



Episode 3 - Laying the Foundation

Create script to start build of npx parcel index.html

In package.json , in "script" write

```
"start": "parcel index.html",
"build": "parcel build index.html"
```

In Dev Mode

Production Mode

To start it:

In terminal,

→ npm run start / npm start

To build it :

In terminal

→ npm run build

Remove React code from App.js

React.createElement is an object
render() will convert Object into HTML

What is JSX ?

It is a JavaScript syntax which is easier to create React elements.
It makes developer life easy.

** JSX is not a part of React, is not HTML inside Js. JSX is HTML like Syntax or XML like syntax JS Engine will not understand JSX cuz it understands ECMAScript.

Eg Using JSX

```
const jsxHeading = <h1> Namaste React </h1>
```

↓
React Element

↓
JSX

This is not pure HTML or Pure Js. This is JSX.

Eg Using Pure React

```
const heading = React.createElement("h1",
  { id: "heading" },
  "Namaste React"
);
```

** But still this is running on the screen.
This is done by Parcel.

Parcel transpiler all this code before it goes to JS Engine. Then JS Engine receives the code that browsers can understand

Transpile → Converted such that browser can understand

Parcel gives the responsibility of transpilation to babel.

Babel is a package which is compiler / transpiler of Js. It takes JSX and convert it into the code which browsers understands. It is a library not created by Facebook.



JSX \Rightarrow React.createElement \Rightarrow ReactElement \Rightarrow JS Object \Rightarrow HTML Element (render)

Transpiled by Babel

render() will replace everything present in HTML file (if any)

If writing JSX in multiple lines then () are mandatory. To tell Babel where is JSX starting & ending.

// Code

```
import React from "react";
import ReactDOM from "react-dom/client"
```

//React Element

```
const jsxHeading = (
  <h1 className="head">
    Namaste React
  </h1>
```

```
const root = ReactDOM.createRoot(document.getElementById("root"));
root.render.jsxHeading)
```

In JSX, we use ClassName instead of class, we use camelCase, we don't use hyphen '-'

What is React functional Component?

Just a JavaScript function with return some JSX

Eg const HeadingComp = () => (
 <h1> Namaste </h1>

Both
are
Same

```
const HeadingComponent = () => {
  returning <h1> Namaste React </h1>
};
```

A functional component returns a React Element

What are Component Composition?

A component inside a component

Inside React Component when {} is present we can write any JavaScript expression inside it

If you put one component inside other and other inside one then it will go into infinite loop.



Attacks

If someone gets access to your JS code and sends some malacious data which will get displayed on the screen that attack is called cross-side scripting

It can read cookies, local storage, session storage, get cookie & read data, get info about laptop

JSX takes care of your data

If some api passes some malacious data JSX will escape it. It prevents cross-site scripting. It sanitizes the data before running.

<Title />
<Title></Title>
{ Title() }

All
are
same

Components can be called like this in side JSX

React Fragments

It allows you to return multiple elements from a React Component by allowing you to group a list of children without adding extra nodes to the DOM.

It behaves like an empty tag

<React.Fragment>
</React.Fragment>

or

<>
</>

