

TANTRANIKETAN

# REACT Workshop

Introduction and Interfacing

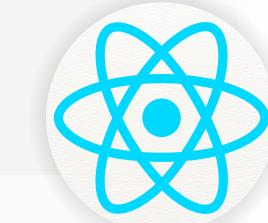


DATE

January

17 / 18 / 20

2025



Presented By : KS





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# About :

Tantraniketan is a dynamic educational startup aimed at advancing technological education and fostering innovation among learners of all age groups. With a focus on practical training and hands-on projects, it bridges the gap between theoretical concepts and real-world applications, empowering individuals to drive technological innovation.



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# WEBSITE LOGIN



**Create an account**

Full Name

Kshitij Sawant

Email Address

kshitij@gmail.com

Mobile Number

9820758330

Password

.....

Confirm Password

.....

Date of Birth

dd/mm/yyyy



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## Confirm Your Details

Name	Email
Kshitij Sawant	kshitij@gmail.com
Password	Confirm Password
.....	.....
Mobile	Date Of Birth
9820758330	2025-02-06
Gender	Address
male	Address
College Name	University Name
Thakur Polytechnical	State University
Degree Program	Year Of Study
IF	2
Country	Has Computer
India	yes

Edit Details

Confirm & Submit



Workshops

## Welcome, Kshitij Sawant

Track your workshop progress and access your certificates.

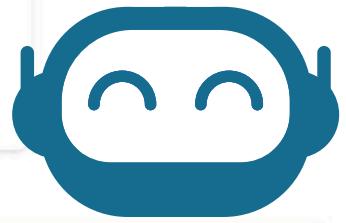
### My Workshops

Completed

Arduino & Sensor

Batch: IF Batch1  
Started on: February 11, 2025

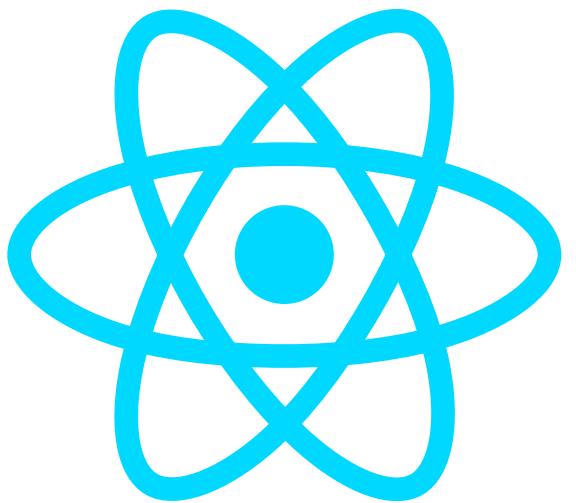
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# Let's Guess Logos



