**Module – 3 ReactJs**

1. What is React Js?

=> ReactJS is an open-source JavaScript library used to create interactive user interfaces applications.

2. What is NPM in React Js?

=> NPM stands for Node Package Manager. It’s a [library](https://careerfoundry.com/en/blog/web-development/programming-library-guide/) and registry for JavaScript software packages.NPM is installed with Node.js. It is an open source package. The command npm is used to download JavaScript packages from Node Package Manager.

3. What is Role of Node Js in react Js?

=> React and Node.js are often used together to build modern web applications. React is a front-end JavaScript library for building user interfaces, while Node.js is a back-end JavaScript runtime environment that allows developers to run JavaScript on the server side.

The purpose of using React and Node.js together is to build fast, scalable, and responsive web applications that can handle a large amount of data.

4. What is CLI command In React Js?

=> CLI (Command Line Interface) tools in React that help developers automate repetitive tasks in their development workflow. They are typically used to create, build, test, and deploy React applications from the command line.

E,g:- npx create-react-app my-app => to create new project in react

npx start => to run the code or app

5. What is Components in React Js?

=> Component folder make in src folder. It is created because if any line of used repeatedly then this line of code written in component so that call the component and used repeatedly.It is of two types:-Class and Function component

Render() is used end of the code to render all the time(means do task repeatedly)

e.g:- export default function Car() {

  return (

    <div>Helloooo</div>

  )

}

const root = ReactDOM.createRoot(

    document.getElementById('root')

  );

  root.render(<Car />);

6. What is Header and Content Components in React Js?

=> Header Component contains the site name and navigation bar . it is section of top page of website.

Content component contains the main content of the page like main, footer

Navbar Component: - This call in app.js also

import React from 'react';

export default function Navbar() {

    return(

        <>

        <nav className="navbar navbar-expand-lg text-primary">

            <div className="container-fluid">

                <a className="navbar-brand" href="/">Tops Technology </a>

                <button className="navbar-toggler" type="button" data-bs-toggle="collapse" data-bs-target="#navbarSupportedContent" aria-controls="navbarSupportedContent" aria-expanded="false" aria-label="Toggle navigation">

                <span className="navbar-toggler-icon"></span>

                </button>

                <div className="collapse navbar-collapse" id="navbarSupportedContent">

                <ul className="navbar-nav me-auto mb-2 mb-lg-0">

                    <li className="nav-item">

                    <a className="nav-link active" aria-current="page" href="/">Home</a>

                    </li>

                    <li className="nav-item">

                    <a className="nav-link" href="/">About</a>

                    </li>

                    <li className="nav-item">

                    <a className="nav-link" href="/">Services</a>

                    </li>

                    <li className="nav-item">

                    <a className="nav-link" href="/">Contact</a>

                    </li>

                </ul>

                </div>

            </div>

        </nav>

        </>

    )

}

Main component: - this also call in app.js

import React from 'react'

export default function Main(props) {

  return (

    <>

    <div className="main">

        <div className="main\_1">

            <h1 className="web">Welcome to Tops Technology</h1>

            <p className="para">lorem Epsui,m db jbjkjh huiona helika buiionja bhijujon loiremkl<br/>huina hella guinus guineLorem Ipsum has been the industry'sis <br/>standard dummy text ever since the 1500s, when an unknown <br/>printer took a galley of type and scrambled it to make a typese</p>

            <div className='btnCombine'>

            <button className='btn btn-danger btn\_1'>Get Started</button>

            <button className='btn btn-dark btn\_2'>Know more</button>

            </div>

        </div>

        <div className="main\_2">

            <img src="https://img.freepik.com/premium-vector/young-man-sits-his-desk-workplace-using-his-personal-desktop-computer-working-online-program-work-home-concept-vector-illustration-isolated-white-background\_37895-775.jpg?w=2000" className="image" />

        </div>

    </div>

    </>

  )

}

App.js: -

import './App.css';

import './About.scss';

import Navbar from './components/Navbar';

import Main from './components/Main';

function App() {

  return (

    <>

     <Navbar/>

     <Main />

    </>

  );

}

export default App;

7. How to install React Js on Windows, linux Operating System? How to install NPM and How to check version of NPM?

=> To install the React Js, Firstly install the Node Js . Node Js downloaded by Google for windows or Linux

To install the react, first create the folder or create the react app it has two command using npm or npx: -

Npm:- npm install -g create-react-app

create-react-app react\_task

Npx: - npx create-react-app react\_task

To check the npm version:- npm -v

8. How to check version of React Js?

=> In react file , package.json file contains the React Js version and another method is write in command line npm view react version. It show the current version of React Js.

9. How to change in components of React Js?

=> To change the components in React Js using setState(). setState() is used to update the state of the component, triggering a re-render with the updated data.

To change a value in the state object, use the this.setState() method.

import React, { Component } from 'react';

class MyComponent extends Component {

  constructor() {

    super();

    this.state = {

      greeting: 'Hello',

    };

  }

  handleChangeGreeting = () => {

    this.setState({

      greeting: 'Goodbye',

    });

  };

  render() {

    return (

      <div>

        <h1>{this.state.greeting}, World!</h1>

        <button onClick={this.handleChangeGreeting}>Change Greeting</button>

      </div>

    );

  }

}

10. How to Create a List View in React Js?

=> Create a File name is List in component folder. This List component has the following code:-

import React from 'react';

import ReactDOM from 'react-dom/client';

function Car(props) {

    return <li>I am a {props.brand}</li>;

}

export default function List() {

    const cars = ['Ford' , 'BMW' , 'Audi'];

  return (

    <>

        <ul>

            {cars.map((car) => <Car brand={car} />)}

        </ul>

    </>

  )

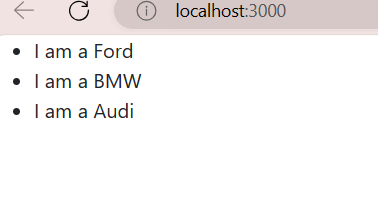
}

const root = ReactDOM.createRoot(

    document.getElementById('root')

  );

  root.render(<List />);



10. Create Increment decrement state change by button click?

=> Create a File name is IncDecCounter in component folder. This List component has the following code:-

import  { useState, useEffect } from 'react';

import ReactDOM from "react-dom/client";

export default function IncDecCounter() {

    const [count, setCount] = useState(0);

    const incrementCounter = () => {

      setCount(count + 1);

  };

  const decrementCounter = () => {

      if (count !== 0) {

          setCount(count - 1);

      }

    }

    const resetCounter = () => {

      setCount(0)

    };

 return (

    <>

    <p className='heading'>Count: {count}</p>

    <button className='Add' onClick={incrementCounter}>Increment</button>

    <button className='Sub' onClick={decrementCounter}>Decrement</button>

    <button className='Set' onClick={resetCounter}>Reset</button>

    </>

  )

}

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

root.render(<IncDecCounter />);

App.js file has following code:-

import './App.css';

import IncDecCounter from './components/IncDecCounter';

function App() {

  return (

    <>

    <IncDecCounter />

    </>

  );

}

export default App;

App.css file has following code:-

\*{

  margin: 0;

  padding: 0;

  background-color: rgb(135, 202, 204);

}

.heading{

  margin-left: 660px;

  margin-top: 250px;

  font-size: larger;

}

.Add{

  margin-left: 540px;

  padding: 8px 8px;

  border-radius: 8px;

}

.Sub{

  margin-left: 50px;

  padding: 8px 8px;

  border-radius: 8px;

}

.Set{

  margin-left: 50px;

  padding: 8px 8px;

  border-radius: 8px;

}

