Namaste Javascript –

1. Learn difference between append() and appendChild() ?
2. What is CDN ? – Content Delivery Network

* Links : <https://legacy.reactjs.org/docs/cdn-links.html>

1. What is crossorigin?

---------------------- CDN ---------------------

1. CDN is not the preferred way to install React in our project.

**Basics Of React –**

How to write your first React Program?

    <div id="root"></div>

    <script crossorigin src="https://unpkg.com/react@18/umd/react.development.js"></script>

    <script crossorigin src="https://unpkg.com/react-dom@18/umd/react-dom.development.js"></script>

    <script>

*const* heading = React.createElement('h1', {}, 'hello world');

*const* root = ReactDOM.createRoot(document.getElementById('root'));

        root.render(heading);

    </script>

So, React.createElement() will return an **React Element which is an object.**

**React.createElement => Object => HtmlElement(render)**

**createElement(type, props, ...children)**

Call createElement to create a React element with the given type, props, and children

**Note -** Whatever you write inside div having id=”root”, render will replace the content of root and replace with react content inside the root.

React is a library --- which can work in very small section of page.

**Episode – 2: Igniting Our App**

**Npm –**

Package.json is the configuration for npm**. --- contain metadata relevant to the project**

**How to add package.json in your project ? --- with the help of npm init**

**Most important package in our app – A Bundler ( Webpack, vite, parcel ) – it bundles our code**

**Parcel -**

**Two types of Dependecies –**

1. **Dependencies**
2. **Dev Dependencies**

**Difference between Caret and Tilde -**

**X.xx.xxx – ^3.9.2**

**X = major**

**Xx = minor**

**Xxx = patch (bug fixes**

**Caret –**

* **backwards compatible new functionality**
* **old functionality deprecated, but operational**
* **bug fix**

**Tilde –**

* **bug fix**

**Node\_Modules = Collection of packages**

**What is the difference between package.json and package-lock.json**

1. **Transitive Dependency**

**Igniting our App**

**npx parcel index.html**

**--- npx execute a package ( here parcel is a package )**

**--- Parcel creates a server like** [**https://localhost:1234**](https://localhost:1234)

**Facing a lovely error message –**

**parcel]: @parcel/transformer-js: Browser scripts cannot have imports or exports.**



**Why because we have script tag in our index.html and it doesn’t have import statements there.**

**We need to treat js file as modules instead of normal JavaScript file.**

**------------------------**

**READ Parceljs**

* **Anything which is automatically generated, we should not push to github and add those in gitignore file.**
* **BrowsersList – You can configure on which browsers your app is definitely works properly**

**You need to add this below code in package.json –**

**“browserslist” : {**

**“last 2 versions”**

**}**

**Note : Npm run start is equivalent to npm start**

**Episode 3 ( Layout the Foundation )**

**JSX**

* **JSX is a convention which kind if merge HTML and Javascript.**
* **JSX is not writing Html in JavaScript. ( Point to be Noted )**
* **JSX is like HTML syntax or XML like Syntax .**
* **JSX and React is different. ( We can write React without JSX )**
* *const* jsxHeading = <h1> I am jsx </h1>;
* *const* jsxParagraph = <p>I am a paragraph</p>;
* *const* jsxDiv = (
* <div>
* <p>This is another paragraph</p>
* {jsxHeading}
* {jsxParagraph}
* </div>
* );
* console.log(jsxHeading);
* console.log(jsxParagraph);
* console.log(jsxDiv);

**Even Before our code goes to the browser, first the code is transpiled by the babel ( in this case which is installed by parcel) and then move to the browser which understand JavaScript.**

**\*\* Babel is not developed by Facebook.**

**\*\* Babel is a compiler for JavaScript.**

**\*\* Babel is a transpiler.**

**JSX is converted to React Element with the help of Babel.**

**JSX => React.createElement => JS Object => HtmlElement( render )**

**React Functional Component = Just a JavaScript Function**

**\*\* Difference between React Element and React Component.**

**React Fragrments --- Behaves like an empty tag**

**Why do we use ? – because JSX should not have more than one parent so we need to wrap multiple parent divs into a single Fragments ( root level parent ).**

**Can we have multiple root in a html file?**

**Yes I have tried and it is perfectly working fine.**

**Episode 4 ( Talk is cheap, show me the code )**

**LLD -**

**Components –**

**Header**

* **Logo**
* **Nav Items**

**Body**

* **Search**
* **Restaurant Container**
  + **Restaurant Card**

**Footer**

* **Copyright**
* **Links**
* **Address**
* **Contact**

**---------- CONFIG DRIVEN UI ------------**

1. **Controlling UI with data ( driven by config) ---- Swiggy Example**
2. **KEY = Uniquely represent each card**

**If there are no key in any card, React doesn’t know which card is at which place so it will render all the cards.**

**Don’t use index as key in list component.**

1. **Export = Named or Default export**
   1. **IF you need to export multiple things from a file, you use named export**
   2. **IF you need to export a single thing from a file, you use default export.**

**React is fast because it has fast DOM manipulation**

**Every framework is trying to bind data layer with UI layer ( so as soon as data layer changes, UI layer should be updated).  
  
When working with restaurantList and filter option –**

**Problem Facing: On update of array, DOM is not updated.**

**What should you focus on “How useState and setState working under the hood”?**

**INTRODUCTION TO HOOKS –**

**Hooks – Normal JavaScript utility Functions**

* **useState() – Super powerful State Variables in React**
* **useEffect()**

**Here, Whenever state variables updated, re-render happens. That’s why DOM got updated.**

**Reconcialiation Algorithm ( React Fiber ) --- after React 16**

* **Virtual DOM ( Representation of Actual Dom) --- OBJECT ( just console.log any component gives VDOM)**
* **Diffing ( Find out the difference between two virtual DOM ( old and new ))**

**\*\*\*\* Links for React Fiber: https://github.com/acdlite/react-fiber-architecture**