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Facebook



Shopify



Pinterest



Uber



Stack Overflow



Discord

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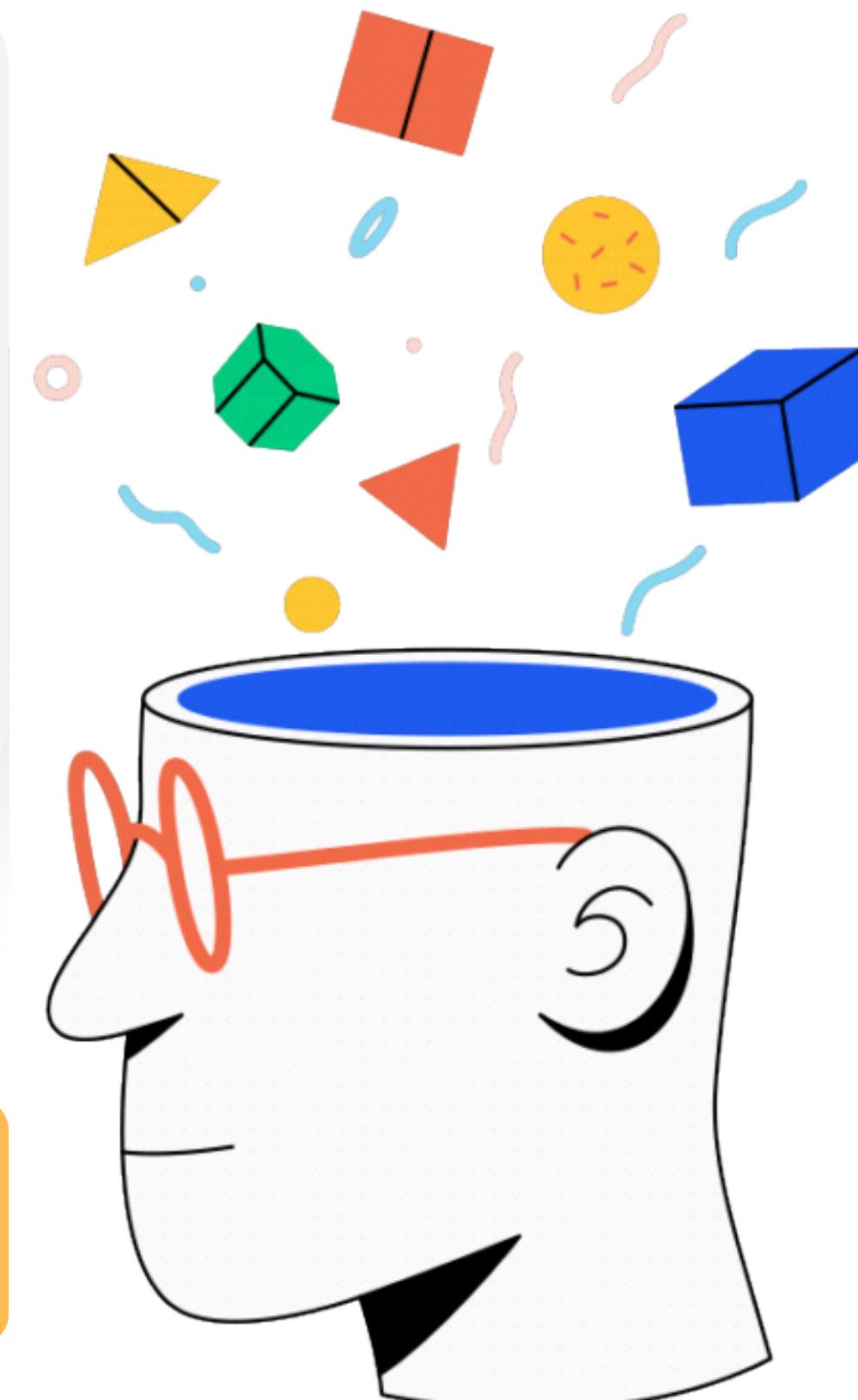
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# What is REACT

- React (or React.js) is an open-source JavaScript library developed by Facebook.
- Launched in 2013, React revolutionized UI development.
- React is designed to build reusable UI components that efficiently render dynamic content.
- Unlike traditional **MVC (Model-View-Controller)** frameworks, React adopts a component-based architecture.



