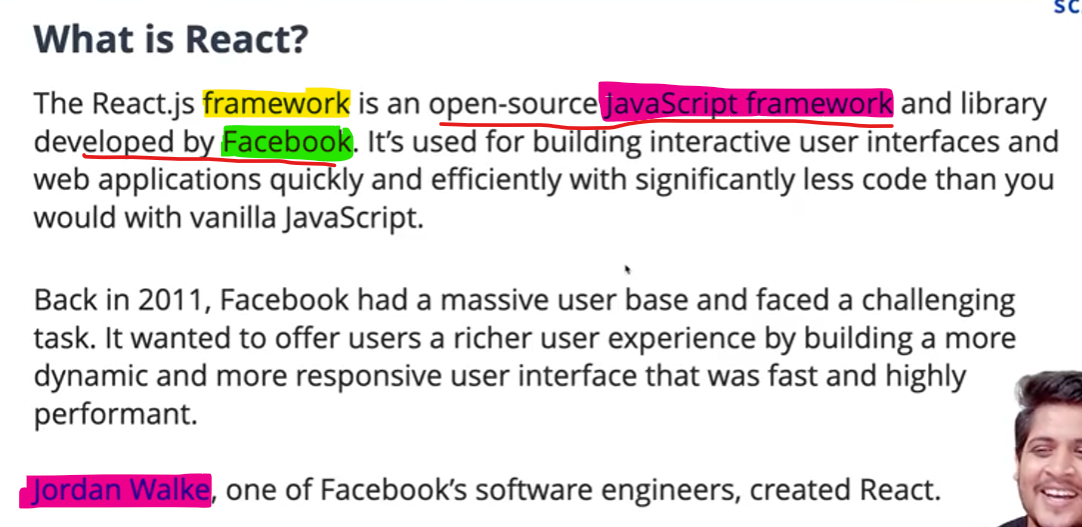
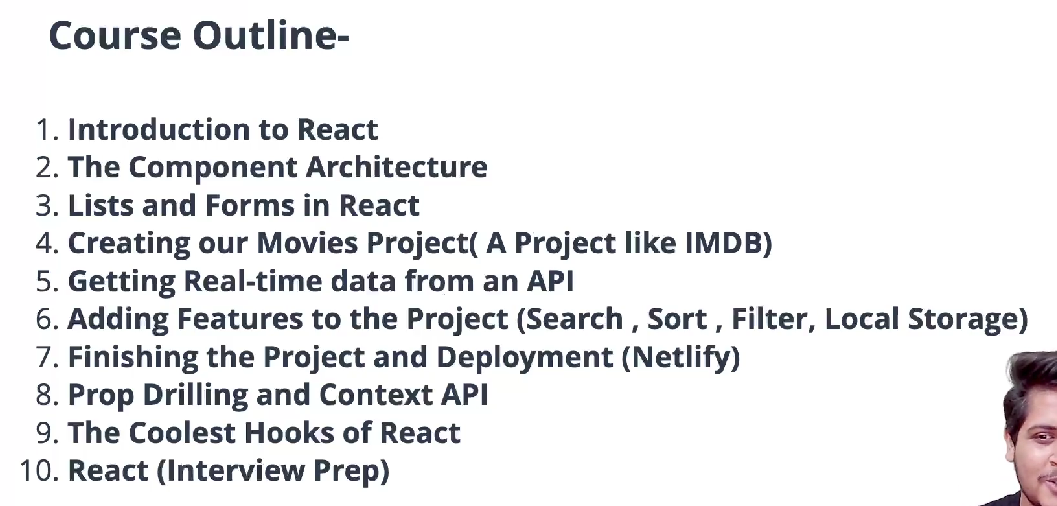
**REACT - SCALAR**

