">
6       <Image className="mx-auto" width={700} height={700} src="http://www.menucool.com/slider/
7         prod/image-slider-3.jpg" alt="" />
8     </div>
9   );
10 }
```

1

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

✓ Compiled in 178ms (569 modules)  
✓ Compiled in 147ms (569 modules)  
✓ Compiled in 152ms (569 modules)  
✓ Compiled in 117ms (569 modules)  
✓ Compiled in 152ms (569 modules)

node +



> 0 ▲ 0 ⌂ 0

Search

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localhost:3000

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# Facebook

Home About Contact

1

aspect-ratio maintained

Name	Status	Type	Initiator	Size	Time	Waterfall
layout.b55b137c4a2d1043.hot-update.js	200	script	webpack.js?v=1708...	1.3 kB	5 ms	
webpack.b55b137c4a2d1043.hot-updat...	200	script	webpack.js?v=1708...	1.2 kB	3 ms	
layout.css?v=1708616979020	200	stylesheet	react-dom.develop...	4.8 kB	2 ms	
?_rsc=1xuj0	200	fetch	fetch-server-respon...	1.8 kB	75 ms	
8de66704362e803e.webpack.hot-update...	200	fetch	webpack.js?v=1708...	373 B	6 ms	
layout.8de66704362e803e.hot-update.js	200	script	webpack.js?v=1708...	1.3 kB	7 ms	
webpack.8de66704362e803e.hot-update...	200	script	webpack.js?v=1708...	1.2 kB	5 ms	
layout.css?v=1708616986330	200	stylesheet	react-dom.develop...	4.8 kB	2 ms	
?_rsc=1xuj0	200	fetch	fetch-server-respon...	609 B	59 ms	
bd2ad8b86897239e.webpack.hot-updat...	200	fetch	webpack.js?v=1708...	373 B	4 ms	
layout.bd2ad8b86897239e.hot-update.js	200	script	webpack.js?v=1708...	1.3 kB	3 ms	
webpack.bd2ad8b86897239e.hot-updat...	200	script	webpack.js?v=1708...	1.2 kB	3 ms	
layout.css?v=1708616995548	200	stylesheet	react-dom.develop...	4.8 kB	2 ms	
image?url=http%3A%2F%2Fwww.menu...	200	webp	react-dom.develop...	27.8 kB		
?_rsc=1xuj0	200	fetch	fetch-server-respon...	1.8 kB		
7e2495b184b07a84.webpack.hot-updat...	200	fetch	webpack.js?v=1708...	373 B		
layout.7e2495b184b07a84.hot-update.js	200	script	webpack.js?v=1708...	1.3 kB		
webpack.7e2495b184b07a84.hot-updat...	200	script	webpack.js?v=1708...	1.2 kB		
layout.css?v=1708616996870	200	stylesheet	react-dom.develop...	4.8 kB		

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Home About Contact

42 requests | 2.4 MB transferred | 10.1 MB resources | Finish: 31.78 s | DOMContentLoaded: 157 ms | Load: 584 ms

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WEBSITE

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  - globals.css
  - layout.js
  - page.js
- components
  - Footer.js
  - Navbar.js
- node\_modules
- public
- .eslintrc.json
- .gitignore
- jsconfig.json
- next.config.mjs
- package-lock.json
- package.json

JS Navbar.js JS Footer.js JS page.js ...\\about JS page.js ...\\contact JS page.js app X N next.config.mjs JS ...

app > JS page.js > Home

```
1 import Image from "next/image";
2
3 export default function Home() {
4   return (
5     <div className="container my-5 size-80 bg-red-300 relative">
6       <Image className="mx-auto" fill={true} src="http://www.menucool.com/slider/prod/
7         image-slider-3.jpg" alt="" />
8     </div>
9   );
10}
```

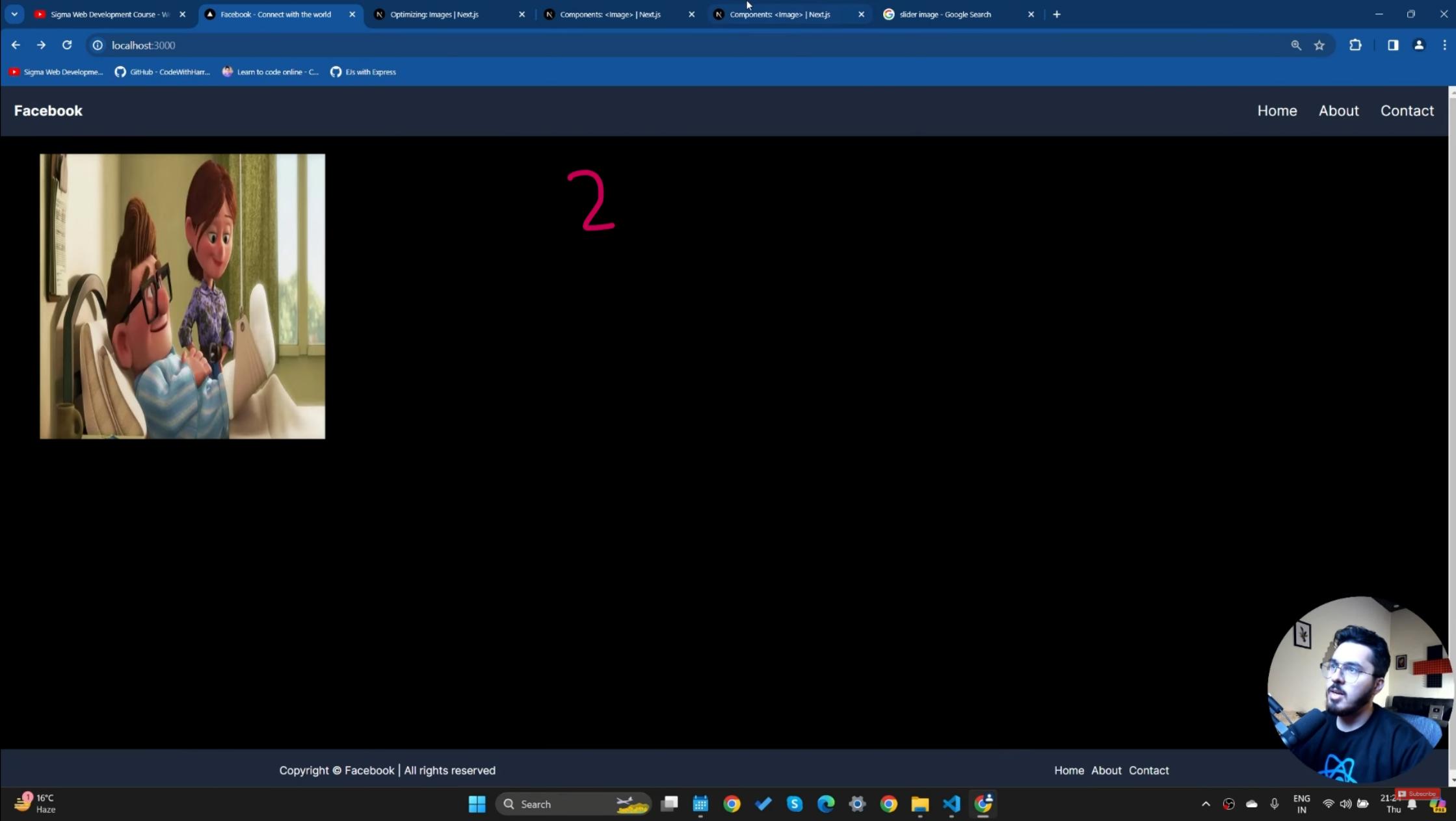
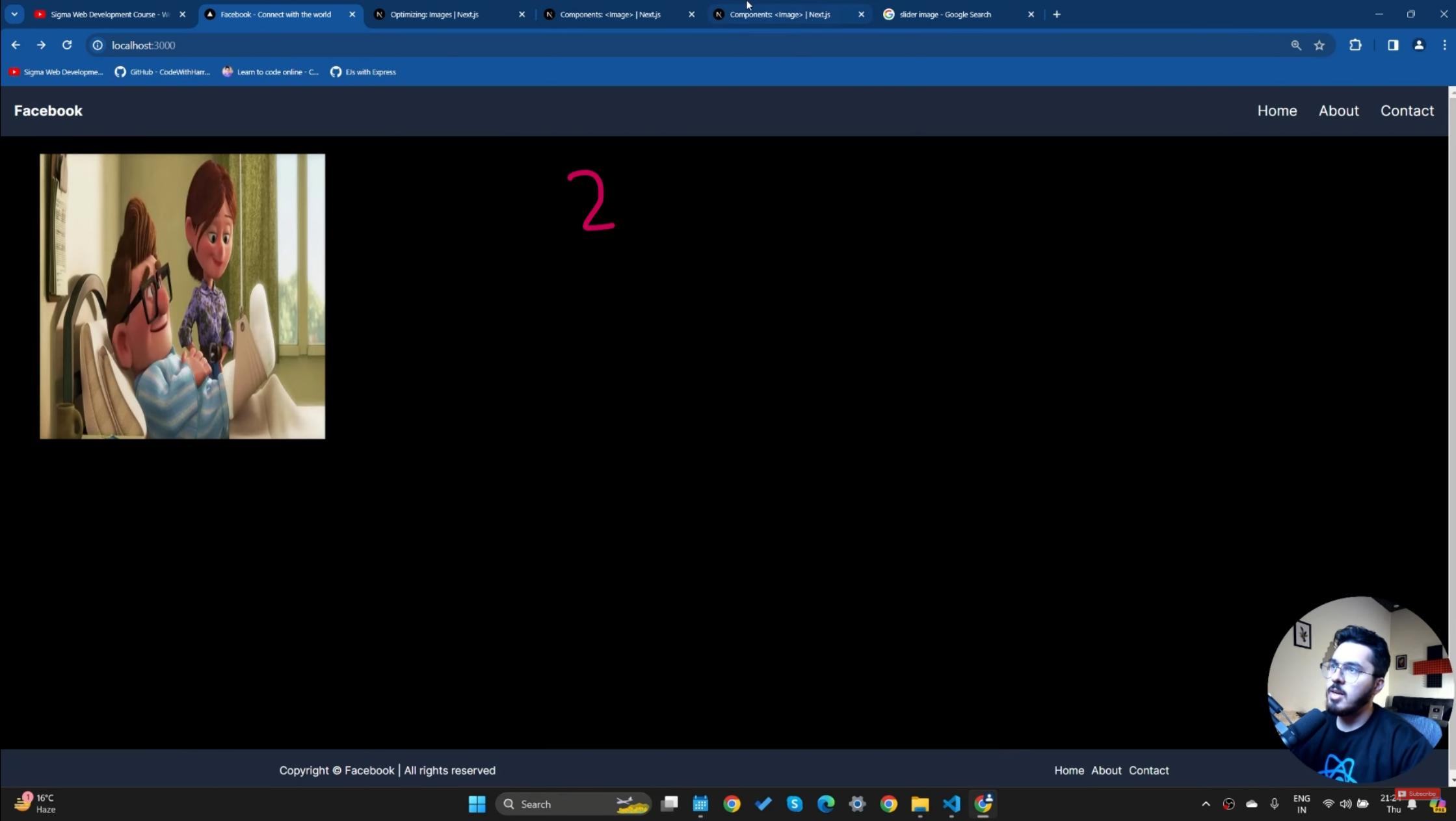
2

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

✓ Compiled in 236ms (541 modules)  
✓ Compiled /favicon.ico in 48ms (311 modules)  
✓ Compiled in 222ms (541 modules)  
✓ Compiled in 127ms (541 modules)  
✓ Compiled in 111ms (541 modules)

Ln 5, Col 64 Spaces: 2 UTF-8 LF





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nextjs.org/docs/pages/api-reference/components/image#fill

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every instance of `next/image` in your application, without passing a prop.

**Using Pages Router** Features available in /pages

Optimizing Configuring Testing Authentication Deploying Upgrading

**API Reference**

Components

- Font
- <Head>
- <Image>**
- <Image> (Legacy)
- <Link>
- <Script>

Functions

next.config.js Options

create-next-app

Next.js CLI

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Architecture

Accessibility

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**fill**

`fill={true} // {true} | {false}`

A boolean that causes the image to fill the parent element, which is useful when the `width` and `height` are unknown.

The parent element *must* assign `position: "relative"`, `position: "fixed"`, or `position: "absolute"` style.

By default, the `img` element will automatically be assigned the `position: "absolute"` style.

If no styles are applied to the image, the image will stretch to fit the container. You may prefer to set `object-fit: "contain"` for an image which is letterboxed to fit the container and preserve aspect ratio.

Alternatively, `object-fit: "cover"` will cause the image to fill the entire container and be cropped to preserve aspect ratio. For this to look correct, the `overflow: "hidden"` style should be assigned to the parent element.

For more information, see also:

- `position` ↗
- `object-fit` ↗
- `object-position` ↗

**sizes**

A string, similar to a media query, that provides information about how wide the image will be at different breakpoints. The value of `sizes` will greatly affect performance for images using `fill` or which are styled to have a responsive size.

On this page

Props

Required Props

`src`

`width`

`height`

`alt`

Optional Props

`loader`

**fill**

`sizes`

`quality`

`priority`

`placeholder`

Advanced Props

`style`

`onLoadingComplete`

`onLoad`

`onError`

`loading`

`blurDataURL`

`unoptimized`

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EXPLORER ...

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- > OUTLINE
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JS Navbar.js JS Footer.js JS page.js ...\\about JS page.js ...\\contact JS page.js app X N next.config.mjs JS ...

app > JS page.js > Home

```
1 import Image from "next/image";
2
3 export default function Home() {
4   return (
5     <div className="container my-5 size-80 bg-red-300 relative">
6       <Image className="mx-auto object-contain" fill={true} src="http://www.menucool.com/slider/
7         prod/image-slider-3.jpg" alt="" />
8     </div>
9   );
10}
```

3

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

✓ Compiled in 127ms (541 modules)  
✓ Compiled in 111ms (541 modules)  
✓ Compiled in 128ms (541 modules)  
✓ Compiled in 130ms (541 modules)  
✓ Compiled in 102ms (541 modules)

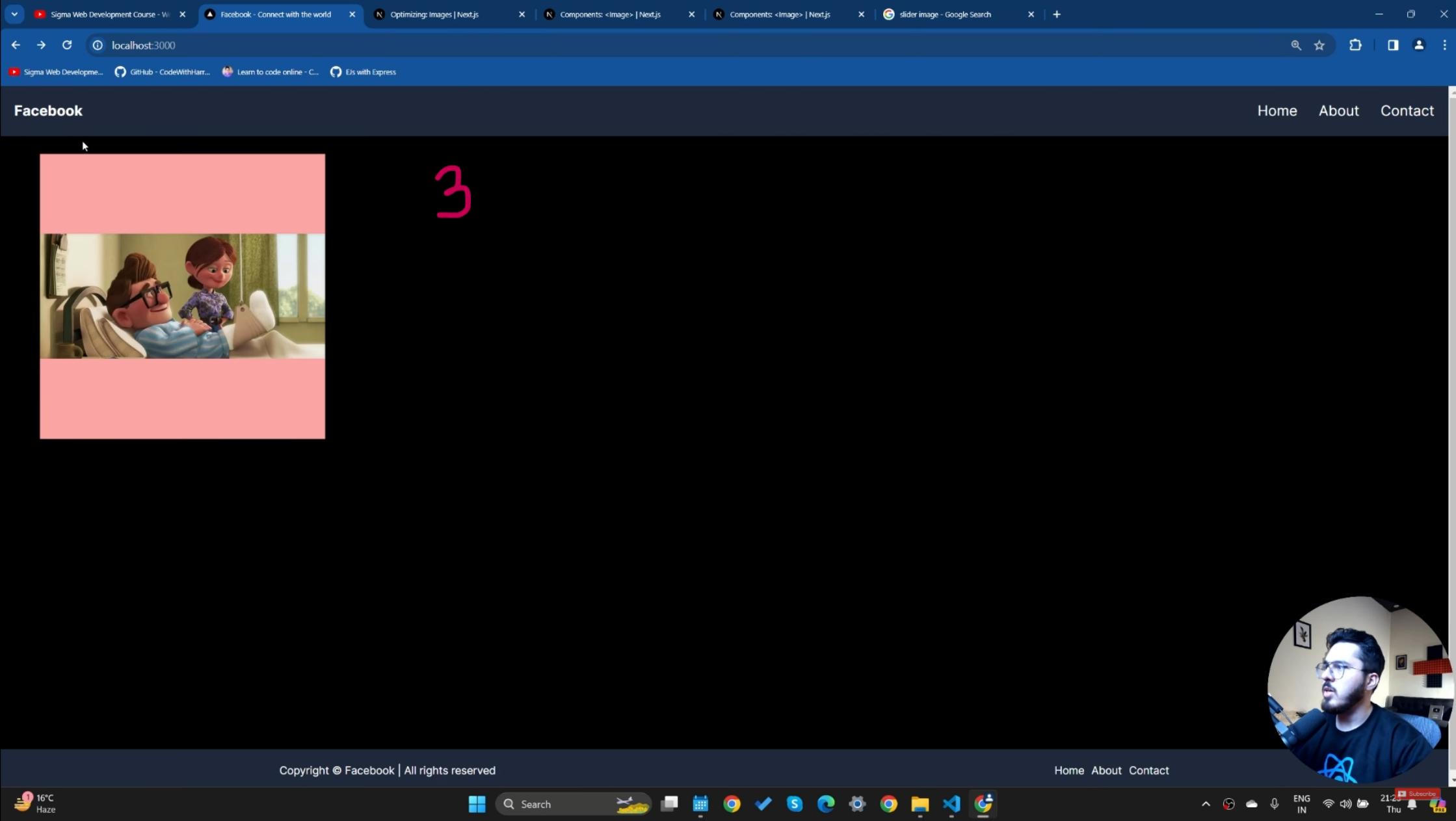
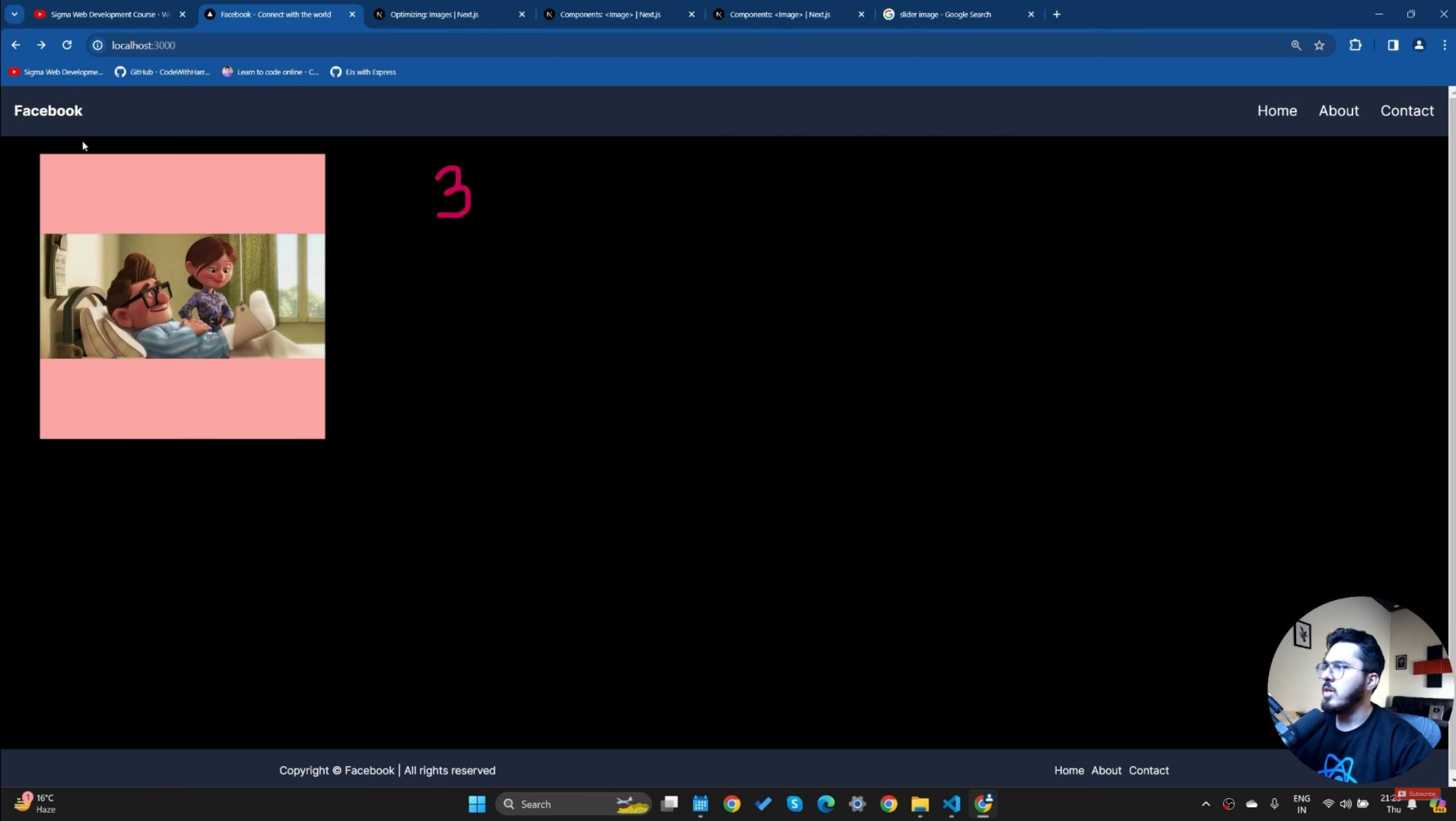
node +



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EXPLORER ...

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  - Footer.js
  - Navbar.js
- node\_modules
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- .eslintrc.json
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JS Navbar.js JS Footer.js JS page.js ...\\about JS page.js ...\\contact JS page.js app X N next.config.mjs JS ...

app > JS page.js > Home