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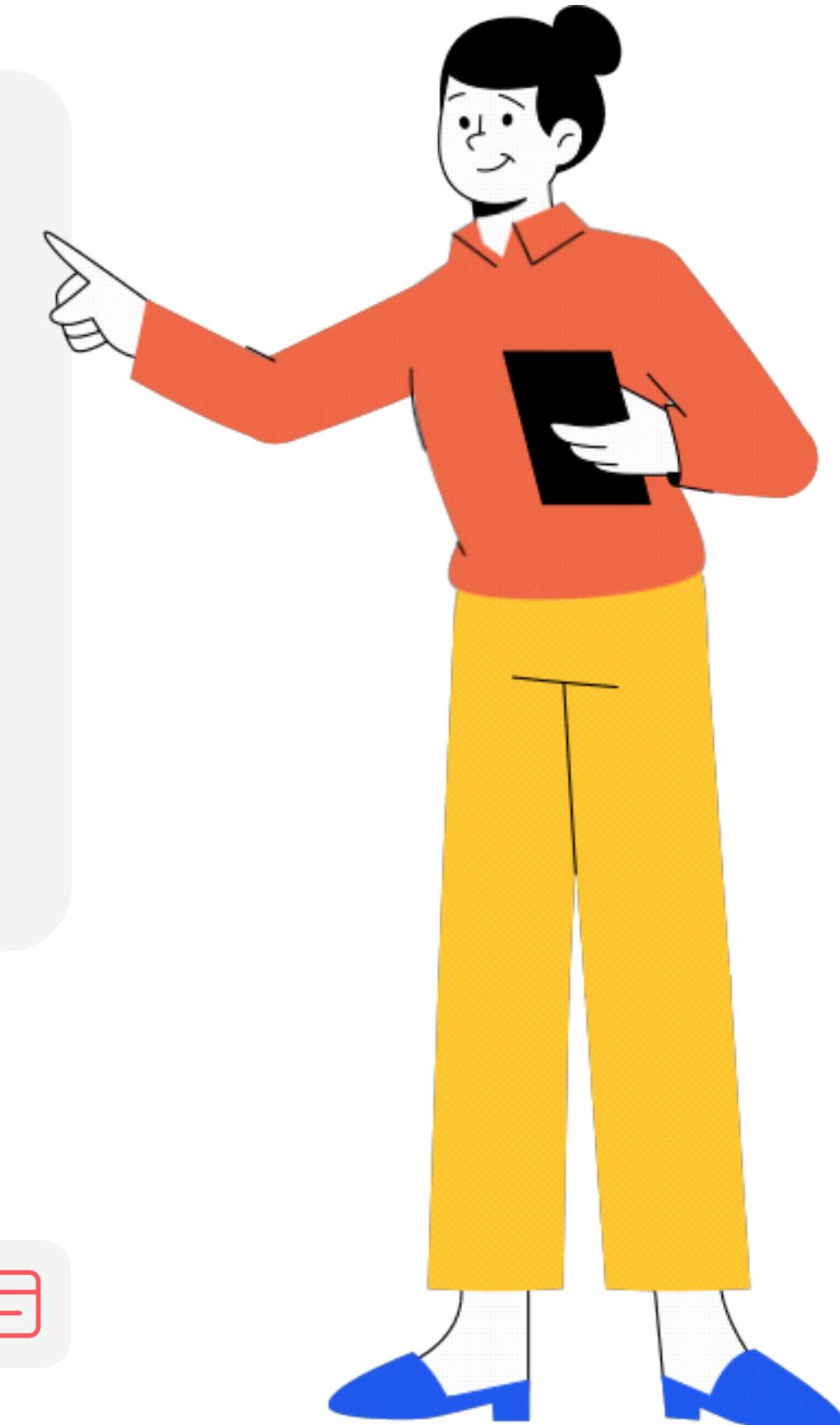
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# Back-Story

- The Problem:
  - Facebook's News Feed needed real-time updates without performance issues.
  - Traditional JavaScript (jQuery, Vanilla JS) caused slow UI updates.
- The Solution:
  - React introduced the Virtual DOM to enhance performance.
  - Component-based architecture made UI development modular and scalable.



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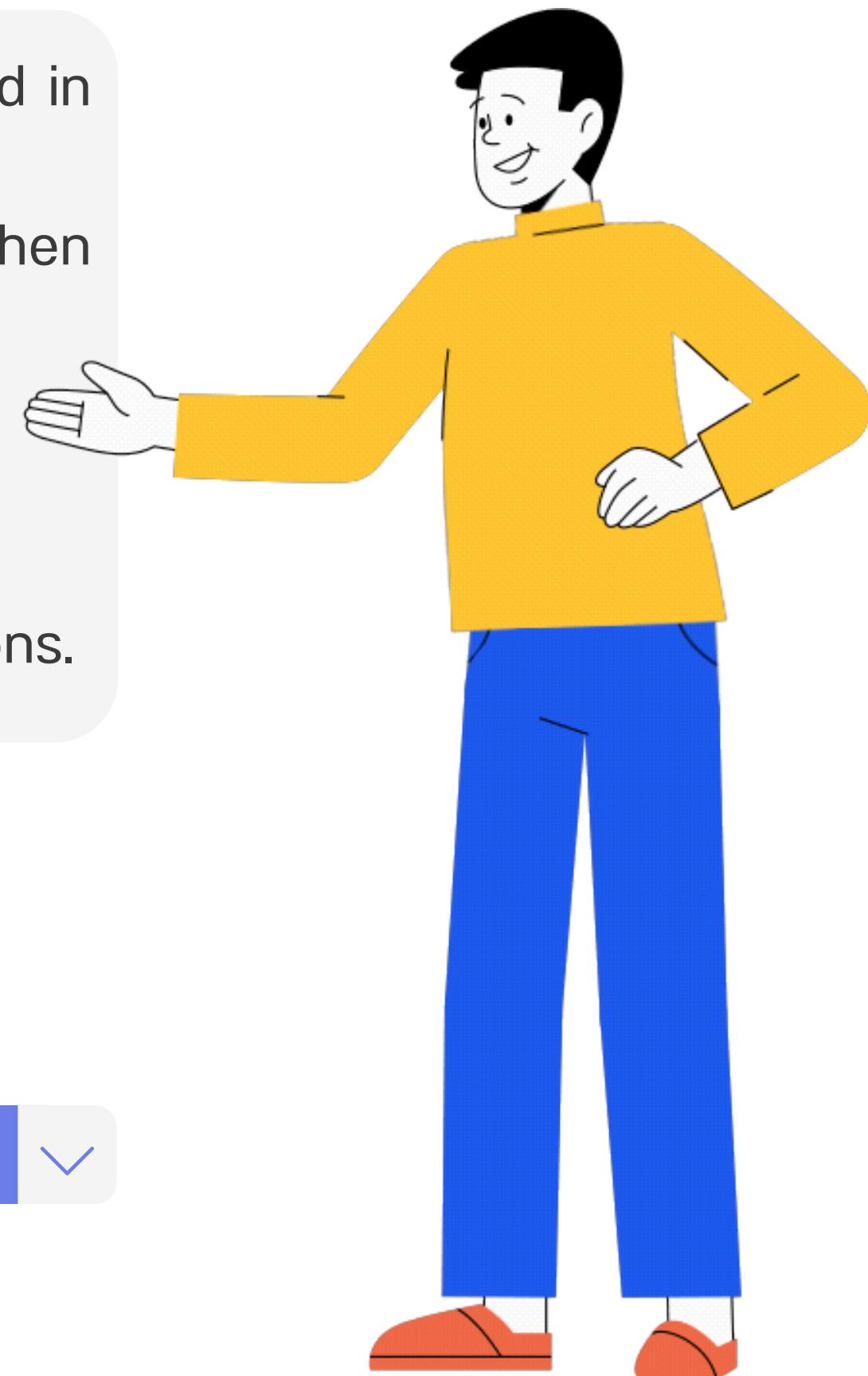
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# Virtual DOM

- Virtual DOM is a lightweight copy of the actual DOM stored in memory.
- When data changes, React updates the Virtual DOM first, then efficiently updates the actual DOM.
- How it improves performance:
  - **Traditional DOM** : Re-renders the entire UI.
  - **Virtual DOM** : Updates only the changed elements.
  - **Result** : Faster, smoother performance in large applications.



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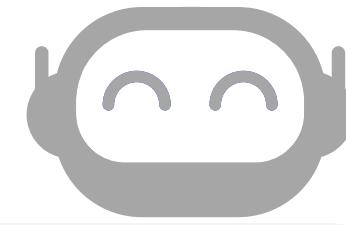
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# Advantage :

- **Component-Based Architecture :**
  - Break UIs into small, reusable pieces (e.g., a Button or Navbar component).
  - Increases code maintainability and reduces duplication.
- **Virtual DOM :**
  - React tracks changes in the UI and updates only what's necessary.
  - Ensures faster rendering for complex, dynamic apps.
- **Developer Experience :**
  - Hot reloading for real-time changes.
  - Easy to debug using browser extensions (React DevTools).
- **Ecosystem :**
  - Rich libraries (e.g., Material-UI for styling).
  - Works seamlessly with Node.js and MongoDB for full-stack development.