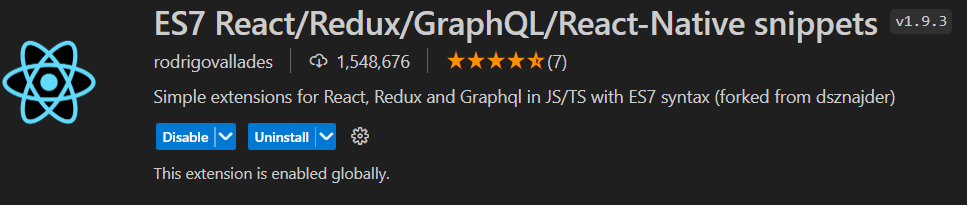
1. ***Introduction to React JS* :**
   1. **Introduction :**



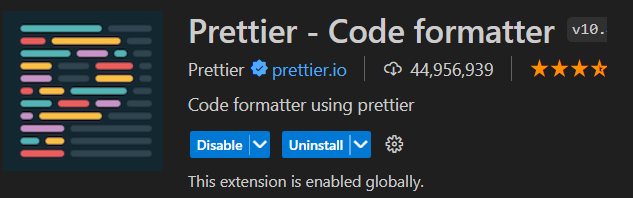




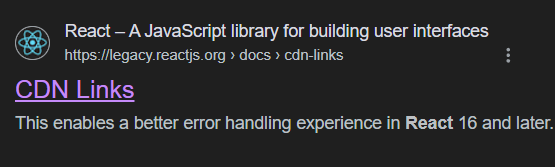
* 1. **Setting Necessary Tools for React :**
     1. **VS CODE.**
     2. **Install extension in VS Code:**



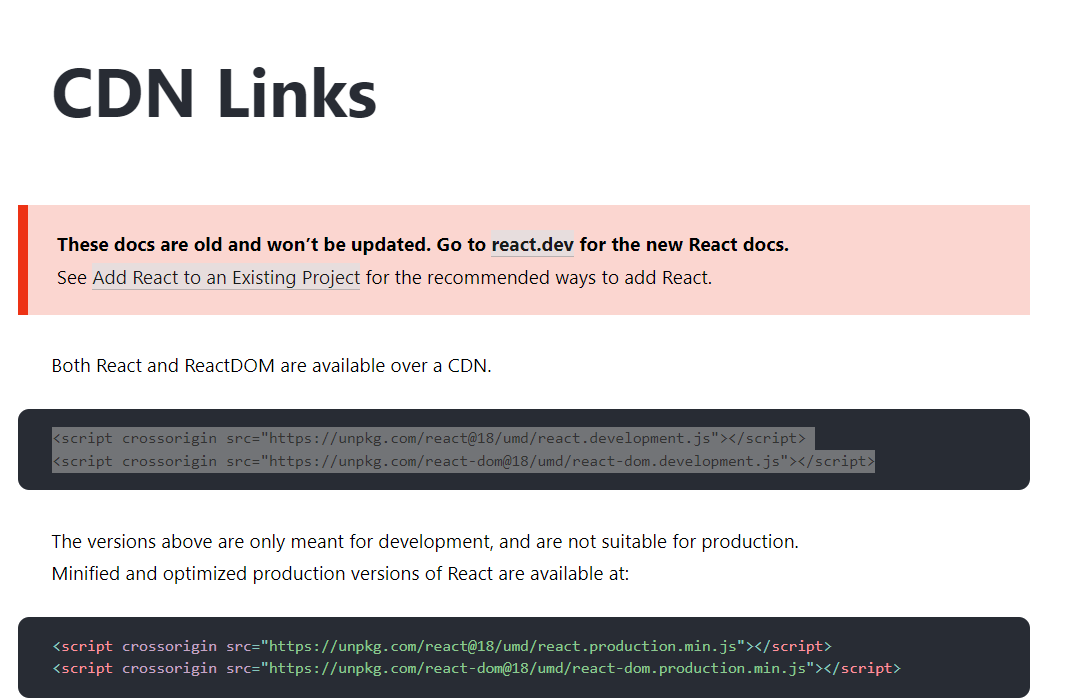
* + 1. **Install extension “prettier” in VS code :**



* + 1. **Install NodeJS . (React need support of Node JS).**
  1. **React with CDN :**
     1. Using CDN links in React gives quick and convenient way to integrate React into your projects without the need for a package manager.
     2. Type “cdn links for react” and go to the first link.