```
1 import Image from "next/image";
2
3 export default function Home() {
4   return (
5     <div className="container my-5 size-80 bg-red-300 relative">
6       <Image className="mx-auto object-cover" fill={true} src="http://www.menucool.com/slider/
7         prod/image-slider-3.jpg" alt="" />
8     </div>
9   );
10}
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

✓ Compiled in 130ms (541 modules)  
✓ Compiled in 102ms (541 modules)  
✓ Compiled in 106ms (541 modules)  
✓ Compiled in 110ms (541 modules)  
✓ Compiled in 132ms (541 modules)

node +

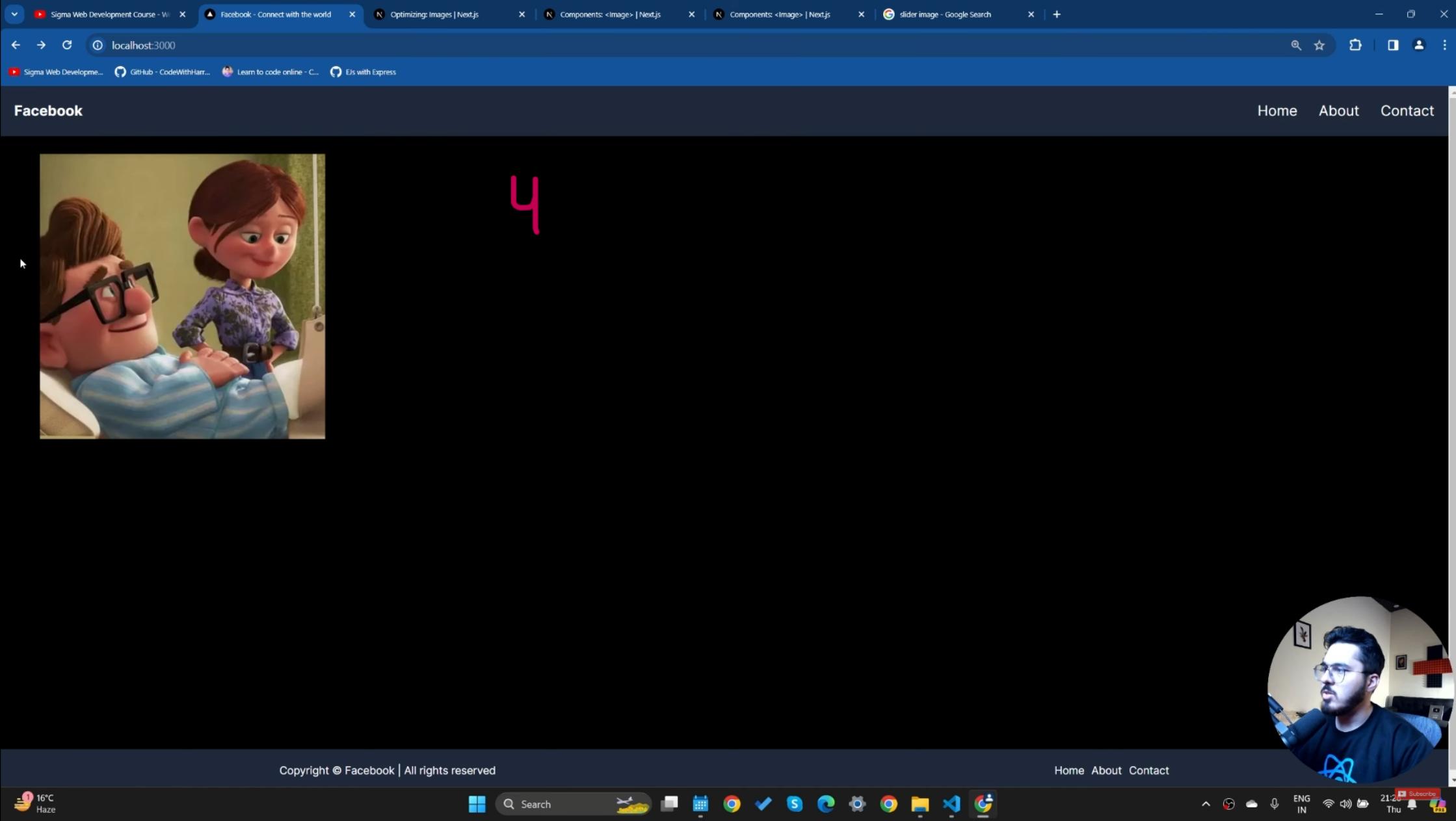
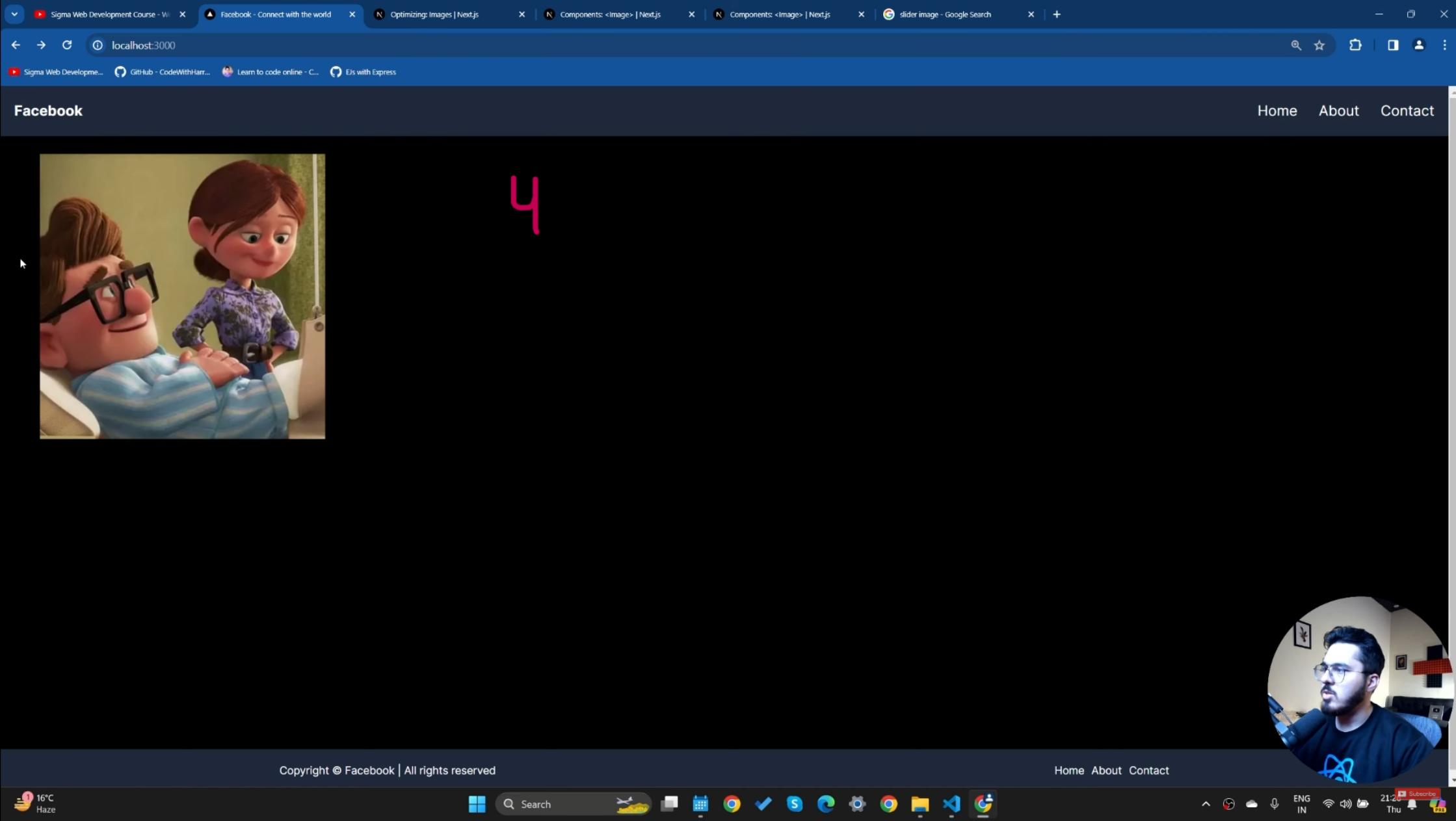


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- <Head>
- <Image>**
- <Image> (Legacy)
- <Link>
- <Script>

Functions

- next.config.js Options
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- Edge Runtime

Architecture

- Accessibility
- Fast Refresh

sizes="(max-width: 768px) 100vw, (max-width: 1200px) 50vw, 33vw"

/>

</div>

)

}

This example `sizes` could have a dramatic effect on performance metrics. Without the `33vw` sizes, the image selected from the server would be 3 times as wide as it needs to be. Because file size is proportional to the square of the width, without `sizes` the user would download an image that's 9 times larger than necessary.

Learn more about `srcset` and `sizes`:

- [web.dev](#)
- [mdn](#)

**quality**

`quality={75} // {number 1-100}`

The quality of the optimized image, an integer between `1` and `100`, where `100` is the best quality and therefore largest file size. Defaults to `75`.

**priority**

`priority={false} // {false} | {true}`

When true, the image will be considered high priority and [preload](#). Lazy loading is automatically disabled for images using `priority`.

You should use the `priority` property on any image detected as the [Largest Contentful Paint \(LCP\)](#) element. It may be appropriate to have multiple priority images, as different images may be the LCP element for different viewport sizes.

On this page

Props

Required Props

- src
- width
- height
- alt

Optional Props

- loader
- fill
- sizes**
- quality
- priority
- placeholder

Advanced Props

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- onLoadingComplete
- onLoad
- onError
- loading
- blurDataURL
- unoptimized

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Google Chrome

Search Video 124

New Sort View ...

Desktop Downloads Home Gallery Harry - Personal Creative Cloud Files Desktop Documents Downloads Music Pictures Videos Harry. This PC volume(sdal) on tp link wifi.net OS (C:) New Volume (D:) Libraries Network Control Panel Recycle Bin New folder

Name Date modified Type Size

Today api-routes Fri 17:34 File folder

npm install

```
PS C:\Users\iitia\Downloads\Sigma Web Development Course\Sigma-Web-Dev-Course\Video 124> npx create-next-app@latest
? What is your project named? ... api-routes
? Would you like to use TypeScript? ... No / Yes
? Would you like to use ESLint? ... No / Yes
? Would you like to use Tailwind CSS? ... No / Yes
? Would you like to use 'src/' directory? ... No / Yes
? Would you like to use App Router? (recommended) ... No / Yes
? Would you like to customize the default import alias (@/*)? ... No / Yes
Creating a new Next.js app in C:\Users\iitia\Downloads\Sigma Web Development Course\Sigma-Web-Dev-Course\Video 124\api-routes.

Using npm.

Initializing project with template: app-tw

Installing dependencies:
- react
- react-dom
- next

Installing devDependencies:
- autoprefixer
- postcss
- tailwindcss
- eslint
- eslint-config-next

[██████████] - idealTree:next: sill Fetch manifest postcss-value-parser@^4.2.0
```

0 items |

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17:34 Fri

ENG IN

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EXPLORER API-ROUTES ...

API-ROUTES

> .next

app > api > add > JS route.js

JS route.js 1

JS favicon.ico

JS globals.css

JS layout.js

JS page.js

> node\_modules

> public

.eslintrc.json

.gitignore

jsconfig.json

next.config.mjs

package-lock.json

package.json

postcss.config.js

README.md

tailwind.config.js

OUTLINE

TIMELINE

TASK EXPLORER

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

node + ▾

PS C:\Users\iitia\Downloads\Sigma Web Development Course\Sigma-Web-Dev-Course\Video 124\api-routes> npm run dev

> api-routes@0.1.0 dev

> next dev

▲ Next.js 14.1.0

- Local: http://localhost:3000

✓ Ready in 2.2s



Sigma Web Development Course - W | Create Next App | File Conventions: route.js | Next.js

nextjs.org/docs/app/api-reference/file-conventions/route

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# ▲ / NEXT.js

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## HTTP Methods

Using App Router  
Features available in /app

- Configuring
- Testing
- Authentication
- Deploying
- Upgrading

### API Reference

- Components
- File Conventions
  - default.js
  - error.js
  - instrumentation.js
  - layout.js
  - loading.js
  - middleware.js
  - not-found.js
  - page.js
  - route.js**
- Route Segment Config
- template.js
- Metadata Files
  - Functions
  - next.config.js Options
  - create-next-app

A **route** file allows you to create custom request handlers for a given route. The following [HTTP methods](#) are supported: `GET`, `POST`, `PUT`, `PATCH`, `DELETE`, `HEAD`, and `OPTIONS`.

```
route.js
```

```
1 export async function GET(request) {}  
2  
3 export async function HEAD(request) {}  
4  
5 export async function POST(request) {}  
6  
7 export async function PUT(request) {}  
8  
9 export async function DELETE(request) {}  
10  
11 export async function PATCH(request) {}  
12  
13 // If 'OPTIONS' is not defined, Next.js will automatically implement 'OPTION'  
14 export async function OPTIONS(request) {}
```

Good to know: Route Handlers are only available inside the `app` directory. You do not need to use API Routes (`pages`) and Route Handlers (`app`) together, as Route Handlers should be able to handle all use cases.

## Parameters

**request (optional)**

The `request` object is a `NextRequest` object, which is an extension of the Web

On this page

- HTTP Methods
- Parameters
  - request (optional)
  - context (optional)
- NextResponse
- Version History

Edit this page on GitHub



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Sigma Web Development Course - W | localhost:3000 | File Conventions: route.js | Next.js | Using the Fetch API - Web APIs | MDN

developer.mozilla.org/en-US/docs/Web/API/Fetch\_API/Using\_Fetch

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English (US)

References > Web APIs > Fetch API > Using the Fetch API

Filter

Fetch API

Using the Fetch API

Fetch basic concepts

Cross-global fetch usage

Headers

Request

Response

Methods

fetch()

POST Req. →

The `fetch()` method can optionally accept a second parameter, an `init` object that allows you to control a number of different settings:

See `fetch()` for the full options available, and more details.

JS

```
// Example POST method implementation:  
async function postData(url = "", data = {}) {  
  // Default options are marked with *  
  const response = await fetch(url, {  
    method: "POST", // *GET, POST, PUT, DELETE, etc.  
    mode: "cors", // no-cors, *cors, same-origin  
    cache: "no-cache", // *default, no-cache, reload, force-cache, only-if-cached  
    credentials: "same-origin", // include, *same-origin, omit  
    headers: {  
      "Content-Type": "application/json",  
      // 'Content-Type': 'application/x-www-form-urlencoded',  
    },  
    redirect: "follow", // manual, *follow, error  
    referrerPolicy: "no-referrer", // no-referrer, *no-referrer-when-downgrade, origin, origin-when-cross-origin, same-origin, strict-origin, strict-origin-when-cross-origin, unsafe-url  
    body: JSON.stringify(data), // body data type must match "Content-Type" header  
  });  
  return response.json(); // parses JSON response into native JavaScript objects  
}  
  
postData("https://example.com/answer", { answer: 42 }).then((data) => {  
  console.log(data); // JSON data parsed by `data.json()` call  
});
```

Note that `mode: "no-cors"` only allows a limited set of headers in the request:

Accept

In this article

Supplying request options

- Abort a fetch
- Sending a request with credentials included
- Uploading JSON data
- Uploading a file
- Uploading multiple files
- Processing a text file line by line
- Checking that the fetch was successful
- Supplying your own request object
- Headers
- Response objects
- Body
- Feature detection
- Differences from `jQuery.ajax()`

See also



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File Edit Selection View Go ... ← → api-routes

node page.js route.js X

app > api > add > route.js > POST > [0] data

```
1 import { NextResponse } from "next/server"; ←  
2  
3 export async function POST(request){  
4     let data = await request.json();  
5     console.log(data) ←  
6     return NextResponse.json({success: true, data: "yes"})  
7 }  
8
```

getting data on backend

On console ↑

Ln 4, Col 22 Spaces: 4 UTF-8 CRLF

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Windows Start Button

Cloud Storage Calendar Task View Taskbar Icons

File Edit Selection View Go ... ⏪ ⏩ api-routes

node page.js route.js

app > page.js > Home > handleClick > data > role

```
1 import Image from "next/image";
2
3 export default function Home() {
4     const handleClick = async () => {
5         let data = {
6             name: "Harry",
7             role: "Coder"
8         }
9         let a = await fetch("/api/add", {
10             method: "POST", headers: {
11                 "Content-Type": "application/json",
12             },
13             body: JSON.stringify(data),
14         })
15         let res = await a.json()
16         console.log(res)
17     }
18
19     return (
20         <div>
21             <h1 className="text-xl font-bold">Next.js Api routes demo</h1>
22             <button onClick={handleClick}>click me</button>

```

Add <'use-client'>



Ln 7, Col 19 Spaces: 2 UTF-8 LF

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node ×

JS page.js

JS route.js



```
[Symbol(kResourceStore)]: undefined,  
[Symbol(kResourceStore)]: undefined,
```

}

✓ Compiled in 136ms (707 modules)

```
{ name: 'Harry', role: 'Coder' }
```



0 ▲ 0 (A) 0

GBP/INR  
+0.23%

Search



ENG IN 17:45 Fri 17:45 Fri

node page.js route.js x

app > api > add > JS route.js > POST > [o] data

```
1 import { NextResponse } from "next/server";
2
3 export async function POST(request) {
4     let data = await request.json()
5     console.log(data)
6     return NextResponse.json({success: true, data: data})
7 }
8
```



0 0 0 0

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Sigma Web Development Course - W Create Next App File Conventions: route.js | Next.js Using the Fetch API - Web APIs | MDN

localhost:3000

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## Next.js Api routes demo

click me

Elements Console Sources Network Performance Security Memory > Default levels ▾ No Issues

react-dom.development.js:32366

Download the React DevTools for a better development experience: <https://reactjs.org/link/react-dev-tools>

page.js:17

▼ Object i  
  data: "yes"  
  success: true  
  ► [[Prototype]]: Object

[Fast Refresh] rebuilding

hot-reloader-client.js:181

► {success: true, data: 'yes'}

page.js:17

② [Fast Refresh] rebuilding

hot-reloader-client.js:181

► {success: true, data: {...}} i  
  ► data: {name: 'Harry', role: 'Coder'}  
  success: true  
  ► [[Prototype]]: Object

page.js:17



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17:45 Fri



EXPLORER

...

## SERVER-ACTIONS

- > .next
- > app
  - favicon.ico
  - globals.css
  - JS layout.js
  - JS page.js
- > node\_modules
- > public
- .eslintrc.json
- .gitignore
- jsconfig.json
- next.config.mjs
- package-lock.json
- package.json
- postcss.config.js
- README.md
- tailwind.config.js



&gt; OUTLINE

&gt; TIMELINE

&gt; TASK EXPLORER

JS page.js

X

app &gt; JS page.js &gt; Home

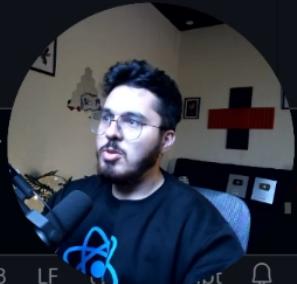
```
1 import Image from "next/image";
2
3 export default function Home() {
4   return (
5     <div className="w-2/3 mx-auto my-12">
6       <form action="">
7         <div>
8           <label htmlFor="name">Name</label>
9           <input name="name" id="name" className="text-black mx-4" type="text" />
10        </div>
11        <div>
12          <label htmlFor="add">Address</label>
13          <input name="add" id="add" className="text-black mx-4" type="text" />
14        </div>
15        <div>
16          <button className="border border-white px-3">Submit</button>
17        </div>
18      </form>
19    </div>
20  );
21}
22}
```

J0lms

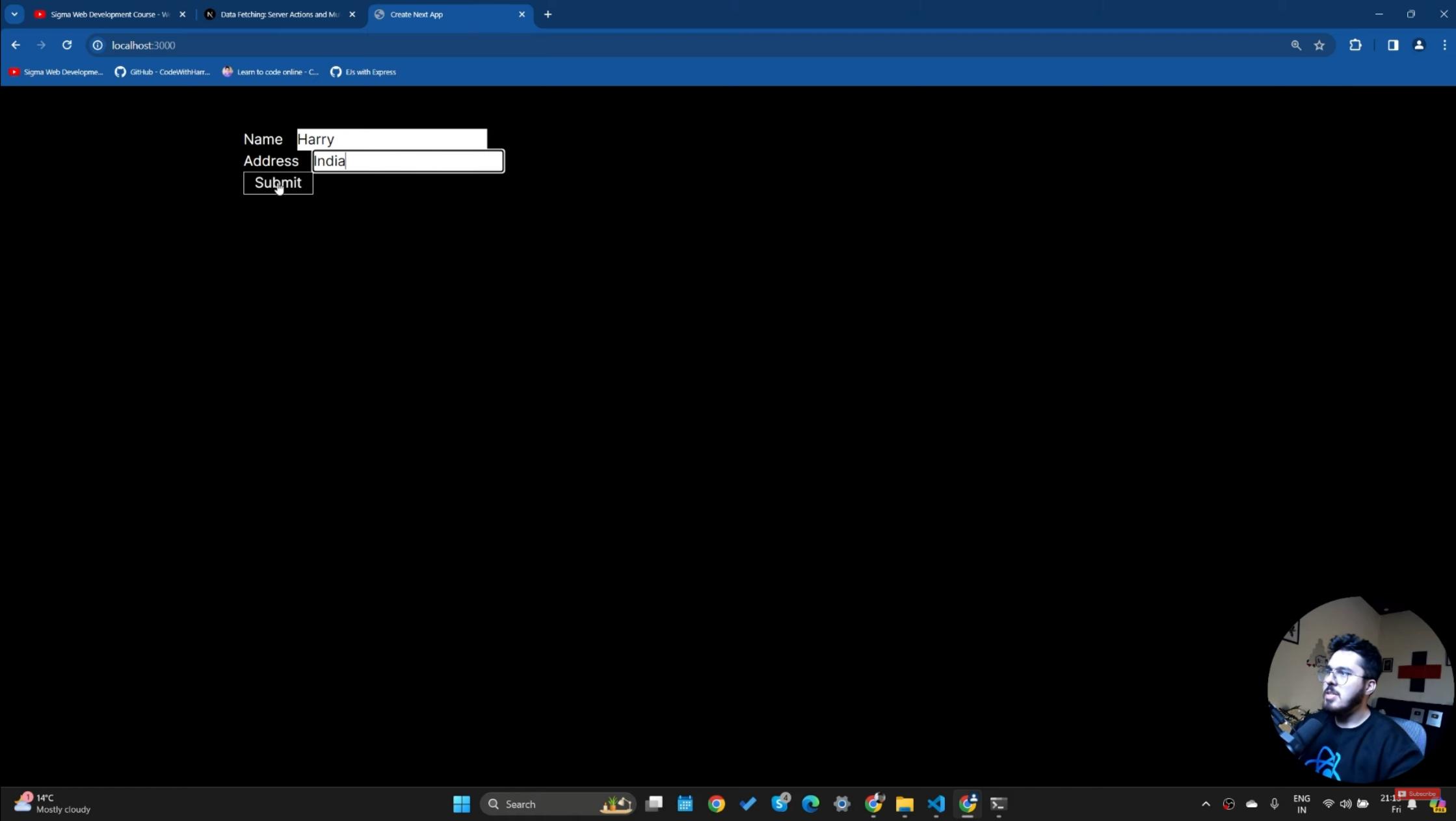
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

- Compiling / ...
- Compiled / in 3s (510 modules)

node +



Ln 9, Col 61 Spaces: 2 UTF-8 LF pt



Name   
Address

Page reloads here



File Edit Selection View Go ... ← → 🔍 server-actions

EXPLORER ...

SERVER-ACTIONS

- > .next
- ✓ app
  - favicon.ico
  - globals.css
  - JS layout.js
  - JS page.js
- > node\_modules
- > public
  - .eslintrc.json
  - .gitignore
  - harry.txt
  - JS jsonconfig.json
  - N next.config.mjs
  - npm package-lock.json
  - npm package.json
  - postcss.config.js
  - README.md
  - tailwind.config.js

> OUTLINE

> TIMELINE

> TASK EXPLORER

node JS page.js X

app > JS page.js > Home > submitAction

```
1 import Image from "next/image";
2 import fs from "fs/promises"
3
4 export default function Home() {
5
6
7     const submitAction = async (e) => {
8         console.log(e.get("name"), e.get("add"))
9         let a = await fs.writeFile("harry.txt", "Hey I am good")
10        console.log(a)
11    }
12
13
14    return (
15        <div className="w-2/3 mx-auto my-12">
16            <form action={submitAction}>
17                <div>
18                    <label htmlFor="name">Name</label>
19                    <input name="name" id="name" className="text-black mx-4" type="text" />
20                </div>
21                <div>
22                    <label htmlFor="add">Address</label>
23                    <input name="add" id="add" className="text-black mx-4" type="text" />
24                </div>
25                <div>
```

# Server Actions in forms

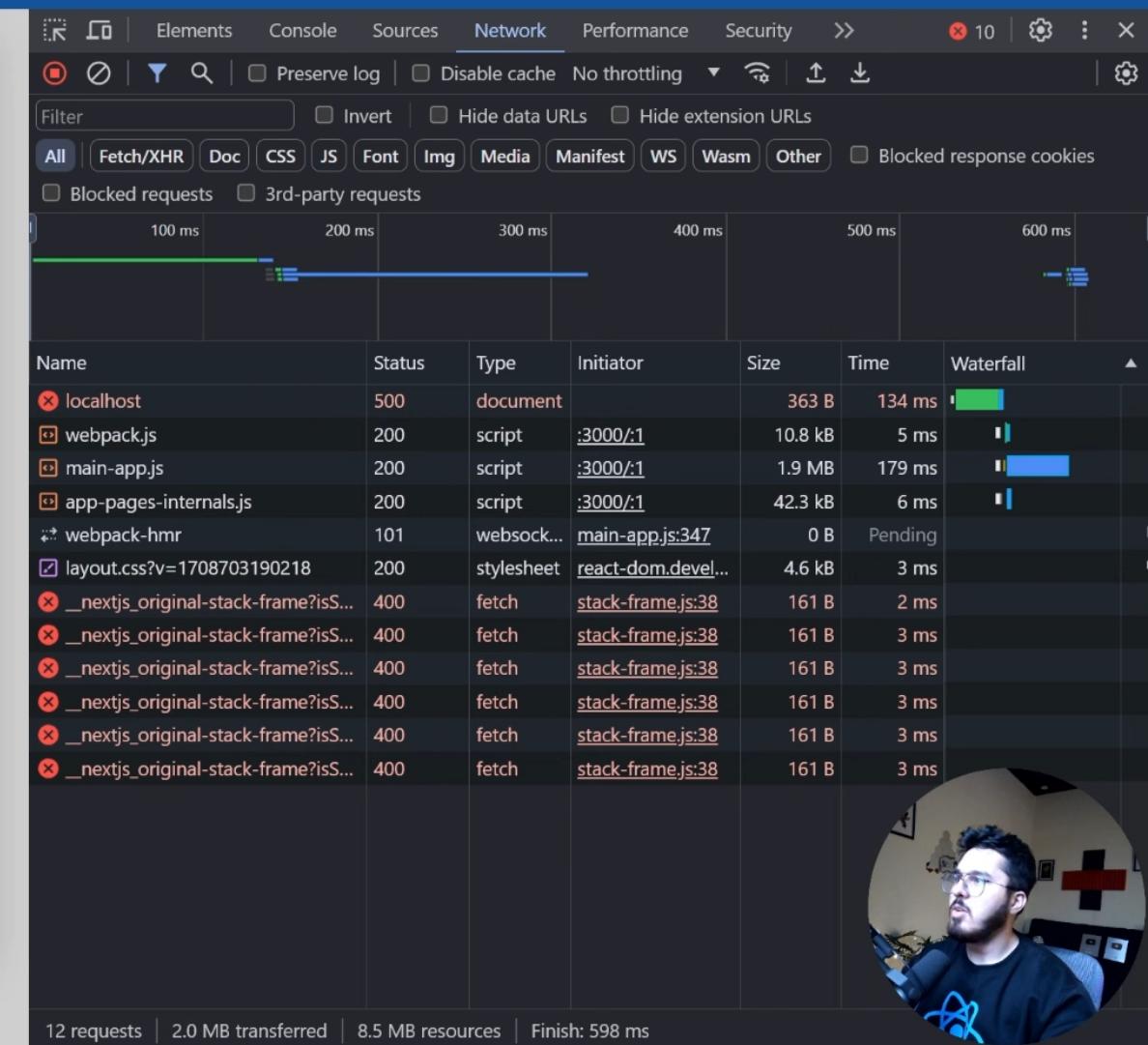


Ln 7, Col 39 Spaces: 2 UTF-8 LF

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Search

211 ENG IN Fri





EXPLORER

...

## SERVER-ACTIONS

- > .next
- > app
  - favicon.ico
  - globals.css
  - JS layout.js
  - JS page.js
- > node\_modules
- > public
  - .eslintrc.json
  - .gitignore
  - harry.txt
  - jsconfig.json
  - next.config.mjs
  - package-lock.json
  - package.json
  - postcss.config.js
  - README.md
  - tailwind.config.js

## &gt; OUTLINE

## &gt; TIMELINE

## &gt; TASK EXPLORER

node JS page.js X

app &gt; JS page.js &gt; Home &gt; submitAction

```
1 import Image from "next/image";
2 import fs from "fs/promises"
3
4 export default function Home() {
5
6
7     const submitAction = async (e) => {
8         "use server"
9         console.log(e.get("name"), e.get("add"))
10        let a = await fs.writeFile("harry.txt", `Name is ${e.get("name")} and Address is ${e.
11            get("add")}`)
12        console.log(a)
13    }
14
15    return (
16        <div className="w-2/3 mx-auto my-12">
17            <form action={submitAction}>
18                <div>
19                    <label htmlFor="name">Name</label>
20                    <input name="name" id="name" className="text-black mx-4" type="text" />
21                </div>
22                <div>
23                    <label htmlFor="add">Address</label>
24                    <input name="add" id="add" className="text-black mx-4" type="text" />
25                </div>
```



Server

Sigma Web Development Course - W Data Fetching: Server Actions and Mutation Create Next App

localhost:3000

Sigma Web Development... GitHub - CodeWithHarry... Learn to code online - C... EJS with Express

Name Harry  
Address India  
Submit

Network

Filter | Preset log | Disable cache | No throttling | Invert | Hide data URLs | Hide extension URLs

All | Fetch/XHR | Doc | CSS | JS | Font | Img | Media | Manifest | WS | Wasm | Other | Blocked response cookies

Blocked requests | 3rd-party requests

500 ms | 1000 ms | 1500 ms | 2000 ms | 2500 ms | 3000 ms | 3500 ms | 4000 ms | 4500 ms | 5000 ms

Name	Headers	Payload	Preview	Response	Initiator	Timing
localhost	▼ General					
layout.css?v=1708...	Request URL:	http://localhost:3000/				
webpack.js?v=170...	Request Method:	POST				
main-app.js?v=17...	Status Code:	200 OK				
app-pages-intern...	Remote Address:	[::1]:3000				
c9a5bc6a7c948fb...	Referrer Policy:	strict-origin-when-cross-origin				
webpack-hmr	▼ Response Headers					
localhost	Cache-Control:	no-store, must-revalidate				
	Connection:	keep-alive				
	Content-Encoding:	gzip				
	Content-Type:	text/x-component				
	Date:	Fri, 23 Feb 2024 15:45:38 GMT				
	Keep-Alive:	timeout=5				
	Transfer-Encoding:	chunked				
	Vary:	RSC, Next-Router-State-Tree, Next-Rout...				
	X-Action-Revalidated:	Accept-Encoding				
	X-Powered-By:	[],0,0]				
	▼ Request Headers					

8 requests | 2.0 MB transferred

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localhost:3000

Sigma Web Development Course | GitHub - CodeWithHarry... | Learn to code online - C... | EJS with Express

Name Harry  
Address Address 45  
Submit

Network

Preserve log | Disable cache | No throttling | Invert | Hide data URLs | Hide extension URLs

All | Fetch/XHR | Doc | CSS | JS | Font | Img | Media | Manifest | WS | Wasm | Other | Blocked response cookies

Blocked requests | 3rd-party requests

Name	Status	Type	Initiator	Size	Time	Waterfall
localhost	200	document		3.1 kB	204 ms	
layout.css?v=1708703242298	200	stylesheet	(index):0	4.6 kB	16 ms	
webpack.js?v=1708703242298	200	script	(index):0	10.9 kB	16 ms	
main-app.js?v=1708703242298	200	script	(index):0	1.9 MB	182 ms	
app-pages-internals.js	200	script	(index):0	42.3 kB	5 ms	
c9a5bc6a7c948fb0-s.p.woff2	200	font	:3000/_next/static/... (memory)		0 ms	
webpack-hmr	101	websock...	use-websocket.j...	0 B	Pending	
b579d9e5322aba23.webpack.hot...	200	fetch	webpack.js?v=1...	373 B	4 ms	
webpack.b579d9e5322aba23.hot...	200	script	webpack.js?v=1...	1.2 kB	3 ms	
?_rsc=1xuj0	200	fetch	fetch-server-res...	1.5 kB	64 ms	
layout.css?v=1708703248000	200	stylesheet	react-dom.devel...	4.6 kB	2 ms	
?_rsc=1xuj0	200	fetch	fetch-server-res...	336 B	56 ms	
a880794877e552e1.webpack.hot...	200	fetch	webpack.js?v=1...	373 B	3 ms	
webpack.a880794877e552e1.hot...	200	script	webpack.js?v=1...	1.2 kB		
layout.css?v=1708703249708	200	stylesheet	react-dom.devel...	4.6 kB		
localhost	200	fetch	server-action-re...	426 B		

16 requests | 2.0 MB transferred | 8.6 MB resources | Finish: 13.07 s | DOMContentLoaded: 205 ms

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EXPLORER ... node JS page.js X harry.txt X

SERVER-ACTIONS

- > .next
- > app
  - favicon.ico
  - globals.css
  - JS layout.js
  - JS page.js
- > node\_modules
- > public
  - .eslintrc.json
  - .gitignore
  - harry.txt
  - jsconfig.json
  - next.config.mjs
  - package-lock.json
  - package.json
  - postcss.config.js
  - README.md
  - tailwind.config.js

OUTLINE

TIMELINE

TASK EXPLORER

0 0 0 0

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1 Ln 1, Col 39 (1 selected) Spaces: 4 UTF-8 CKEditor



# Re-organising

```
1 "use server"
2 import fs from "fs/promises"
3 export const submitAction = async (e) => {
4     console.log(e.get("name"), e.get("add"))
5     let a = await fs.writeFile("harry.txt", `Name is ${e.get(
6         "name")} and Address is ${e.get("add")}`)
7 }
```





EXPLORER

...

## SERVER-ACTIONS

- > .next
- ✓ actions
  - JS form.js
- ✓ app
  - favicon.ico
  - globals.css
  - JS layout.js
  - JS page.js
- ✓ node\_modules
  - > .bin
  - > @aashutoshrathi
  - > @alloc
  - > @babel
  - > @eslint
  - > @eslint-community
  - > @humanwhocodes
  - > @isaacs
  - > @jridgewell
  - > @next
  - > @nodelib
  - > @pkgjs

## &gt; OUTLINE

## &gt; TIMELINE

## &gt; TASK EXPLORER

node

JS page.js

JS form.js

harry.txt

app &gt; JS page.js &gt; Home

```
1 import { submitAction } from "@/actions/form"; ←  
2  
3 export default function Home() {  
4  
5   return (  
6     <div className="w-2/3 mx-auto my-12">  
7       <form action={submitAction}>  
8         <div>  
9           <label htmlFor="name">Name</label>  
10          <input name="name" id="name" className="text-black mx-4" type="text" />  
11        </div>  
12        <div>  
13          <label htmlFor="add">Address</label>  
14          <input name="add" id="add" className="text-black mx-4" type="text" />  
15        </div>  
16        <div>  
17          <button className="border border-white px-3">Submit</button>  
18        </div>  
19      </form>  
20    </div>  
21  );  
22}  
23 }  
24 }
```



Ln 4, Col 1 Spaces: 2 UTF-8 LF pt

Sigma Web Development Course - W | Data Fetching: Server Actions and Mutation | Create Next App

localhost:3000

Name 12  
Address 12  
Submit

Page won't reload

Network tab in DevTools showing a POST request to http://localhost:3000/ with status 200 OK.

Request Headers:

- Cache-Control: no-store, must-revalidate
- Connection: keep-alive
- Content-Encoding: gzip
- Content-Type: text/x-component
- Date: Fri, 23 Feb 2024 15:49:14 GMT
- Keep-Alive: timeout=5
- Transfer-Encoding: chunked
- Vary: RSC, Next-Router-State-Tree, Next-Route
- X-Action-Revalidated: [0,0]
- X-Powered-By: Next.js

Response Headers:

- Accept-Encoding

8 requests | 2.0 MB transferred

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ENG IN

21:11 Fri

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EXPLORER ...

SERVER-ACTIONS

- > .next
- ✓ actions **JS form.js**
- ✓ app
  - favicon.ico
  - globals.css
  - JS layout.js**
  - JS page.js**
- ✓ node\_modules
  - > .bin
  - > @aashutoshrathi
  - > @alloc
  - > @babel
  - > @eslint
  - > @eslint-community
  - > @humanwhocodes
  - > @isaacs
  - > @jridgewell
  - > @next
  - > @nodelib
  - > @pkgjs
- > OUTLINE
- > TIMELINE
- > TASK EXPLORER

node x JS page.js JS form.js hARRY.txt

```
3 | export default function Home() {  
4 |  
  
https://nextjs.org/docs/messages/module-not-found  
⚠ Fast Refresh had to perform a full reload due to a runtime error.  
⚠ Fast Refresh had to perform a full reload due to a runtime error.  
✖ ./app/page.js:1:0  
Module not found: Can't resolve '@'  
> 1 | import submitAction from "@"  
2 |  
3 | export default function Home() {  
4 |  
  
https://nextjs.org/docs/messages/module-not-found  
○ Compiling /_error ...  
✖ ./app/page.js:1:0  
Module not found: Can't resolve '@actions/form'  
> 1 | import submitAction from "@actions/form"  
2 |  
3 | export default function Home() {  
4 |  
  
https://nextjs.org/docs/messages/module-not-found  
⚠ Fast Refresh had to perform a full reload. Read more: https://nextjs.org/docs/messages/fast-refresh-reload  
✓ Compiled /not-found in 215ms (639 modules)  
⚠ Fast Refresh had to perform a full reload. Read more: https://nextjs.org/docs/messages/fast-refresh-reload  
✓ Compiled in 135ms (639 modules)  
✓ Compiled in 123ms (639 modules)
```

12 12   
undefined



Sigma Web Development Course - W Data Fetching: Server Actions and Mutation Create Next App

localhost:3000

Sigma Web Development GitHub - CodeWithHarr... Learn to code online - C... EJS with Express

Name 12 Address 12 Submit

Values don't reset when submitted

Network

Filter Preset log Disable cache No throttling Invert Hide data URLs Hide extension URLs All Fetch/XHR Doc CSS JS Font Img Media Manifest WS Wasm Other Blocked response cookies Blocked requests 3rd-party requests

5000 ms 10000 ms 15000 ms 20000 ms 25000 ms 30000 ms 35000 ms 40000 ms 45000 ms

Name	Headers	Payload	Preview	Response	Initiator	Timing
localhost	General					
layout.css?v=1708...	Request URL:	http://localhost:3000/				
webpack.js?v=170...	Request Method:	POST				
main-app.js?v=170...	Status Code:	200 OK				
app-pages-intern...	Remote Address:	[::1]:3000				
c9a5bc6a7c948fb...	Referrer Policy:	strict-origin-when-cross-origin				
webpack-hmr	Response Headers	Raw				
localhost	Cache-Control:	no-store, must-revalidate				
?_rsc=1xuj0	Connection:	keep-alive				
layout.css?v=1708...	Content-Encoding:	gzip				
localhost	Content-Type:	text/x-component				
	Date:	Fri, 23 Feb 2024 15:49:14 GMT				
	Keep-Alive:	timeout=5				
	Transfer-Encoding:	chunked				
	Vary:	RSC, Next-Router-State-Tree, Next-Rout...				
	X-Action-Revalidated:	Accept-Encoding				
	X-Powered-By:	[],0,0]				
	Request Headers	Raw				

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EXPLORER

...

## SERVER-ACTIONS

- > .next
- ✓ actions
  - JS form.js
- ✓ app
  - favicon.ico
  - globals.css
  - JS layout.js
  - JS page.js
- ✓ node\_modules
  - > .bin
  - > @aashutoshrathi
  - > @alloc
  - > @babel
  - > @eslint
  - > @eslint-community
  - > @humanwhocodes
  - > @isaacs
  - > @jridgewell
  - > @next
  - > @nodelib
  - > @pkgjs

## &gt; OUTLINE

## &gt; TIMELINE

## &gt; TASK EXPLORER

node

JS page.js

JS form.js

harry.txt

app &gt; JS page.js &gt; Home

```
1 "use client"
2 import { submitAction } from "@/actions/form";
3 import { useRef } from "react";
4
5 export default function Home() {
6   let ref = useRef()
7   return (
8     <div className="w-2/3 mx-auto my-12">
9       <form ref={ref} action={({e})=> [submitAction(e); ref.current.reset()]}>
10        <div>
11          <label htmlFor="name">Name</label>
12          <input name="name" id="name" className="text-black mx-4" type="text" />
13        </div>
14        <div>
15          <label htmlFor="add">Address</label>
16          <input name="add" id="add" className="text-black mx-4" type="text" />
17        </div>
18        <div>
19          <button className="border border-white px-3">Submit</button>
20        </div>
21      </form>
22    </div>
23  );
24 }
25 }
```



Ln 9, Col 74 Spaces: 2 UTF-8 LF ⚙️ ENG IN 🔍 Fri 21:12 14°C Mostly cloudy

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localhost:3000

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Name   
Address

Reset ✓

Elements Console Sources Network Performance Security > 1 ⚙️ X

Preserve log Disable cache No throttling ⚡ ⌛ ⌂ ⌃ ⌄ ⌅ ⌆ ⌇ ⌈ ⌉

Filter Invert Hide data URLs Hide extension URLs

All Fetch/XHR Doc CSS JS Font Img Media Manifest WS Wasm Other Blocked response cookies Blocked requests 3rd-party requests

Name	Status	Type	Initiator	Size	Time	Waterfall
localhost	200	document		3.3 kB	254 ms	
layout.css?v=1708703468264	200	stylesheet	(index):0	4.6 kB	34 ms	
webpack.js?v=1708703468264	200	script	(index):0	10.9 kB	34 ms	
main-app.js?v=1708703468264	200	script	(index):0	1.9 MB	214 ms	
app-pages-internals.js	200	script	(index):0	42.3 kB	23 ms	
page.js	200	script	(index):0	55.7 kB	23 ms	
c9a5bc6a7c948fb0-s.p.woff2	200	font	:3000/_next/stat... (memor...	0 B	0 ms	
webpack-hmr	101	websock...	use-websocket.j...	0 B	Pending	
localhost	200	fetch	page.js:9	426 B	53 ms	

9 requests | 2.1 MB transferred | 8.8 MB resources | Finish: 9.03 s | DOMContentLoaded: 254 ms



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expressjs.com/en/guide/writing-middleware.html#:%text=Middleware%20functions%20are%20functions%20that,middleware%20succeeding%20the%20current%20middleware.

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# Writing middleware for use in Express apps

## Overview

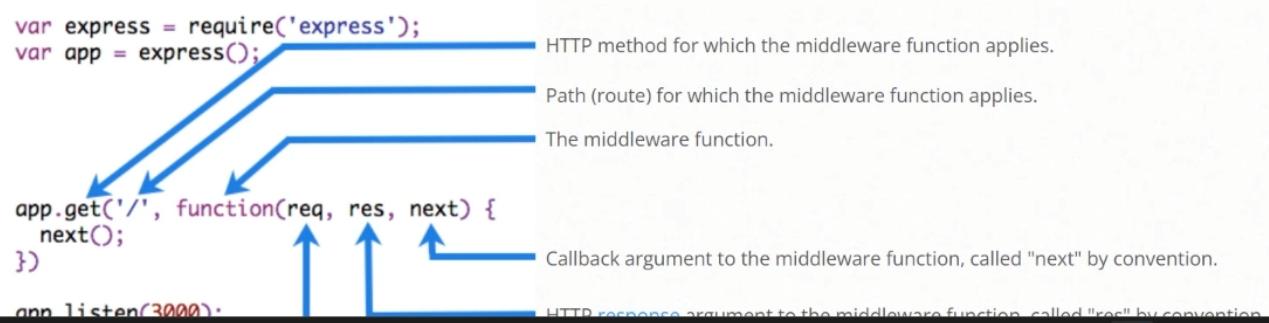
**Middleware** functions are functions that have **access to the request object (`req`), the response object (`res`), and the `next` function in the application's request-response cycle**. The `next` function is a function in the Express router which, when invoked, executes the middleware succeeding the current middleware.

Middleware functions can perform the following tasks:

- Execute any code.
- Make changes to the request and the response objects.
- End the request-response cycle.
- Call the next middleware in the stack.

If the current middleware function does not end the request-response cycle, it must call `next()` to pass control to the next middleware function. Otherwise, the request will be left hanging.

The following figure shows the elements of a middleware function call:



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nextjs.org/docs/app/building-your-application/routing/middleware

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Using App Router Features available in /app

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Data Fetching  
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App Router > ... > Routing > Middleware

# Middleware

Middleware allows you to run code before a request is completed. Then, based on the incoming request, you can modify the response by rewriting, redirecting, modifying the request or response headers, or responding directly.

Middleware runs before cached content and routes are matched. See [Matching Paths](#) for more details.

## Convention

Use the file `middleware.ts` (or `.js`) in the root of your project to define Middleware. For example, at the same level as `pages` or `app`, or inside `src` if applicable.

## Example

```
middleware.ts
```

```
1 import { NextResponse } from 'next/server'
2 import type { NextRequest } from 'next/server'
3
4 // This function can be marked 'async' if using 'await' inside
5 export function middleware(request: NextRequest) {
6   return NextResponse.redirect(new URL('/home', request.url))
7 }
8
9 // See "Matching Paths" below to learn more
10 export const config = {
11   matcher: '/about/:path*',
12 }
```

On this page

- Convention
- Example
- Matching Paths
- Matcher
- Conditional Statements
- NextResponse
- Using Cookies
- Setting Headers
- CORS
- Producing a Response
- waitFor and NextFetchEvent
- Advanced Middleware Flags
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for more details.

## Convention

Use the file `middleware.ts` (or `.js`) in the root of your project to define Middleware. For example, at the same level as `pages` or `app`, or inside `src` if applicable.

## Example

```
middleware.js
```

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2
3 // This function can be marked 'async' if using 'await' inside
4 export function middleware(request) {
5   return NextResponse.redirect(new URL('/home', request.url))
6 }
7
8 // See "Matching Paths" below to learn more
9 export const config = {
10   matcher: '/about/:path*',
11 }
```

On this page

- Convention
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## Matching Paths

Middleware will be invoked for **every route** in your project. The following is the execution order:

1. `headers` from `next.config.js`
2. `redirects` from `next.config.js`
3. `Middleware (rewrites, redirects, etc.)`
4. `beforeFiles (rewrites)` from `next.config.js`

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## Conditional Statements

```
middleware.js JavaScript
1 import { NextResponse } from 'next/server'
2
3 export function middleware(request) {
4   if (request.nextUrl.pathname.startsWith('/about')) {
5     return NextResponse.rewrite(new URL('/about-2', request.url))
6   }
7
8   if (request.nextUrl.pathname.startsWith('/dashboard')) {
9     return NextResponse.rewrite(new URL('/dashboard/user', request.url))
10  }
11 }
```

## On this page

- Convention
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---

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## NextResponse

The `NextResponse` API allows you to:

- `redirect` the incoming request to a different URL
- `rewrite` the response by displaying a given URL
- Set request headers for API Routes, `getServerSideProps`, and `rewrite` destinations
- Set response cookies
- Set response headers

Using App Router  
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  - Middleware**
  - Internationalization

### Data Fetching

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You can set request and response headers using the `NextResponse` API (setting `request` headers is available since Next.js v13.0.0).

**Using App Router**  
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**middleware.js** JavaScript

```
1 import { NextResponse } from 'next/server'
2
3 export function middleware(request) {
4   // Clone the request headers and set a new header 'x-hello-from-middleware1'
5   const requestHeaders = new Headers(request.headers)
6   requestHeaders.set('x-hello-from-middleware1', 'hello')
7
8   // You can also set request headers in NextResponse.rewrite
9   const response = NextResponse.next({
10     request: {
11       // New request headers
12       headers: requestHeaders,
13     },
14   })
15
16   // Set a new response header 'x-hello-from-middleware2'
17   response.headers.set('x-hello-from-middleware2', 'hello')
18   return response
19 }
```

**On this page**

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Good to know: Avoid setting large headers as it might cause [431 Request Header Fields Too Large](#) error depending on your backend web server configuration.

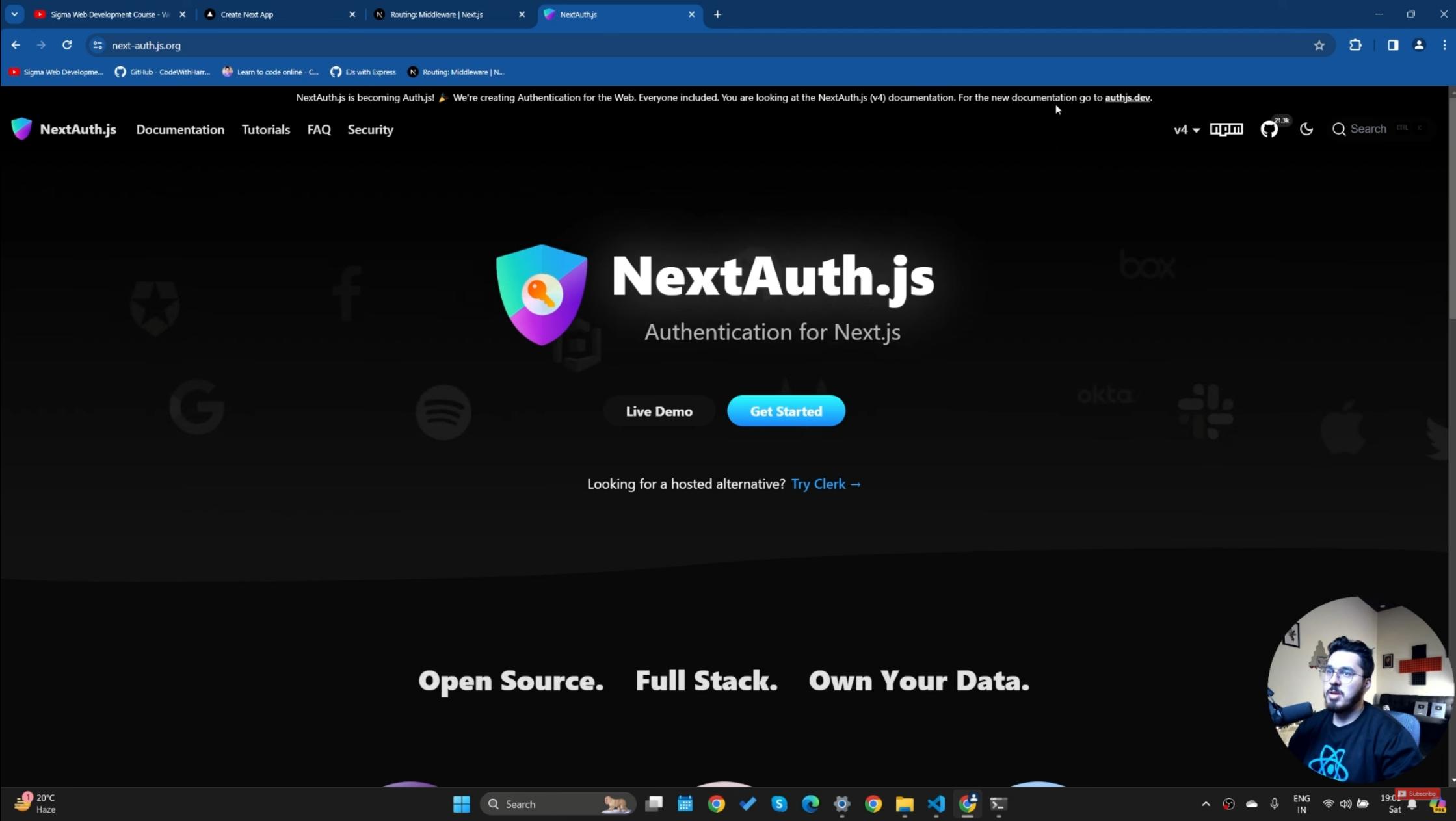
## CORS

You can set CORS headers in Middleware to allow cross-origin requests, including [simple](#) and [preflighted](#) requests.

Setting Headers



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NextAuth.js is becoming Auth.js! 🎉 We're creating Authentication for the Web. Everyone included. You are looking at the NextAuth.js (v4) documentation. For the new documentation go to [authjs.dev](#).

v4 NPM 21.3k Search

**NextAuth.js** Documentation Tutorials FAQ Security

# NextAuth.js

## Authentication for Next.js

Live Demo Get Started

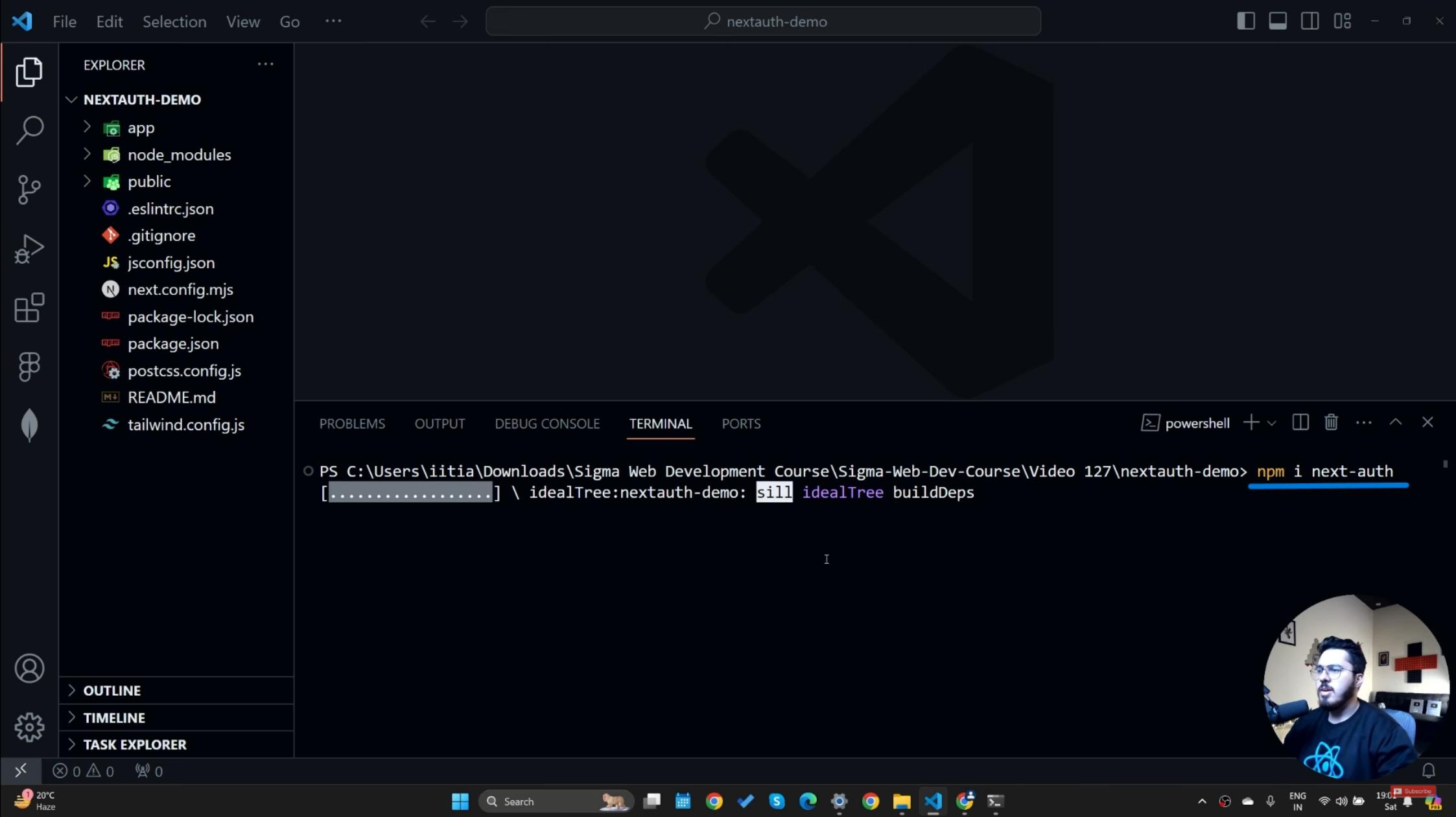
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**NextAuth.js** Documentation Tutorials FAQ Security

# Add authentication in minutes!

**Server** /pages/api/auth/[...nextauth].js

```
import NextAuth from 'next-auth'
import AppleProvider from 'next-auth/providers/apple'
import FacebookProvider from 'next-auth/providers/facebook'
import GoogleProvider from 'next-auth/providers/google'
import EmailProvider from 'next-auth/providers/email'

export default NextAuth({
  providers: [
    // OAuth authentication providers...
    AppleProvider({
      clientId: process.env.APPLE_ID,
      clientSecret: process.env.APPLE_SECRET
    }),
    FacebookProvider({
      clientId: process.env.FACEBOOK_ID,
      clientSecret: process.env.FACEBOOK_SECRET
    }),
    GoogleProvider({
      clientId: process.env.GOOGLE_ID,
      clientSecret: process.env.GOOGLE_SECRET
    }),
    // Passwordless / email sign in
    EmailProvider({
      server: process.env.MAIL_SERVER,
      from: 'NextAuth.js <no-reply@example.com>'
    })
  ]
})
```

**Client (App)** /pages/\_app.jsx

```
import { SessionProvider } from "next-auth/react"

export default function App({ Component, pageProps: { session, ...pageProps } }) {
  return (
    <SessionProvider session={session}>
      <Component {...pageProps}/>
    </SessionProvider>
  )
}
```

**Client (Page)** /pages/index.js

```
import { useSession, signIn, signOut } from "next-auth/react"

export default function Component() {
  const { data: session } = useSession()
  if(session) {
    return <>
      Signed in as {session.user.email} <br/>
      <button onClick={() => signOut()}>Sign out</button>
    </>
  }
  return <>
    Not signed in <br/>
    <button onClick={() => signIn()}>Sign in</button>
  </>
}
```



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next-auth.js.org/getting-started/example

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Add API route

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REST API

TypeScript

Upgrade Guide (v4)

Configuration >

Providers >

Adapters

Warnings

Errors

Deployment

Guides >

Hosted Auth (Clerk) ↗

to add NEXTAUTH.JS to a project create a file called `[...nextauth].js` in `pages/api/auth`. This contains the dynamic route handler for NextAuth.js which will also contain all of your global NextAuth.js configurations.

If you're using [Next.js 13.2 or above](#) with the new App Router (`app/`), you can initialize the configuration using the new [Route Handlers](#) by following our [guide](#).

**pages/api/auth/[...nextauth].js**

```
1 import NextAuth from "next-auth"
2 import GithubProvider from "next-auth/providers/github"
3
4 export const authOptions = {
5   // Configure one or more authentication providers
6   providers: [
7     GithubProvider({
8       clientId: process.env.GITHUB_ID,
9       clientSecret: process.env.GITHUB_SECRET,
10    }),
11    // ...add more providers here
12  ],
13 }
14
15 export default NextAuth(authOptions)
```

All requests to `/api/auth/*` (`signIn`, `callback`, `signOut`, etc.) will automatically be handled by NextAuth.js.

**Further Reading:**

- See the [options documentation](#) for more details on how to configure providers, databases and other options.
- Read more about how to add authentication providers [here](#).

**Configure Shared session state**

To be able to use `useSession` first you'll need to expose the session context, `<SessionProvider />`, at the top level of your application:

**pages/\_app.jsx**

New Project Existing Project Install NextAuth Add API route Frontend - Add React Hook Backend - API Route Extensibility Configuring callback URL (OAuth only) Deploying to production



Breaking news Unfolding now

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New OAuth Application

github.com/settings/applications/new

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☰



## Register a new OAuth application

Application name \*

Sigma Web Development

Something users will recognize and trust.

Homepage URL \*

http://localhost:3000/

The full URL to your application homepage.

Application description

This is NextAuth Demo

This is displayed to all users of your application.

Authorization callback URL \*

http://localhost:3000/api/auth/callback/github

Your application's callback URL. Read our [OAuth documentation](#) for more information.

Enable Device Flow

Allow this OAuth App to authorize users via the Device Flow.

Read the [Device Flow documentation](#) for more information.

**Register application**

Cancel



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OAuth application settings

github.com/settings/applications/2488698

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General

Optional features

Advanced

Sigma Web Development

CodeWithHarry owns this application.

Transfer ownership

You can list your application in the [GitHub Marketplace](#) so that other users can discover it.

List this application in the Marketplace

0 users

Revoke all user tokens

Client ID

Generate a new client secret

Make sure to copy your new client secret now. You won't be able to see it again.

Client secret

Never used

You cannot delete the only client secret. Generate a new client secret first.

Delete

Application logo

Upload new logo

Drag & drop

You can also drag and drop a picture from your computer.



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Search

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EXPLORER ...

NEXTAUTH-DEMO

- > .next
- > app
  - api\auth\...nextaut...
  - route.js
  - favicon.ico
  - globals.css
  - layout.js
  - page.js
- > node\_modules
- > public
  - .env.local
  - .eslintrc.json
  - .gitignore
  - jsconfig.json
  - next.config.mjs
  - package-lock.json
  - package.json
  - postcss.config.js
  - README.md
  - tailwind.config.js
- > OUTLINE
- > TIMELINE
- > TASK EXPLORER

route.js layout.js page.js .env.local

.env.local

```
1 GITHUB_ID=
2 GITHUB_SECRET=
```

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 Using Pages Router  
Features available in /pages

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Pages and Layouts

**Dynamic Routes**

Linking and Navigating

Redirecting

Custom App

Custom Document

API Routes

Custom Errors

Internationalization

Middleware

Rendering

Data Fetching

Styling

# Dynamic Routes

 ←

When you don't know the exact segment names ahead of time and want to create routes from dynamic data, you can use Dynamic Segments that are filled in at request time or [prerendered](#) at build time.

## On this page

[Convention](#)[Example](#)[Catch-all Segments](#)[Optional Catch-all Segments](#)[Next Steps](#)[Edit this page on GitHub](#)

## Convention

A Dynamic Segment can be created by wrapping a file or folder name in square brackets: `[segmentName]`. For example, `[id]` or `[slug]`.

Dynamic Segments can be accessed from [useRouter](#).

## Example

For example, a blog could include the following route `pages/blog/[slug].js` where `[slug]` is the Dynamic Segment for blog posts.

```
1 import { useRouter } from 'next/router'  
2
```



Using Pages Router  
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# Custom Errors

## 404 Page

A 404 page may be accessed very often. Server-rendering an error page for every visit increases the load of the Next.js server. This can result in increased costs and slow experiences.

To avoid the above pitfalls, Next.js provides a static 404 page by default without having to add any additional files.

## Customizing The 404 Page

To create a custom 404 page you can create a `pages/404.js` file. This file is statically generated at build time.

`js pages/404.js`

```
1  export default function Custom404() {  
2    return <h1>404 - Page Not Found</h1>  
3  }
```

Good to know: You can use `getStaticProps` inside this page if you need to fetch data at build time.

## On this page

### 404 Page

Customizing The 404 Page

### 500 Page

Customizing The 500 Page

### More Advanced Error Page

Customizing

Reusing the built-in error page

Caveats

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File Edit Selection View Go ... ⏪ ⏩ dynamic-routes

EXPLORER DYNAMIC-ROU... page.js ...\\blog JS page.js ...\\[slug] X

app > blogpost > [slug] > JS page.js > Page

```
1 export default function Page({ params }) {  
2     // fetch your blog post by its slug  
3     return <div>My Post: {params.slug}</div>  
4 }  
5 }
```

URL parameter [slug]

17°C Mostly cloudy

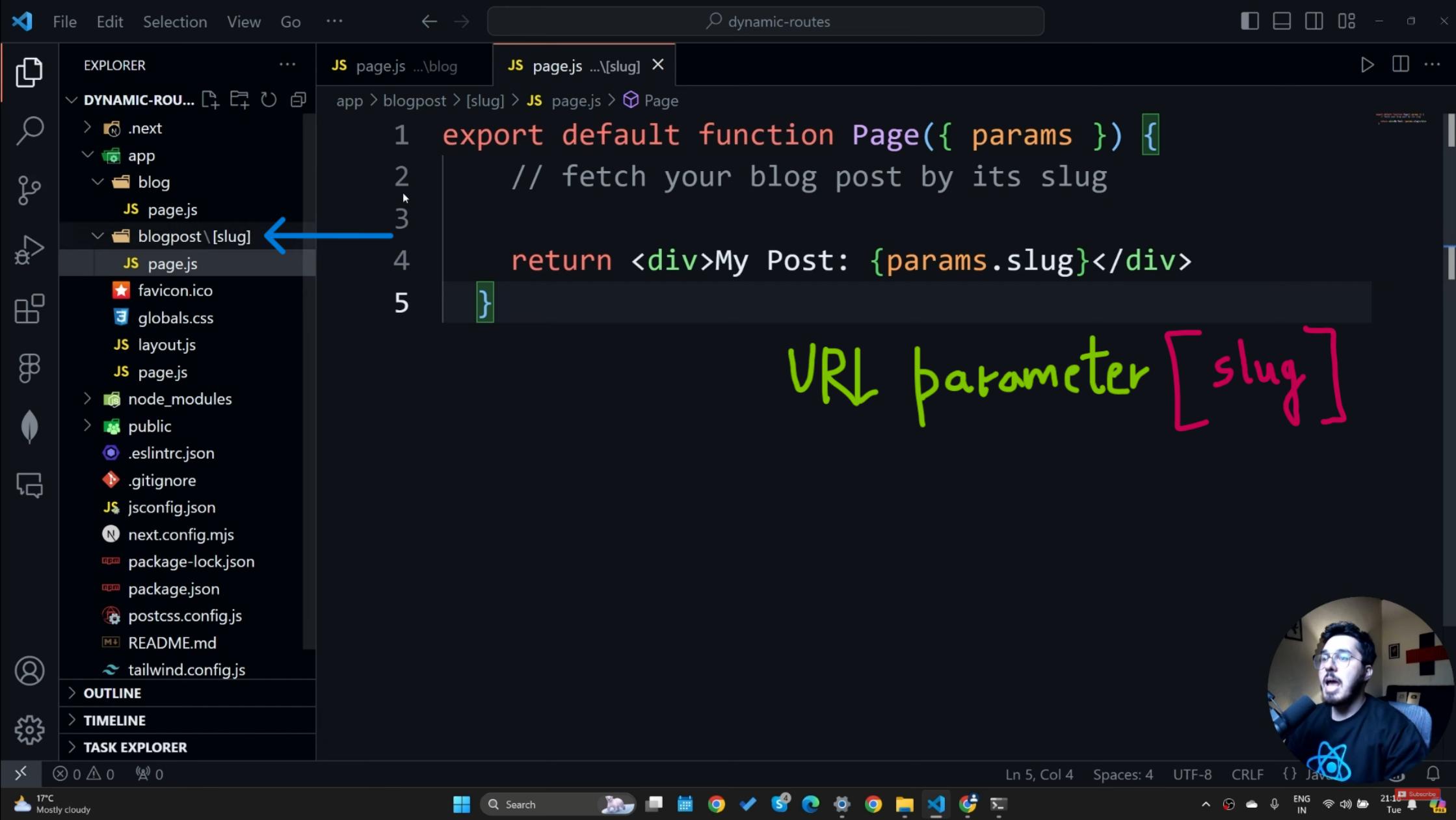
Search

Ln 5, Col 4 Spaces: 4 UTF-8 CRLF {} Java

21:15 Subscrib...

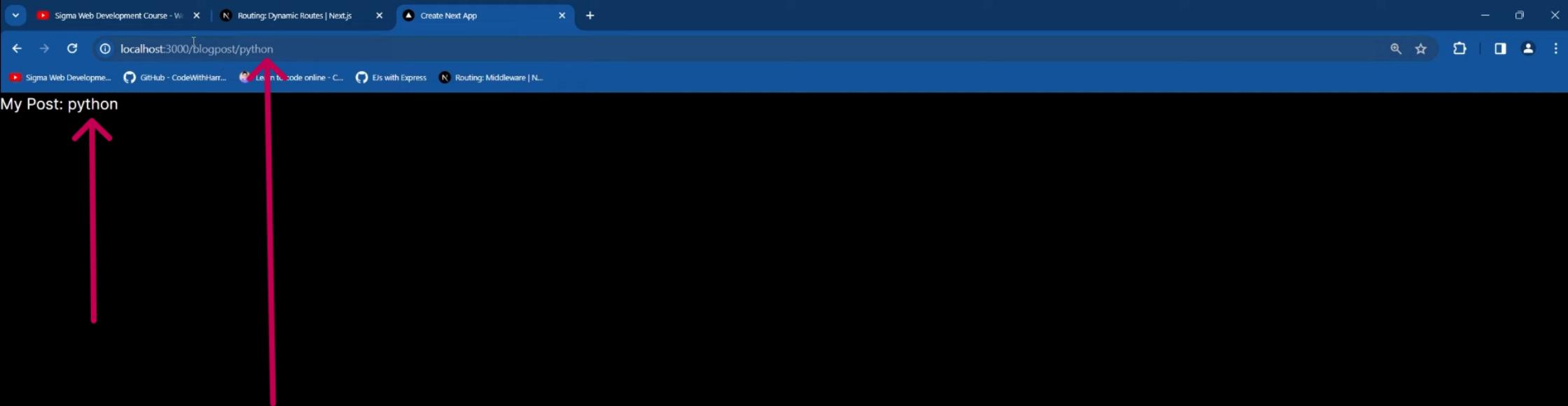
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Tue



My Post: js





EXPLORER

DYNAMIC-ROUTES

- > .next
- > app
  - blog
    - JS page.js
  - blogpost\[slug]
    - JS page.js
- > favicon.ico
- > globals.css
- > JS layout.js
- > JS page.js
- > node\_modules
- > public
- > .eslintrc.json
- > .gitignore
- > jsconfig.json
- > next.config.mjs
- > package-lock.json
- > package.json
- > postcss.config.js
- > README.md
- > tailwind.config.js

OUTLINE

TIMELINE

TASK EXPLORER

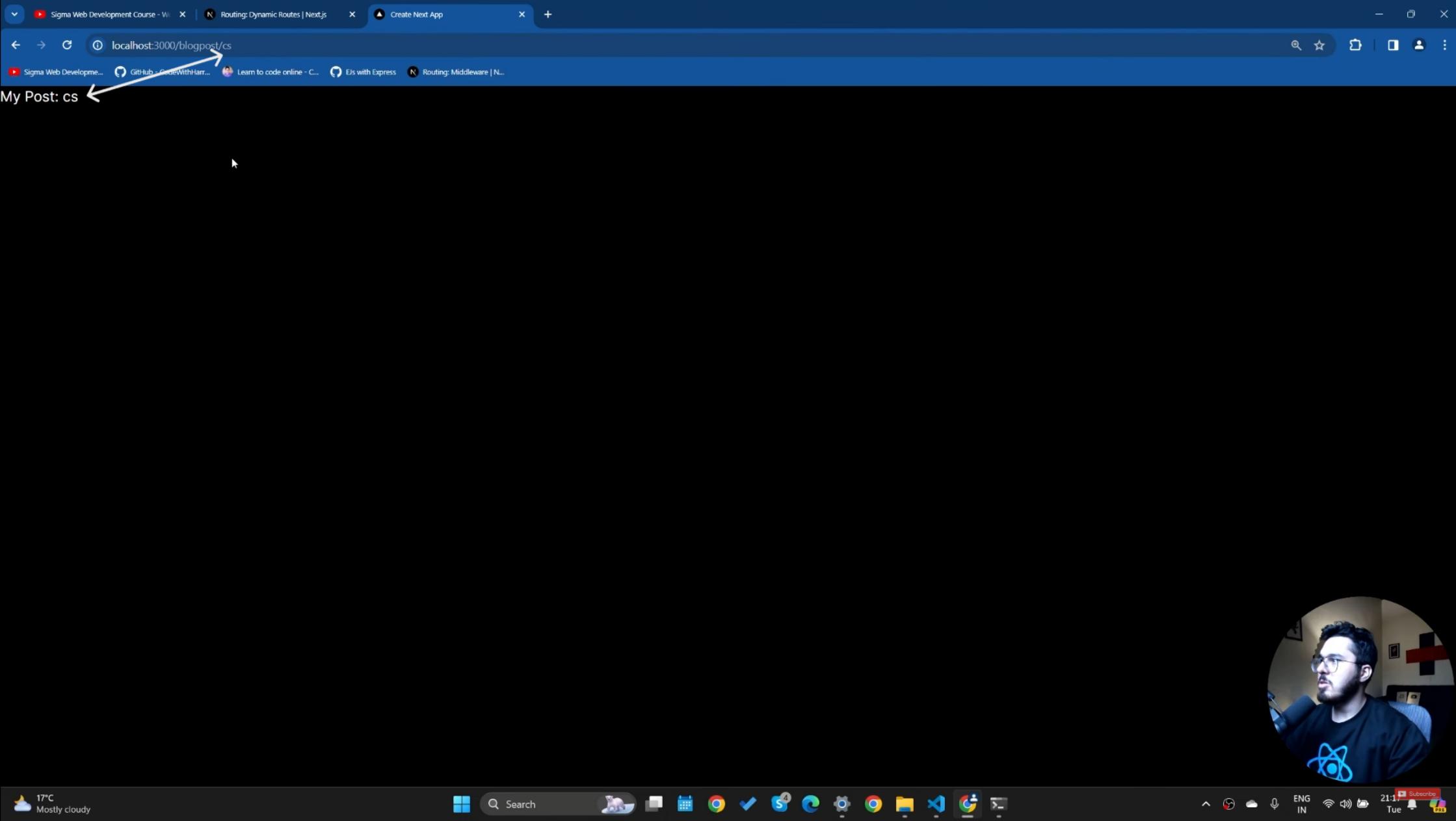
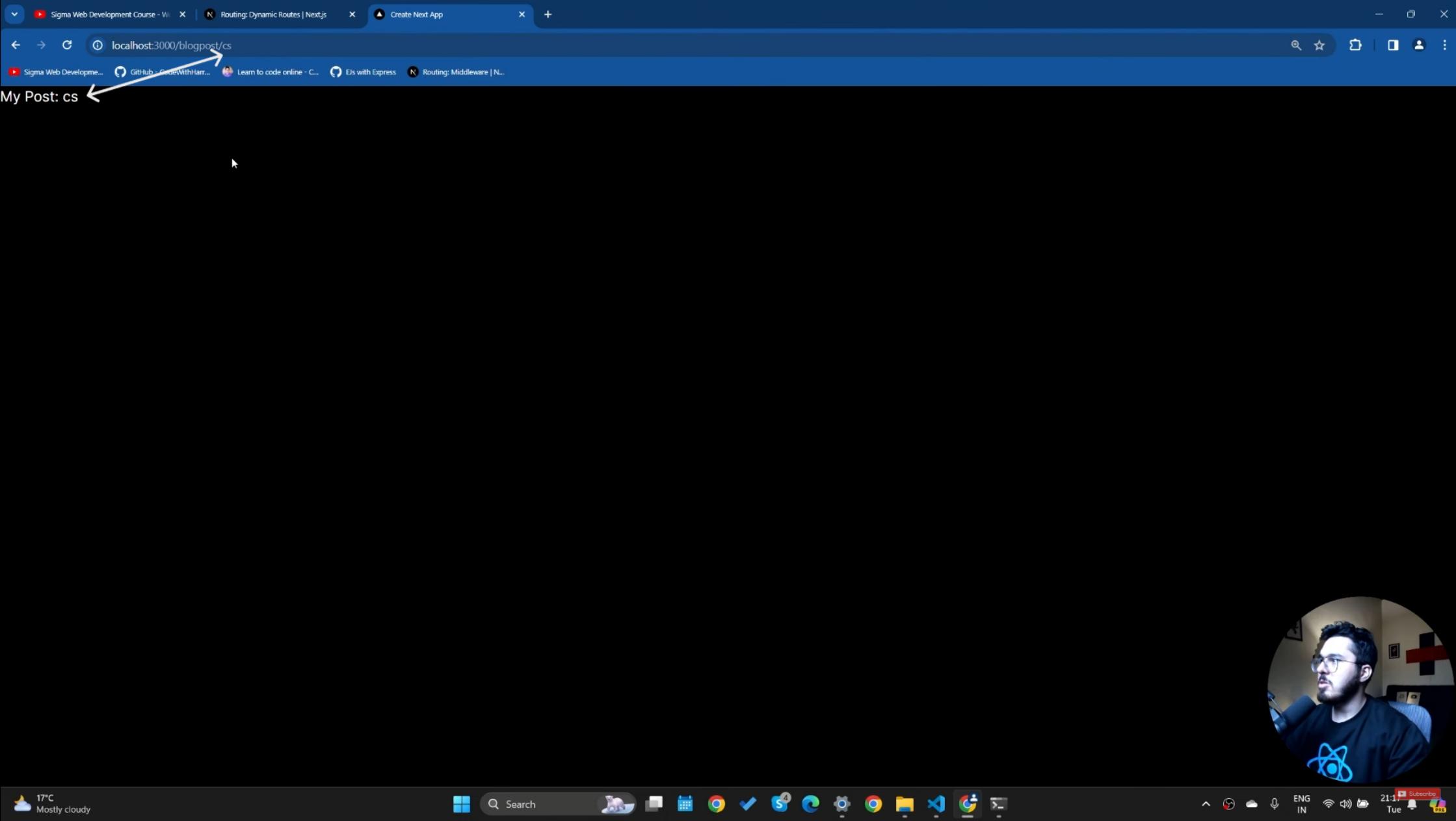
JS page.js ...\\blog

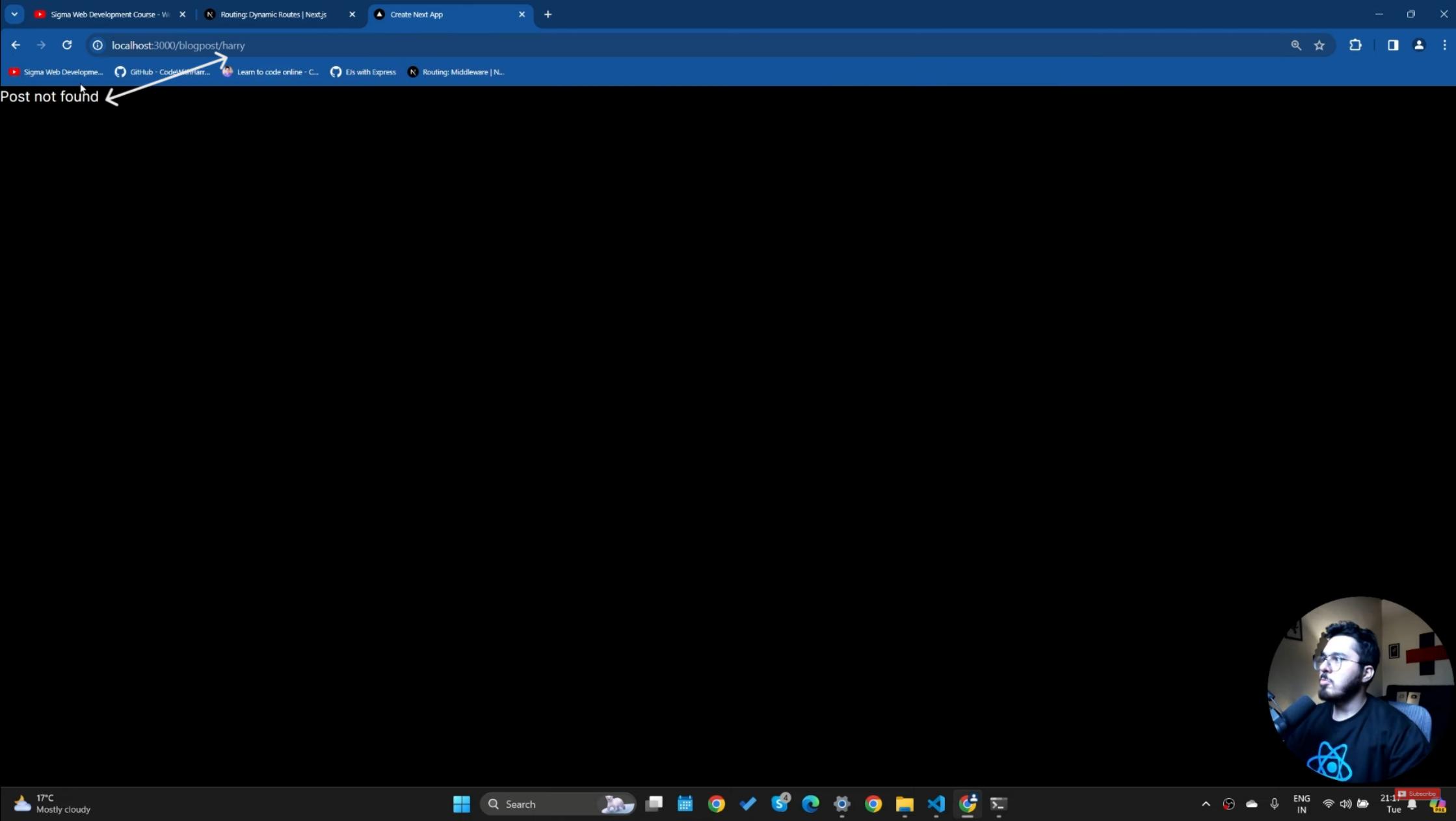
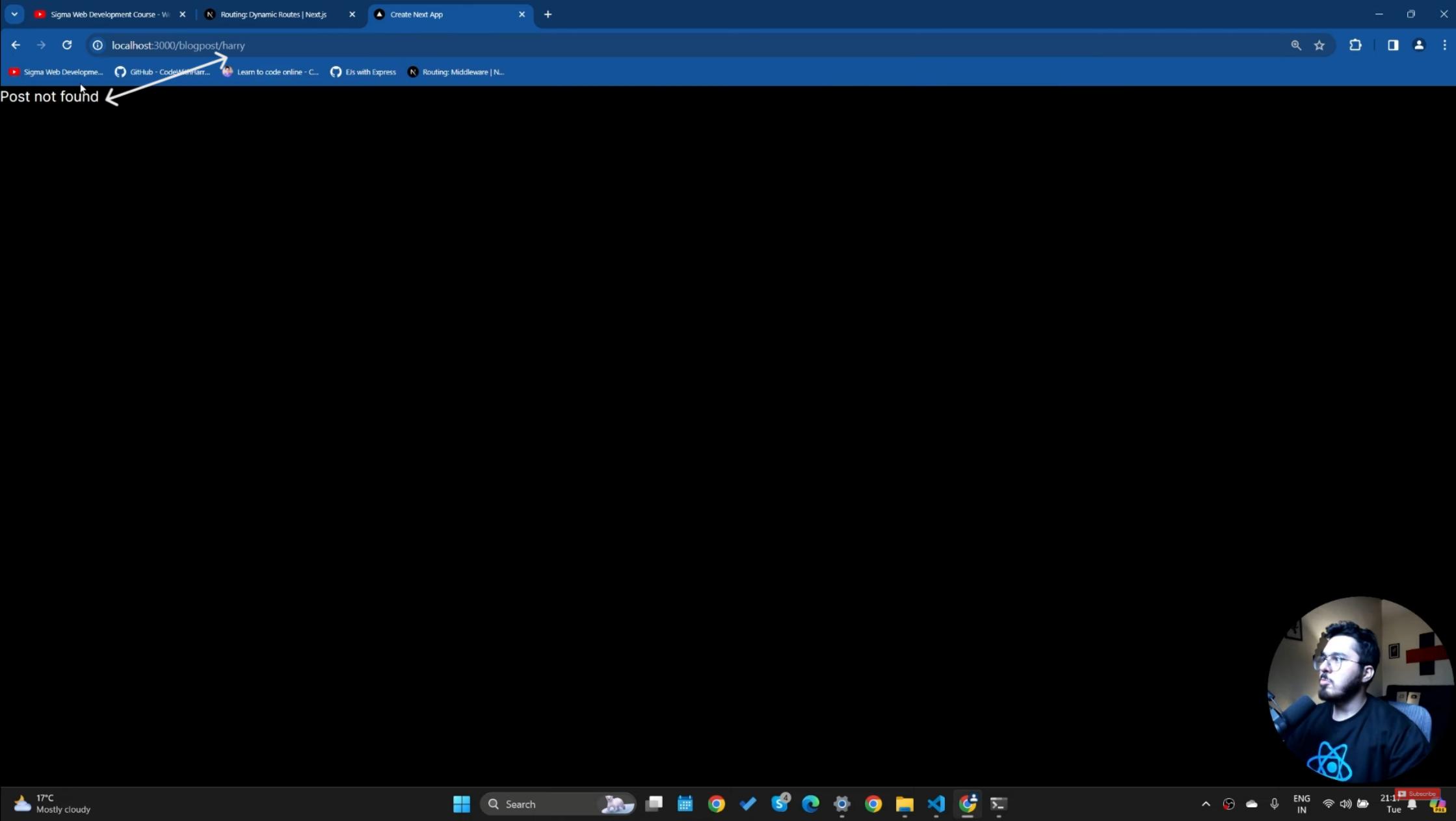
JS page.js ...\\[slug] X

app > blogpost > [slug] > JS page.js > Page > languages

```
1 export default function Page({ params }) {  
2     // fetch your blog post by its slug  
3     let languages = ["python", "javascript", "java", "cpp", "cs"]  
4     if(languages.includes(params.slug)){  
5         return <div>My Post: {params.slug}</div>  
6     }  
7     else{  
8         return <div>Post not found</div>  
9     }  
10    return <div>My Post: {params.slug}</div>  
11}
```







Sigma Web Development Course - W File Conventions: not-found.js | Next.js Create Next App

nextjs.org/docs/app/api-reference/file-conventions/not-found

Sigma Web Developme... GitHub - CodeWithHarr... Learn to code online - C... EJS with Express Routing: Middleware | N...

▲ / NEXT.js Showcase Docs Blog Analytics Templates Enterprise Search documentation... CtrlK Feedback Learn

Using App Router Features available in /app

App Router > ... > File Conventions > not-found.js

On this page

Props Data Fetching Version History

Edit this page on GitHub ↗

Getting Started

Installation Project Structure

Building Your Application

Routing

- Defining Routes
- Pages and Layouts
- Linking and Navigating
- Loading UI and Streaming
- Error Handling
- Redirecting
- Route Groups
- Project Organization
- Dynamic Routes
- Parallel Routes
- Intercepting Routes
- Route Handlers
- Middleware
- Internationalization

Data Fetching

Rendering

Caching

Styling

Optimizing

Configuring

Testing

not-found.js

The `not-found` file is used to render UI when the `notFound` function is thrown within a route segment. Along with serving a custom UI, Next.js will return a `200` HTTP status code for streamed responses, and `404` for non-streamed responses.

```
app/blog/not-found.js
```

```
1 import Link from 'next/link'
2
3 export default function NotFound() {
4   return (
5     <div>
6       <h2>Not Found</h2>
7       <p>Could not find requested resource</p>
8       <Link href="/">Return Home</Link>
9     </div>
10  )
11 }
```

Good to Know: In addition to catching expected `notFound()` errors, the root `app/not-found.js` file also handles any unmatched URLs for your whole application. This means users that visit a URL that is not handled by your app will be shown the UI exported by the `app/not-found.js` file.

## Props

`not-found.js` components do not accept any props.

## Data Fetching



17°C Mostly cloudy

Search

21:1 ENG IN

A screenshot of a code editor interface, likely VS Code, showing a file named `not-found.js` in the `app` directory of a Next.js project. The code defines a custom not-found page component.

```
import Link from 'next/link'

export default function NotFound() {
  return (
    <div>
      <h2>Not Found</h2>
      <p>Could not find requested resource</p>
      <Link href="/">Return Home</Link>
    </div>
  )
}
```

A large green handwritten annotation "Custom not-found" is overlaid on the bottom right of the code editor.

The Explorer sidebar on the left shows the project structure, including `blog`, `blogpost`, and `not-found.js`.

The status bar at the bottom displays file information: `Ln 11, Col 2`, `Spaces: 4`, `UTF-8`, `CRLF`, and `Java`.

System tray icons are visible at the bottom left, including weather, battery, and network status.

# Not Found

Could not find requested resource

[Return Home](#)



Sigma Web Development Course - W... X Routing: Error Handling | Next.js X Create Next App X +

nextjs.org/docs/app/building-your-application/routing/error-handling

Sigma Web Developme... GitHub - CodeWithHarr... Learn to code online - C... EJS with Express N Routing: Middleware | N...

**NEXT.js** Showcase Docs Blog Analytics Templates Enterprise

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**Using App Router** Features available in /app

**Getting Started**

- Installation
- Project Structure

**Building Your Application**

- Routing
  - Defining Routes
  - Pages and Layouts
  - Linking and Navigating
  - Loading UI and Streaming
  - Error Handling**
  - Redirecting
  - Route Groups
  - Project Organization
  - Dynamic Routes
  - Parallel Routes
  - Intercepting Routes
  - Route Handlers
  - Middleware
  - Internationalization
- Data Fetching
- Rendering
- Caching
- Styling
- Optimizing
- Configuring
- Testing

**On this page**

- How `error.js` Works
- Recovering From Errors
- Nested Routes
- Handling Errors in Layouts
- Handling Errors in Root Layouts
- Handling Server Errors
- Securing Sensitive Error Information

Next Steps

Edit this page on GitHub ↗

Scroll to top ⏹

**How `error.js` Works**

1 'use client' // Error components must be Client Components  
2  
3 import { useEffect } from 'react'  
4  
5 export default function Error({ error, reset }) {  
6 useEffect(() => {  
7 // Log the error to an error reporting service  
8 console.error(error)  
9 }, [error])  
10  
11 return (  
12 <div>  
13 <h2>Something went wrong!</h2>  
14 <button onClick={() => reset()}>  
15 // Attempt to recover by trying to re-render the segment  
16 () => reset()  
17 </button>  
18 >  
19 <p>Try again</p>  
20 </div>  
21 )  
22  
23 }  
24 }

A screenshot of a Microsoft Edge browser window showing a Next.js project in the Explorer sidebar and an error component code editor.

The browser address bar shows the URL: `dynamic-routes`.

The Explorer sidebar lists the project structure:

- DYNAMIC-ROUTES**
  - .next
  - app
    - blog
      - page.js
    - blogpost\[slug]
      - page.js
      - error.js** ← (highlighted)
  - favicon.ico
  - globals.css
  - layout.js
  - not-found.js
  - page.js
  - node\_modules
  - public
  - .eslintrc.json
  - .gitignore
  - jsconfig.json
  - next.config.mjs
  - package-lock.json
  - package.json
  - postcss.config.js
- OUTLINE
- TIMELINE
- TASK EXPLORER

The code editor displays the content of `error.js`:

```
app > JS error.js > Error
1  'use client' // Error components must be Client Components
2
3  import { useEffect } from 'react'
4
5  export default function Error({ error, reset }) {
6    useEffect(() => {
7      // Log the error to an error reporting service
8      console.error(error)
9    }, [error])
10
11  return (
12    <div>
13      <h2>Something went wrong!</h2>
14      <button
15        onClick={
16          () => reset()
17        }
18      >
19        Try again
20      </button>
21      </div>
22    )
23  }
24 }
```

Annotations:

- A red arrow points to the file `error.js` in the Explorer sidebar.
- A red arrow points to the `console.error(error)` line in the code editor.
- A red arrow points to the `onClick={() => reset()}` line in the code editor.
- A green handwritten note `On console` is placed next to the `console.error(error)` line.

The bottom right corner of the screen shows a video feed of a person with glasses and a beard.

System tray icons include: battery level (17°C), search, calendar, clock, gear, and network.

Bottom status bar: Ln 24, Col 2 | Spaces: 4 | UTF-8 | CRLF | Java | 21:22 | ENG IN | 21:22 | Subscri... | 17°C | Mostly cloudy | 21:22 | Tue | 21:22 | ENG IN | 21:22 | Subscri... | 17°C | Mostly cloudy

Sigma Web Development Course - W | Routing: Error Handling | Next.js | Create Next App

localhost:3000/blogpost/harry

Something went wrong!

Try again

1 error

268079 400 (Bad Request)

- ▶ GET http://localhost:3000/\_nextjs\_original-stack-frame?isServer=false&is stack-frame.js:38  
EdgeSe...p-page.runtime.dev.js&methodName=eZ&arguments=&lineNumber=35&column=268158 400 (Bad Request)
- ▶ GET http://localhost:3000/\_nextjs\_original-stack-frame?isServer=false&is stack-frame.js:38  
EdgeSe...p-page.runtime.dev.js&methodName=eH&arguments=&lineNumber=35&column=268559 400 (Bad Request)
- ▶ GET http://localhost:3000/\_nextjs\_original-stack-frame?isServer=false&is stack-frame.js:38  
EdgeSe...ev.js&methodName=Timeout.\_onTimeout&arguments=&lineNumber=35&column=265057 400 (Bad Request)
- ▶ GET http://localhost:3000/\_nextjs\_original-stack-frame?isServer=false&is stack-frame.js:38  
EdgeSe...p-page.runtime.dev.js&methodName=eJ&arguments=&lineNumber=35&column=264151 400 (Bad Request)
- ▶ GET http://localhost:3000/\_nextjs\_original-stack-frame?isServer=false&is stack-frame.js:38  
EdgeSe...ime.dev.js&methodName=%3Cunknon%3E&arguments=&lineNumber=35&column=276953 400 (Bad Request)
- ▶ GET http://localhost:3000/\_nextjs\_original-stack-frame?isServer=false&is stack-frame.js:38  
EdgeSe...ime.dev.js&methodName=Array\_toJSON&arguments=&lineNumber=35&column=281723 400 (Bad Request)
- ▶ GET http://localhost:3000/\_nextjs\_original-stack-frame?isServer=false&is stack-frame.js:38  
EdgeSe...ime.dev.js&methodName=%3Cunknon%3E&arguments=&lineNumber=35&column=268079 400 (Bad Request)
- ▶ GET http://localhost:3000/\_nextjs\_original-stack-frame?isServer=false&is stack-frame.js:38  
EdgeSe...p-page.runtime.dev.js&methodName=eZ&arguments=&lineNumber=35&column=268158 400 (Bad Request)
- ▶ GET http://localhost:3000/\_nextjs\_original-stack-frame?isServer=false&is stack-frame.js:38  
EdgeSe...p-page.runtime.dev.js&methodName=eH&arguments=&lineNumber=35&column=268559 400 (Bad Request)
- ▶ GET http://localhost:3000/\_nextjs\_original-stack-frame?isServer=false&is stack-frame.js:38  
EdgeSe...ev.js&methodName=Timeout.\_onTimeout&arguments=&lineNumber=35&column=265057 400 (Bad Request)

Uncaught

Uncaught

react-server-dom-web

redis

17°C Mostly cloudy

ENG IN

21.2 Tue

Subscribe



File Edit Selection View Go ... ⏪ ⏩ dynamic-routes

EXPLORER DYNAMIC-ROU... page.js ...\\blog page.js ...\\[slug] not-found.js error.js page.js ...\\[...val] X

app > about > [...val] > JS page.js > Page

```
1 export default function Page({ params }) {  
2   console.log(params) ←  
3   // fetch your blog post by its slug  
4   return <div>I am about page check console</div>  
5 }
```

Multiple parameters in a URL [...var]

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS node + ▾

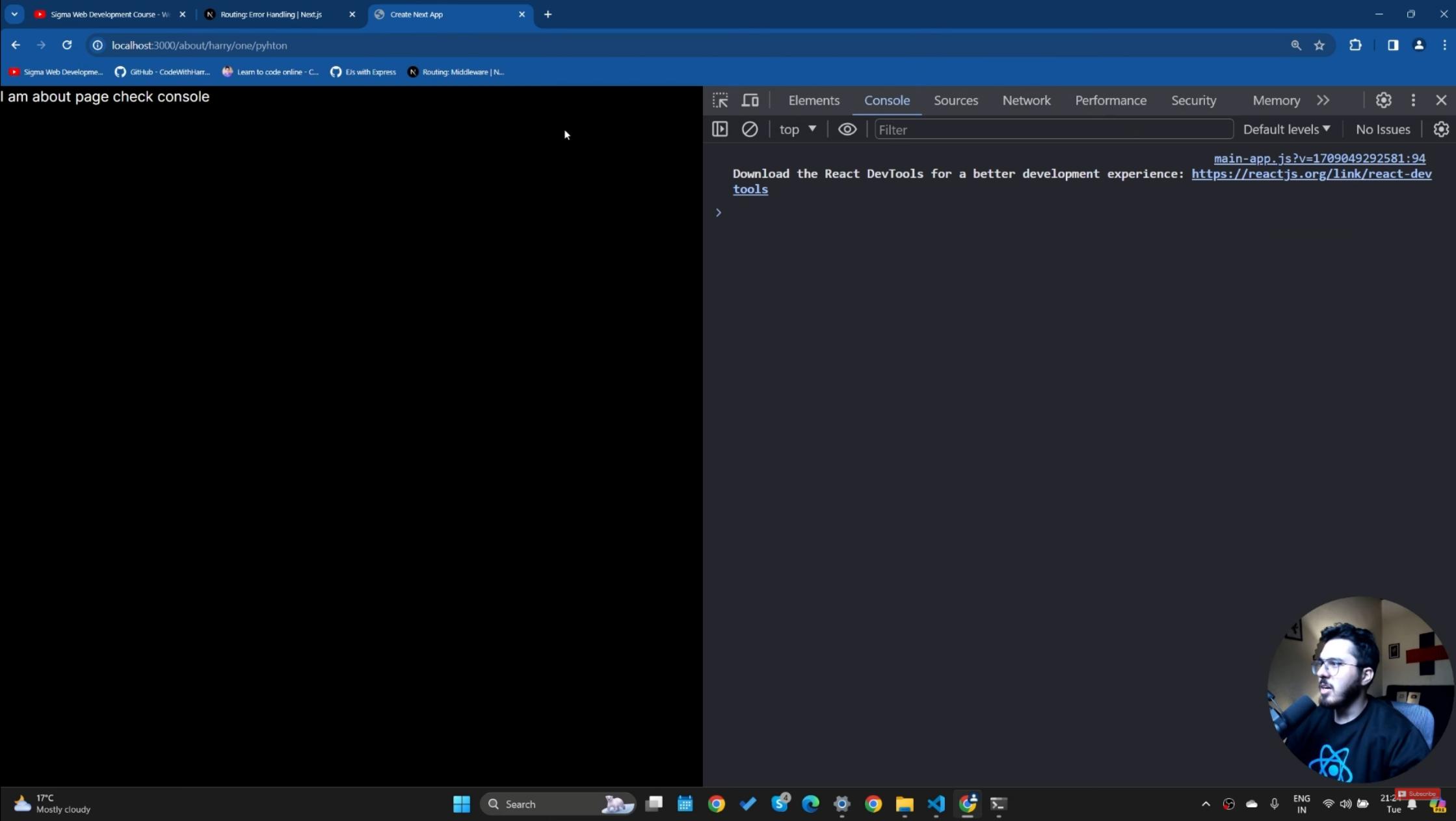
```
{ val: [ 'harry' ] }  
✓ Compiled in 147ms (671 modules)  
{ val: [ 'harry' ] }  
✓ Compiled in 170ms (671 modules)  
{ val: [ 'harry' ] }  
{ val: [ 'harry', 'one', 'python' ] } ← Output of next screenshot
```

Ln 4, Col 46 Spaces: 4 UTF-8 CRLF {} Java 17°C Mostly cloudy 21:22 ENG IN Subscrib...

17°C Mostly cloudy 21:22 ENG IN Subscrib...

Search

Windows Taskbar icons



I am about page check console

```
Elements Console Sources Network Performance Security Memory > | & X
| top | Default levels | No Issues | &
main-app.js?v=1709049292581:94
Download the React DevTools for a better development experience: https://reactjs.org/link/react-dev-tools
>
```



Gmail YouTube Subscriptions YouTube Live Twitter GitHub My Drive Rohan Das CodeWithHarry Dashboard CodesWear Admin Login - Code... Inbox | workwithhar... codewithharry (Harr... Prime Video All

# ▲ / NEXT.js

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## layout.js

 Using App Router  
Features available in /app

**Getting Started**

- Installation
- Project Structure

**Building Your Application**

- Routing >
- Data Fetching >
- Rendering >
- Caching
- Styling >
- Optimizing
- Configuring
- Testing >
- Authentication
- Deploying >
- Upgrading >

**API Reference**

- Components >
- File Conventions >

A layout is UI that is shared between routes.

app/dashboard/layout.tsx

```
1 export default function DashboardLayout({  
2   children,  
3 }: {  
4   children: React.ReactNode  
5 }) {  
6   return <section>{children}</section>  
7 }
```

TypeScript

On this page

Props

- children (required)
- params (optional)

Good to know

- Layouts do not receive searchParams
- Root Layouts

Version History

Edit this page on GitHub ↗

A root layout is the top-most layout in the root app directory. It is used to define the <html> and <body> tags and other globally shared UI.

app/layout.tsx

```
1 export default function RootLayout({  
2   children,  
3 }: {  
4   children: React.ReactNode  
5 }) {  
6   return (  
7     <html lang="en">  
8       <body>{children}</body>  
9     </html>  
10    )  
11  }
```

TypeScript

File Edit Selection View Go ... ← → 🔍 layouts

EXPLORER LAYOUTS

app favicon.ico globals.css JS layout.js JS page.js node\_modules public .eslintrc.json .gitignore jsconfig.json next.config.mjs package-lock.json package.json postcss.config.js README.md tailwind.config.js

JS page.js

app > JS page.js > Home

```
1 import Image from "next/image";
2
3 export default function Home() {
4   return (
5     <div className="hompage">
6       I am homepage
7     </div>
8   );
9 }
10
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

PS C:\Users\iitia\Downloads\Sigma Web Development Course\Sigma-Web-Dev-Course\Video 128\layouts> npm run dev

> layouts@0.1.0 dev  
> next dev

▲ Next.js 14.1.0  
- Local: <http://localhost:3000>

LN 7, Col 11 Spaces: 2 UTF-8 LF {} Java 20°C Cloudy BECOME A SIGMA WEB DEVELOPER @CodeWithHarry IN TU

decides the layout of pg.  
Contains the main content





EXPLORER

...

LAYOUTS

&gt; .next

&gt; app

favicon.ico

globals.css

JS layout.js

JS page.js

&gt; components

JS Footer.js

JS Navbar.js

&gt; node\_modules

&gt; public

.eslintrc.json

.gitignore

jsconfig.json

next.config.mjs

package-lock.json

package.json

postcss.config.js

README.md

tailwind.config.js

&gt; OUTLINE

&gt; TIMELINE

&gt; TASK EXPLORER

JS page.js

JS layout.js

JS Navbar.js

JS Footer.js

app &gt; JS layout.js &gt; ...

```
1 import { Inter } from "next/font/google";
2 import "./globals.css";
3 import Navbar from "@/components/Navbar";
4 import Footer from "@/components/Footer"; ← I
5
6 const inter = Inter({ subsets: ["latin"] });
7
8 export const metadata = {
9   title: "Facebook - Connect with friends and the world around you",
10  description: "Facebook is a social utility that connects people with
friends and others who work, study and live around them. People use
Facebook to keep up with friends, upload an unlimited number of
photos, post links and videos, and learn more about the people they
meet.",
11 };
12
13 export default function RootLayout({ children }) {
14   return (
15     <html lang="en">
16       <body className={inter.className}>
17         {children}
18       </body>

```

Ln 4, Col 14

Spaces: 2

UTF-8

LF

{}



EXPLORER ...

LAYOUTS

- > .next
- app
  - favicon.ico
  - globals.css
  - JS layout.js
  - JS page.js
- components
  - JS Footer.js
  - JS Navbar.js
- > node\_modules
- > public
  - .eslintrc.json
  - .gitignore
  - jsconfig.json
  - next.config.mjs
  - package-lock.json
  - package.json
  - postcss.config.js
  - README.md
  - tailwind.config.js

> OUTLINE

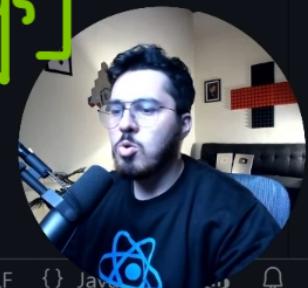
> TIMELINE

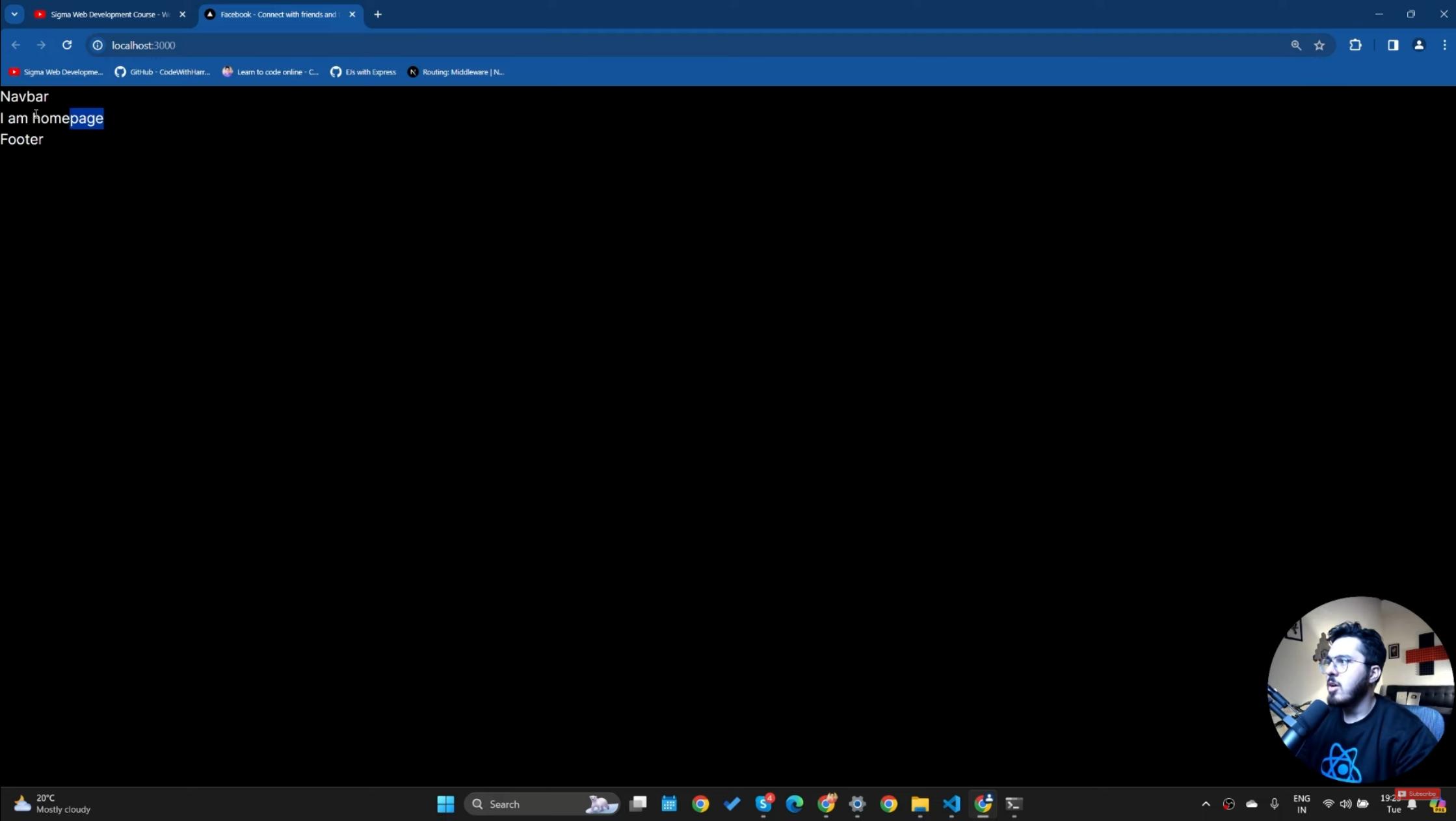
> TASK EXPLORER

JS page.js JS layout.js X JS Navbar.js JS Footer.js

```
app > JS layout.js > RootLayout
8 export const metadata = {
9   title: "Facebook - Connect with friends and the world around you",
10  description: "Facebook is a social utility that connects people with
friends and others who work, study and live around them. People use
Facebook to keep up with friends, upload an unlimited number of
photos, post links and videos, and learn more about the people they
meet.",
11 };
12
13 export default function RootLayout({ children }) {
14   return (
15     <html lang="en">
16       <body className={inter.className}>
17         <Navbar />
18         {children}
19         <Footer />
20       </body>
21     </html>
22   );
23 }
24 }
```

Looks for more nested  
layout.js [in diff. Page.js]  
(during file-based routing)





Navbar

I am homepage

Footer



File Edit Selection View Go ... ← → 🔍 layouts

EXPLORER LAYOUTS .js ... \about JS page.js ... \login JS page.js ... \logout JS page.js ... \comments JS layout.js ... \admin X JS Navba D ...

app > admin > JS layout.js > AdminLayout

```
8 title: "Admin: Facebook - Connect with friends and the world around you",
9 description: "Admin Page: Facebook is a social utility that connects people with friends and others who work, study and live around them. People use Facebook to keep up with friends, upload an unlimited number of photos, post links and videos, and learn more about the people they meet.",
10 };
11
12 export default function AdminLayout({ children }) {
13   return (
14     <>
15       <span>Admin Navbar</span>
16       {children}
17     </>
18   );
19 }
20 }
```