# Difference



Feature	Vite 🚀	Next.js 🌐	CRA 🚧	Parcel 📦
<b>Performance</b>	⚡ Super fast (ESM)	🚀 Optimized (SSR)	🐢 Slow (Webpack)	⚡ Fast (Zero-config)
<b>Setup Speed</b>	🔥 Instant setup	⚠ Slower (Full-stack)	🐢 Slow setup	🚀 Fast auto-detect
<b>Build Time</b>	⚡ Very fast (SWC)	🏆 Faster than CRA	🐢 Slow builds	⚡ Optimized
<b>Best For</b>	✓ SPAs, small-medium apps	✓ Full-stack, SEO	✓ Basic SPAs	✓ Quick prototyping
<b>Routing</b>	✗ Needs React Router	✓ Built-in routing	✗ Needs React Router	✗ Needs React Router
<b>Learning Curve</b>	✓ Easy for beginners	⚠ Steeper (Full-stack)	✓ Beginner-friendly	✓ Beginner-friendly

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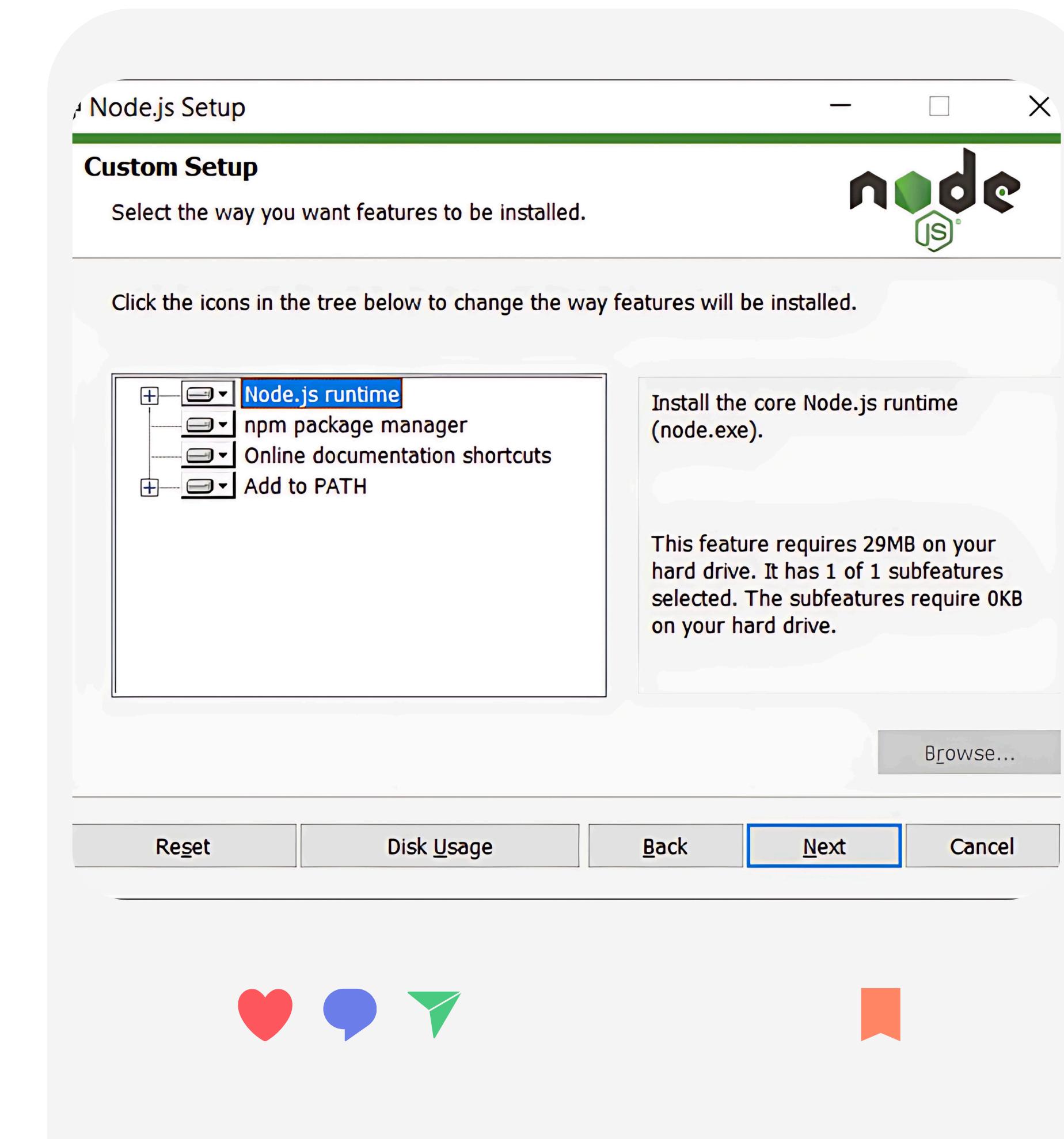
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## Command :

- node -v
- npm -v

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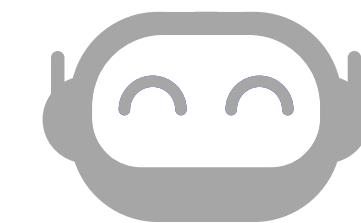
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```
● kshitijksawant@KSHITIJs-MacBook-Pro React Basic Workshop % npm create vite@latest portfolio-webpage --template react
> npx
> create-vite portfolio-webpage react
✓ Select a framework: > React
✓ Select a variant: > JavaScript
Scaffolding project in /Users/kshitijksawant/Programs/React Basic Workshop/portfolio-webpage...
Done. Now run:
cd portfolio-webpage
npm install
npm run dev
● kshitijksawant@KSHITIJs-MacBook-Pro React Basic Workshop % cd portfolio-webpage
● kshitijksawant@KSHITIJs-MacBook-Pro portfolio-webpage % npm install
added 260 packages, and audited 261 packages in 12s
108 packages are looking for funding
  run `npm fund` for details
found 0 vulnerabilities
● kshitijksawant@KSHITIJs-MacBook-Pro portfolio-webpage % npm run dev
> portfolio-webpage@0.0.0 dev
> vite
VITE v6.1.0 ready in 281 ms
→ Local: http://localhost:5173/
→ Network: use --host to expose
→ press h + enter to show help
^C
● kshitijksawant@KSHITIJs-MacBook-Pro portfolio-webpage %
```



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## **Command :**

- npm create vite@latest app-name --template react
- Select - React
- Select - JavaScript
- cd app-name
- npm install
- npm run dev
- npm install react-icons



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# Running Scripts is Disabled :

- Right-click on Windows PowerShell and select "Run as administrator".
- Get-ExecutionPolicy -List
- Set-ExecutionPolicy -Scope Process -ExecutionPolicy Bypass
- npm -v



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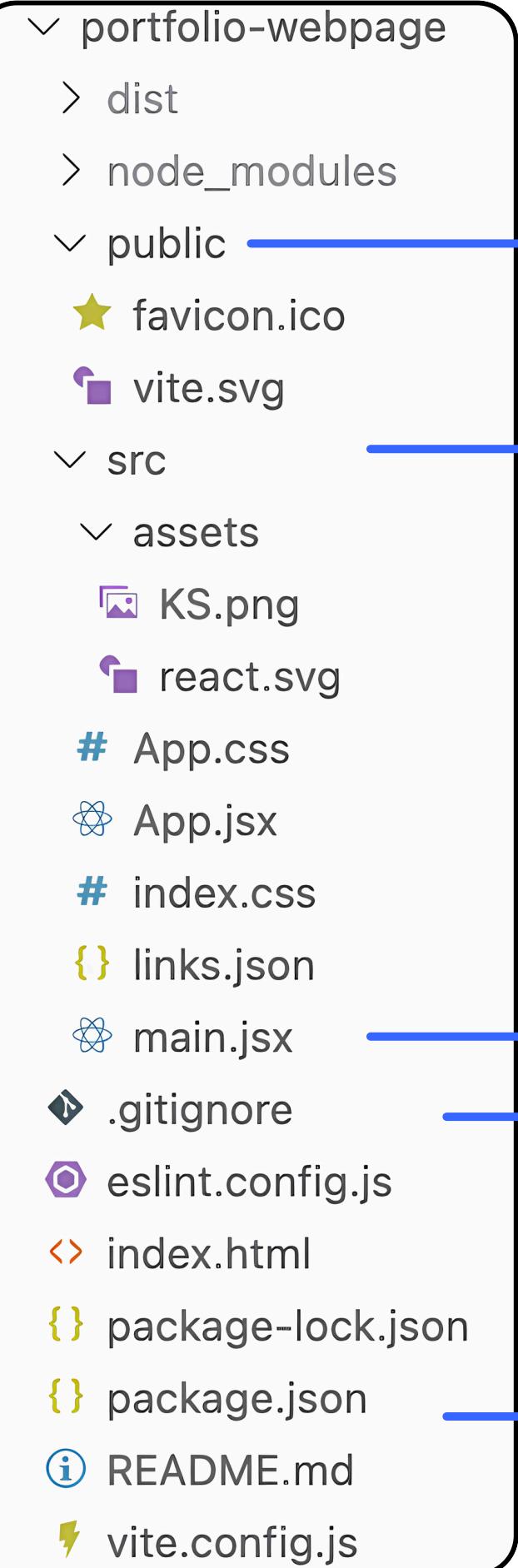
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## Public Static Assets

File	Purpose
src/App.jsx	The main React component that structures your portfolio.
src/main.jsx	The entry point of the app, rendering App.jsx into index.html.
src/App.css	Styles specific to App.jsx.
src/index.css	Global CSS styles applied throughout the project.

## Core Project Files

# File Directory

# Index.html Update

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```
<> index.html <  
portfolio-webpage > <> index.html > html > body > div#root  
1  <!doctype html>  
2  <html lang="en">  
3    <head>  
4      <meta charset="UTF-8" />  
5      <link rel="icon" type="image/png" href="/favicon.ico" /> <!-- Change Favicon -->  
6      <meta name="viewport" content="width=device-width, initial-scale=1.0" />  
7      <title>Portfolio – KS</title>  
8    </head>  
9    <body>  
10   <div id="root"></div>  
11   <script type="module" src="/src/main.jsx"></script>  
12 </body>  
13 </html>  
14
```

# Links.json

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```
{} links.json ×  
portfolio-webpage > src > {} links.json > ...  
1 [  
2 {  
3   "name": "Let's Connect on LinkedIn",  
4   "url": "https://www.linkedin.com/in/kshitijksawant/"  
5 },  
6 {  
7   "name": "Explore My GitHub Projects",  
8   "url": "https://github.com/KshitijSawant1"  
9 },  
10 {  
11   "name": "Get connected on Instagram",  
12   "url": "https://www.instagram.com/"  
13 },  
14 {  
15   "name": "Explore Creativity on Pinterest",  
16   "url": "https://www.pinterest.com/"  
17 }  
18 ]  
19
```

This file is a JSON  
**( JavaScript Object Notation )**  
data structure that stores an  
array [ ] of objects { }.

# Importing Dependencies

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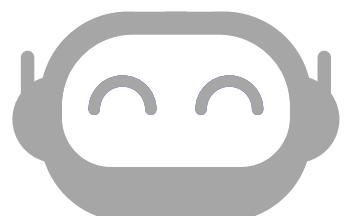
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```
App.jsx  X  
portfolio-webpage > src > App.jsx > App  
1 import React from "react";  
2 import "./App.css";  
3 import links from "./links.json"; // Import the links  
4 import { FaEnvelope, FaWhatsapp, FaGithub, FaLinkedin, FaSpotify } from "react-icons/fa";  
5 import profileImage from "./assets/KS.png"; // Ensure your image is in /assets/  
6
```

- React → Needed to create functional components.
- App.css → Stylesheet for designing the page.
- links.json → Imports social & professional links dynamically.
- React Icons (FaEnvelope, FaWhatsapp, etc.) → Icons for contacts.
- Profile Image → Imported from the assets folder.