* + 1. Then copy and paste the two script links to your “index.html”(One link is react script and other is react-dom script).



* + 1. React is an External Library(JS Library).Our browser doesn’t know react exist or not.Our browser only knows the ‘DOM’.So the above two script links(1st link has all the properties and 2nd link helps React to communicate with DOM ) helps the the browser to get React .

“index.html” :

<!DOCTYPE html>

<html lang="en">

  <head>

    <meta charset="UTF-8" />

    <meta name="viewport" content="width=device-width, initial-scale=1.0" />

    <title>Document</title>

  </head>

  <body>

    <div id="root">

      <h1>Hello from HTML!</h1>

    </div>

    <!-- <script>

        //How to add h1 tag using JS:

        const message = document.createElement('h1');//h1 element created

        message.innerHTML = 'Hello From JavaScript';//message created

        const root = document.getElementById('root');//Getting the id of div tag to pass the message.

        root.appendChild(message);//message appended to div with id "root"

    </script> -->

    <!--CDN Links-->

    <script

      crossorigin

      src="https://unpkg.com/react@18/umd/react.development.js"

    ></script>

    <script

      crossorigin

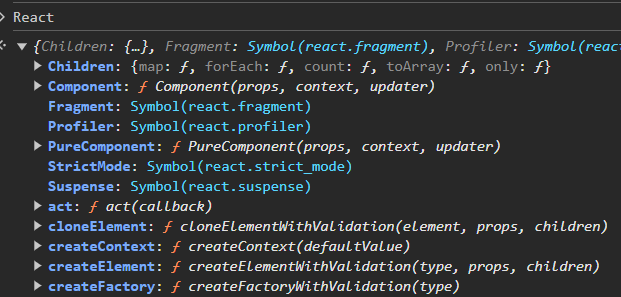
      src="https://unpkg.com/react-dom@18/umd/react-dom.development.js"

    ></script>

  </body>

</html>

* 1. **Your First React code :**
     1. Goto inspect and select console and type ‘React’ ,then it will display all properties/methods of react :



* + 1. Method “createElement”:

<!--First React code-->

<script>

//step 1:create an element

const message = React.createElement('h1',{},'Hello From React.');

//step 2:setting root for the React.Here the root is the div with id='root'

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

//inside the root the above specified 'h1' will be created.

      root.render(message);//whole message get rendered over here

</script>

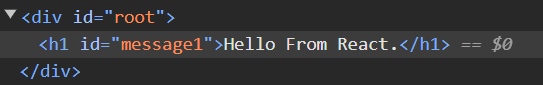
**OUTPUT:**



* 1. **Challenges with React CDN:**
     1. To Pass parameters (),specify it inside the “{ }” :

const message = React.createElement('h1',{id:'message1'},'Hello From React.');

**Inspect:**



* + 1. Now we have to build following in React:



* + 1. So comment div with id=’root’ and build React code to display like above.Previously when we passed ‘Hello from react’ there had only one div with id=’root’.But Here we have two divs ,i.e div with id=’child’ inside div with id=’parent’.So instead the message we have to put one more ‘React.createElement()’ :

**Body:**

<div id="parent">

        <div id="child">

          <h1 id="greeting"></h1>

          <h2 id="greeting2"></h2>

        </div>

      </div>

**Script :**

<script>

      const message = React.createElement(

        "div",

        { id: "parent" },

        React.createElement("div", { id: "child" }),[ //using array to store multiple element

        React.createElement("h1",{id:"greeting"},'Hello from react.'),

        React.createElement("h2",{id:"greeting2"},'Hello from react heading2.')