Nested 1 2

Emmet Abbreviation

Looks for 3

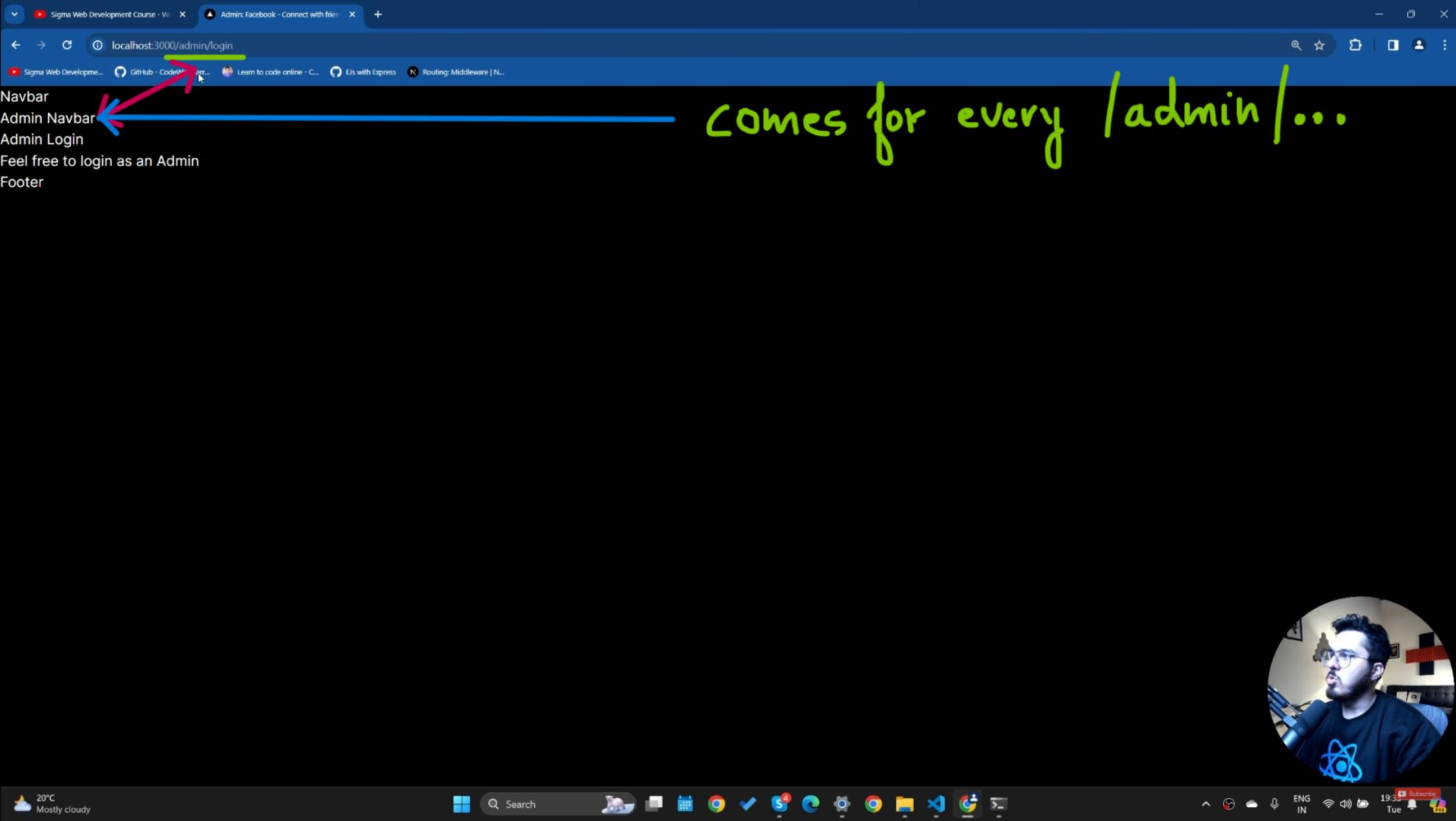
20°C Mostly cloudy

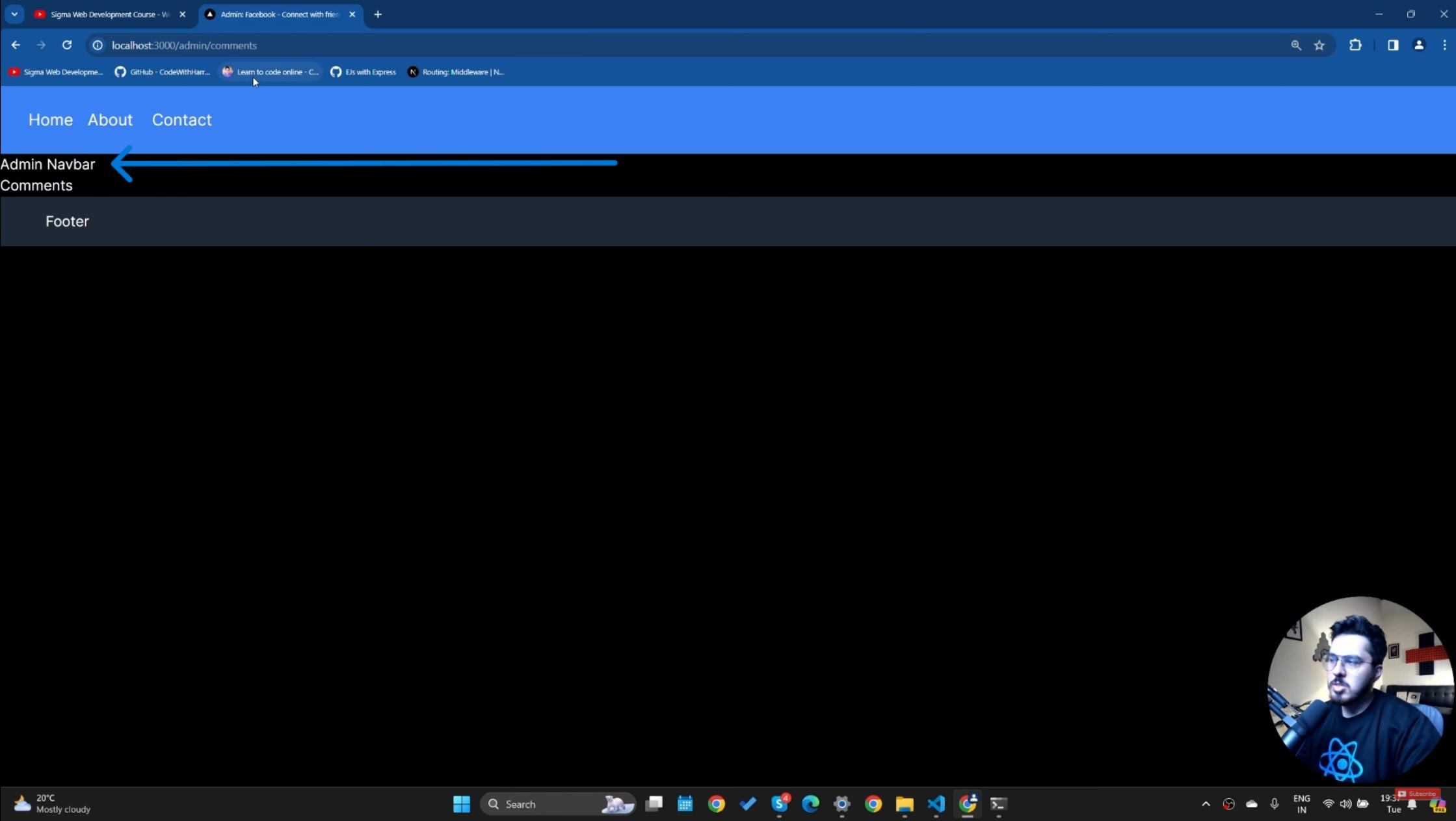
Search

LN 15, Col 24 Spaces: 4 UTF-8 CRLF {} Java

ENG IN 19:30 Subscr...

19:30 Tue





Sigma Web Development Course - W... Admin: Facebook - Connect with frien... +

localhost:3000/admin/comments

Sigma Web Developme... GitHub - CodeWithHarr... Learn to code online - C... EJS with Express Routing: Middlewares | N...

Home About Contact

Admin Navbar ←

Comments

Footer

20°C Mostly cloudy

Search

ENG IN

19:31

Subscribe

Atom

File Edit Selection View Go ... ← → layouts

EXPLORER LAYOUTS page.js ... \login page.js ... \logout page.js ... \comments layout.js ... \admin Navbar.js

JS page.js ... \login JS page.js ... \logout JS page.js ... \comments JS layout.js ... \admin X JS Navbar.js JS

app > admin > JS layout.js > AdminLayout

```
1 import { Inter } from "next/font/google";
2 import Navbar from "@/components/Navbar";
3 import Footer from "@/components/Footer";
4
5 const inter = Inter({ subsets: ["latin"] });
6
7 export const metadata = {
8   title: "Admin: Facebook - Connect with friends and the world around you",
9   description: "Admin Page: Facebook is a social utility that connects people with friends and others who work, study and live around them. People use Facebook to keep up with friends, upload an unlimited number of photos, post links and videos, and learn more about the people they meet.",
10 };
11
12 export default function AdminLayout({ children }) {
13   return (
14     <>
15       <span>Admin Navbar</span>
16       {children}
17     </>
18   );
19 }
20
```

grouping layout do not to add /admin/... in URL

1

20°C Mostly cloudy

Search

Ln 15, Col 24 Spaces: 4 UTF-8 CRLF {} Java

ENG IN 19:33 Subscrib

19:33 Tue

EXPLORER

LAYOUTS

- > .next
- ✓ app
  - > about
  - ✓ admin
    - > admincomments
    - > adminlogin
    - > adminlogout
- JS layout.js
- favicon.ico
- globals.css
- JS layout.js
- JS page.js
- ✓ components
  - JS Footer.js
  - JS Navbar.js
- > node\_modules
- > public
  - .eslintrc.json
  - .gitignore
  - JS jsconfig.json
  - Ν next.config.mjs

OUTLINE

TIMELINE

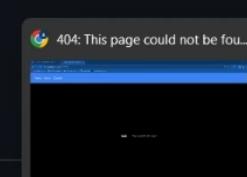
TASK EXPLORER

2

JS page.js ...\\adminlogin JS page.js ...\\adminlogout JS page.js ...\\admincomments JS layout.js ...\\admin

app > admin > JS layout.js > AdminLayout

```
1 import { Inter } from "next/font/google";
2 import Navbar from "@/components/Navbar";
3 import Footer from "@/components/Footer";
4
5 const inter = Inter({ subsets: ["latin"] });
6
7 export const metadata = {
8   title: "Admin: Facebook - Connect with friends and the world around you",
9   description: "Admin Page: Facebook is a social utility that connects people with
friends and others who work, study and live around them. People use Facebook to
keep up with friends, upload an unlimited number of photos, post links and videos,
and learn more about the people they meet.",
10 };
11
12 export default function AdminLayout({ children }) {
13   return (
14     <>
15       <span>Admin Navbar</span>
16       {children}
17     </>
18   );
19 }
```



Home About Contact:

Admin Navbar  
Comments

Footer

# Still Not-Solved



EXPLORER

LAYOUTS

3

- > .next
- > app
  - > (admin)
    - > admincomments
    - > adminlogin
    - > adminlogout
    - JS layout.js
  - > about
  - favicon.ico
  - globals.css
  - JS layout.js
  - JS page.js
- > components
  - JS Footer.js
  - JS Navbar.js
- > node\_modules
- > public
- .eslintrc.json
- .gitignore
- jsconfig.json
- next.config.mjs

OUTLINE

TIMELINE

TASK EXPLORER

JS page.js app JS layout.js JS page.js ...\\about JS Navbar.js X JS Footer.js

components > JS Navbar.js > [x] default

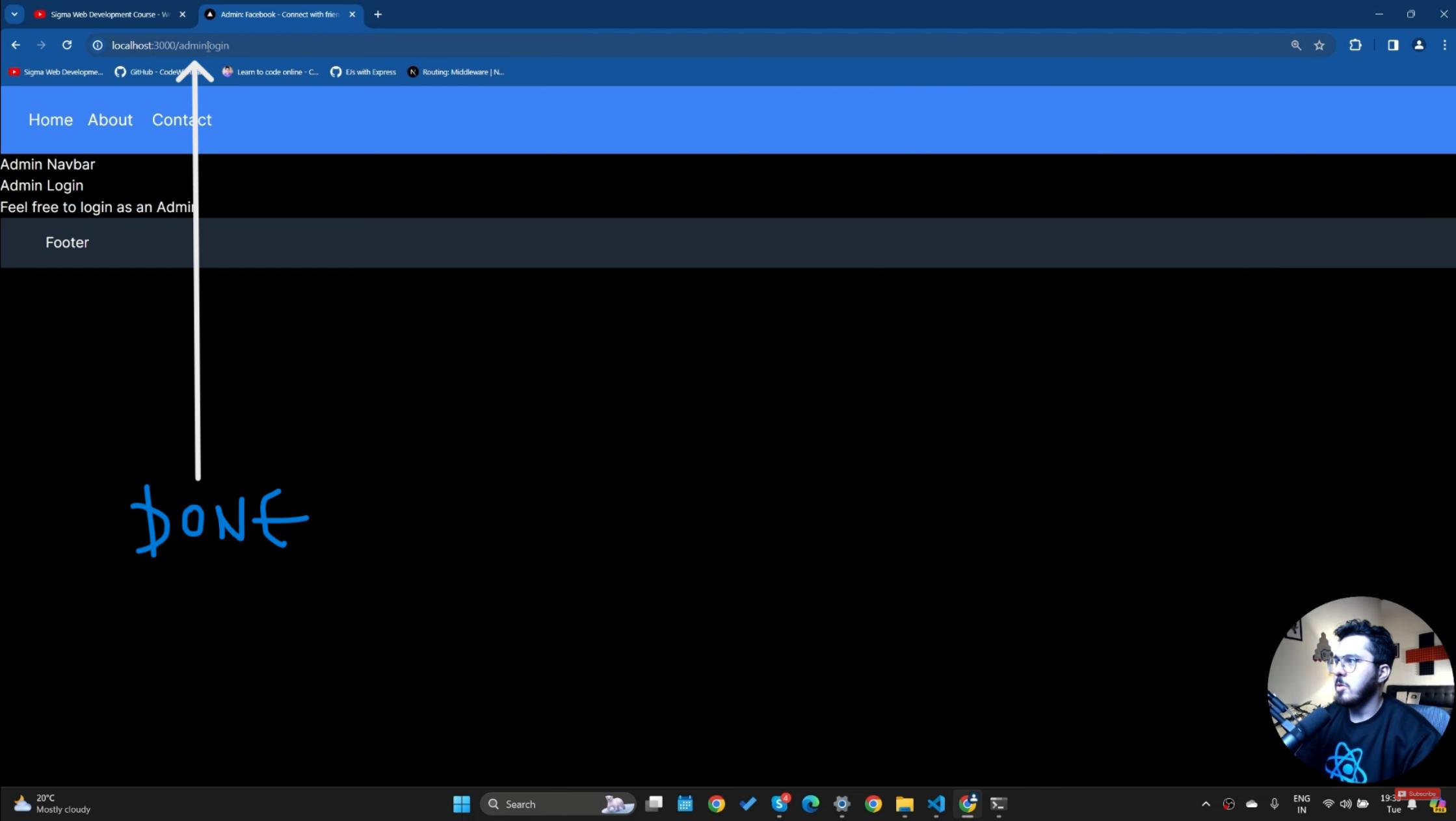
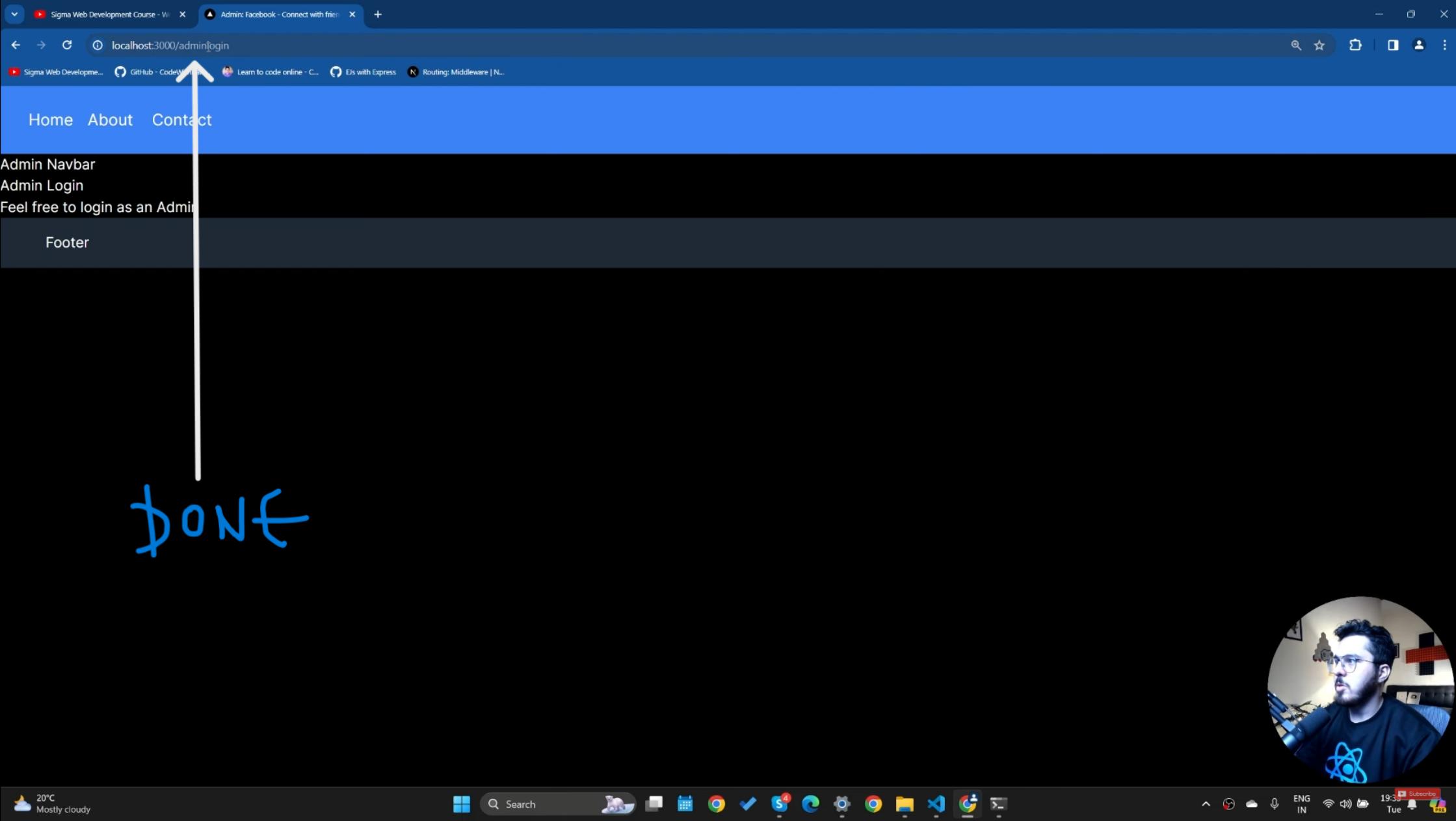
```
1 import Link from 'next/link'  
2  
3 const Navbar = () => {  
4     return (  
5         <nav className="flex items-center justify-between p-6 bg-blue-500">  
6             <div>  
7                 <Link className="text-white text-lg mx-2" href="/"> Home  
8             </Link>  
9                 <Link className="text-white text-lg mx-2" href="/about"> About  
10                </Link>  
11                <Link className="text-white text-lg mx-2" href="/contact"> Contact  
12                </Link>  
13            </div>  
14        </nav>  
15    )  
16}  
17 }  
18  
19 export default Navbar
```

(admin)

Now no need  
for /admin  
in url.

Also group layout.js for-all the  
pages inside admin.





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EXPLORER ...

LAYOUTS

- > .next
- ✓ app
  - ✓ (admin)
  - > admincomments
  - > adminlogin
  - ✓ adminlogout
    - JS layout.js **3**
    - JS page.js
    - JS layout.js **2**
  - > about
  - favicon.ico
  - globals.css
  - JS layout.js **1**
  - JS page.js- ✓ components
  - JS Footer.js
  - JS Navbar.js
- > node\_modules
- > public
- .eslintrc.json
- .gitignore
- > OUTLINE
- > TIMELINE
- > TASK EXPLORER

layout.js app JS page.js ...\\about JS Navbar.js JS layout.js ...\\(admin) JS layout.js ...\\adminlogout X

```
app > (admin) > adminlogout > JS layout.js > AdminLayout
  keep up with friends, upload an unlimited number of photos, post links and videos,
  and learn more about the people they meet." ,  
10  };  
11  
12  export default function AdminLayout({ children }) {  
13    return (  
14      <>  
15        <span>Logout Navbar</span>  
16        {children}  
17      </>  
18    );  
19  }  
20
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS node + □ ✖ ... ^ X

```
at async Promise.all (index 0)
at async Promise.all (index 0)
at async Promise.all (index 0)
digest: "3849286248"
✓ Compiled in 147ms (564 modules)
✓ Compiled /favicon.ico in 66ms (325 modules)
✓ Compiled in 167ms (592 modules)
```

Ln 14, Col 8 Spaces: 4 UTF-8 CRLF {} Java

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Home About Contact

Admin Navbar Logout Navbar

Logout

Footer

2 3

1



Sigma Web Development Course - W | Logout

Functions: generateMetadata | Next.js

nextjs.org/docs/app/api-reference/functions/generate-metadata

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# Metadata Object and generateMetadata Options

This page covers all **Config-based Metadata** options with `generateMetadata` and the static metadata object.

```
layout.js | page.js JavaScript
1 // either Static metadata
2 export const metadata = {
3   title: '...',
4 }
5
6 // or Dynamic metadata
7 export async function generateMetadata({ params }) {
8   return {
9     title: '...',
10   }
11 }
```

**Good to Know:**

- The `metadata` object and `generateMetadata` function exports are **only supported in Server Components**.
- You cannot export both the `metadata` object and `generateMetadata` function from the same route segment.

## The `metadata` object

To define static metadata, export a `Metadata` object from a `Layout.js` or `page.js` file.

```
layout.js | page.js JavaScript
1 export const metadata = {
2   title: '...',
3   description: '...',
```

On this page

- The metadata object
- generateMetadata function
- Parameters
- Returns
- Metadata Fields
  - title
    - String
    - Template object
    - Default
    - Template
    - Absolute
  - description
  - Basic Fields
  - metadataBase
    - Default value
    - URL Composition
  - openGraph
  - robots
  - icons
  - themeColor
  - manifest
  - twitter
  - viewport
  - verification

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ADMIN LOGIN

Feel free to login as an Admin

```
5      <div>
6          Admin Login
7          <p>Feel free to login as an Admin</p>
8      </div>
9  )
10 }
11
12 export default page
13
14
15 // or Dynamic metadata
16 export async function generateMetadata({ params }) {
17     return {
18         title: 'AdminLogin Facebook - Connect with friends and the world around you',
19     }
20 }
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

✓ Compiled /favicon.ico in 66ms (325 modules)  
✓ Compiled in 167ms (592 modules)  
✓ Compiled in 249ms (559 modules)  
✓ Compiled in 218ms (559 modules)  
✓ Compiled in 131ms (559 modules)  
✓ Compiled in 139ms (559 modules)  
✓ Compiled in 124ms (559 modules)



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Admin Navbar

Admin Login

Feel free to login as an Admin

Footer