# App Component & Header Section

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```
7  function App() {
8    return (
9      <div className="app">
10        <header className="header">
11          <img src={profileImage} alt="Profile" className="profile-img" />
12          <h1>KSHITIJ K SAWANT</h1>
13          <p>Tech Enthusiast | AI & Data Science Student | Developer</p>
```

Defines the App component which renders the entire webpage.

- Displays profile image, name, and tagline.
- alt="Profile" → Ensures accessibility in case the image doesn't load.

# Social Media & Contact Icons

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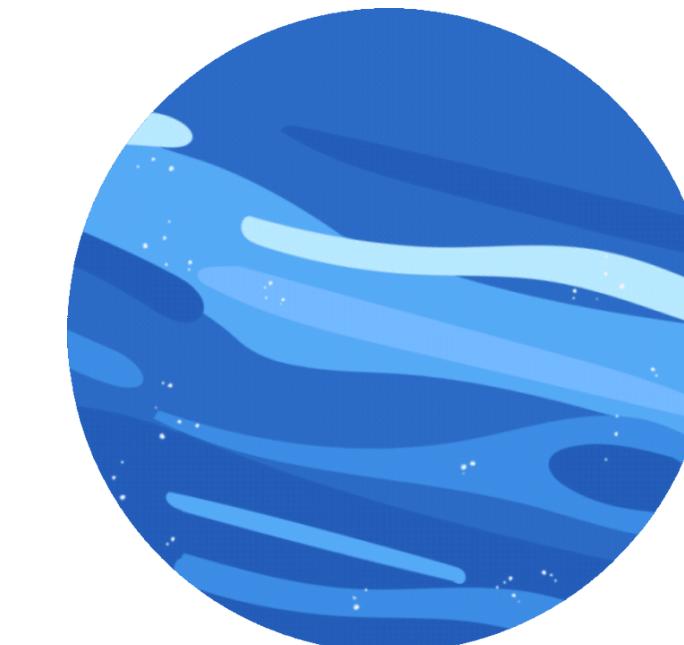
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```
19   <div className="icons">
20     <a
21       href="mailto:sawantkshitij1@gmail.com" ...
22     >
23       <FaEnvelope size={24} />
24     </a>
25     <a
26       href="https://www.google.com/"
27         target="_blank"
28         rel="noopener noreferrer"
29     >
30       <FaGithub size={24} />
31     </a>
32     <a ...>
33     </a>
34   >
35   <a ...>
36   </a>
37   <a ...>
38   </a>
39   <a ...>
40   </a>
41   >
42   <a ...>
43   </a>
44   <a ...>
45   </a>
46   <a ...>
47   </a>
48   >
49   <a ...>
50   </a>
51   <a ...>
52   </a>
53   <a ...>
54   </a>
55   </div>
56 </header>
```

- **Displays social media/contact icons:** (Email, WhatsApp, GitHub, LinkedIn, Spotify).
- **Opens links in a new tab:** (target="\_blank").
- **Security feature:** (rel="noopener noreferrer") prevents security vulnerabilities.



# Dynamic Tech Presence Section:

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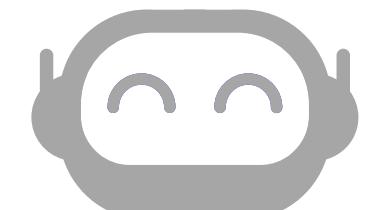
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```
57  <main className="links">
58    <h2>
59      Tech Presence
60    </h2>
61    {links.map((links, index) =>
62      <div className="link-card" key={index}>
63        <a href={links.url} target="_blank" rel="noopener noreferrer">{links.name}</a>
64      </div>
65    )}
66  </main>
```

- Dynamically generates links from links.json.
- map() iterates over each item in links.json:
- Wraps it inside a div (.link-card).
- Displays the link text (name) and URL (url).
- Each link opens in a new tab.
- **map() function:** Iterates over an array and returns a new array with transformed elements.
- **Arrow function (=>):** A concise way to write functions in JavaScript.



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# Command : npm run build



Netlify Drop



Drag and drop your site  
output folder here.

Or, [browse to upload](#).

## Drag & drop. It's online.

Drop a folder with your site's HTML, CSS, and JS files.  
We'll give you a link to share it.

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thank

you

The Part of the Journey is the End  
-Tony Stark

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