        ]

      );

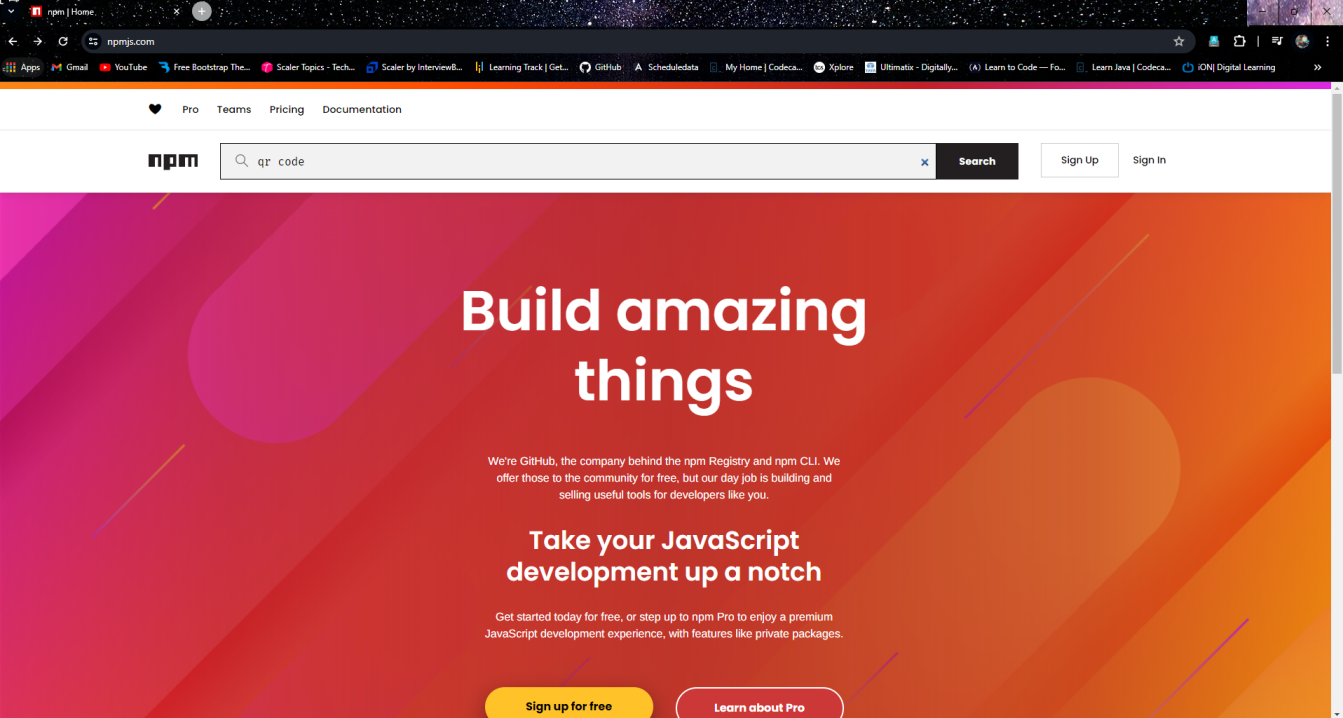
      const root = ReactDOM.createRoot(document.getElementById("parent")); //step 2:setting root for the React.

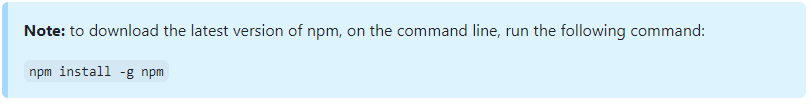
      root.render(message); //whole message get rendered over here

    </script>



1. ***Setting up the Development Environment :***
   1. **Setting up NPM:**
      1. Since React CDN has some Challenges.Complex codes.So we make use of some Built Tools.
      2. Before moving to Built tools like (webpack,parcel etc..) ,We need to understand about NPM(Node Package Manager).
      3. **NPM :** *How to Install and use an NPM Package* ?





* + 1. To Use npm,Open certain folder in terminal and type:’npm init’ :

npm init

* + 1. Asd
    2. Asd
  1. **Asd**
  2. **Asd**
  3. **Asd**
  4. **Asd**
  5. **Asd**
  6. **asd**
     1. Inside the folder ‘models’ create a file ‘courseModel.js’: