Maharashtra Education Society's
INSTITUTE OF MANAGEMENT & CAREER COURSES (IMCC), PUNE (AUTONOMOUS)
Affiliated to Savitribai Phule Pune University

A+ NAAC
[CGPA-3.32] in Cycle 1

Academic Year 2024-25

Course - IT22 Full Stack Development

React JS – Hands on Assignment -1
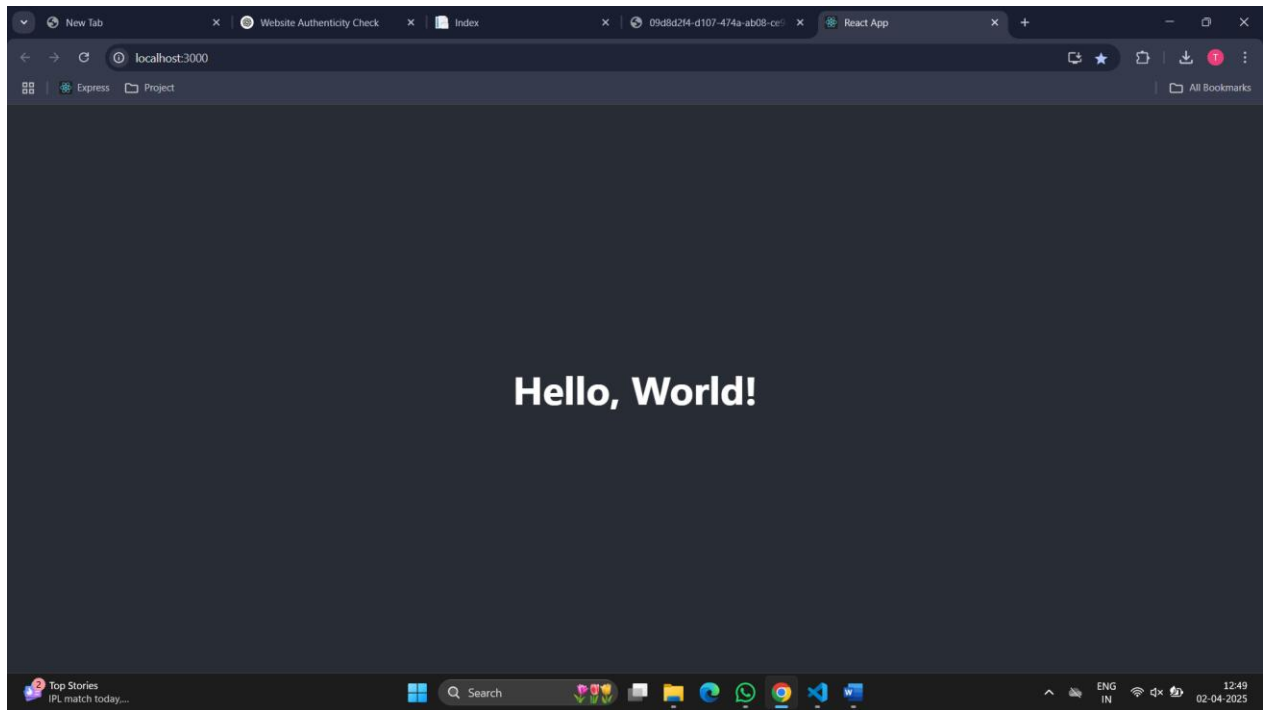
1. **Create a Simple React App**
   Display "Hello, World!" inside an <h1> tag.
   ➔App.js:-
   import './App.css';

   function App() {
     return (
       <div className="App">
         <header className="App-header">
           <h1>Hello, World!</h1>
         </header>
       </div>
     );
   }

   export default App;
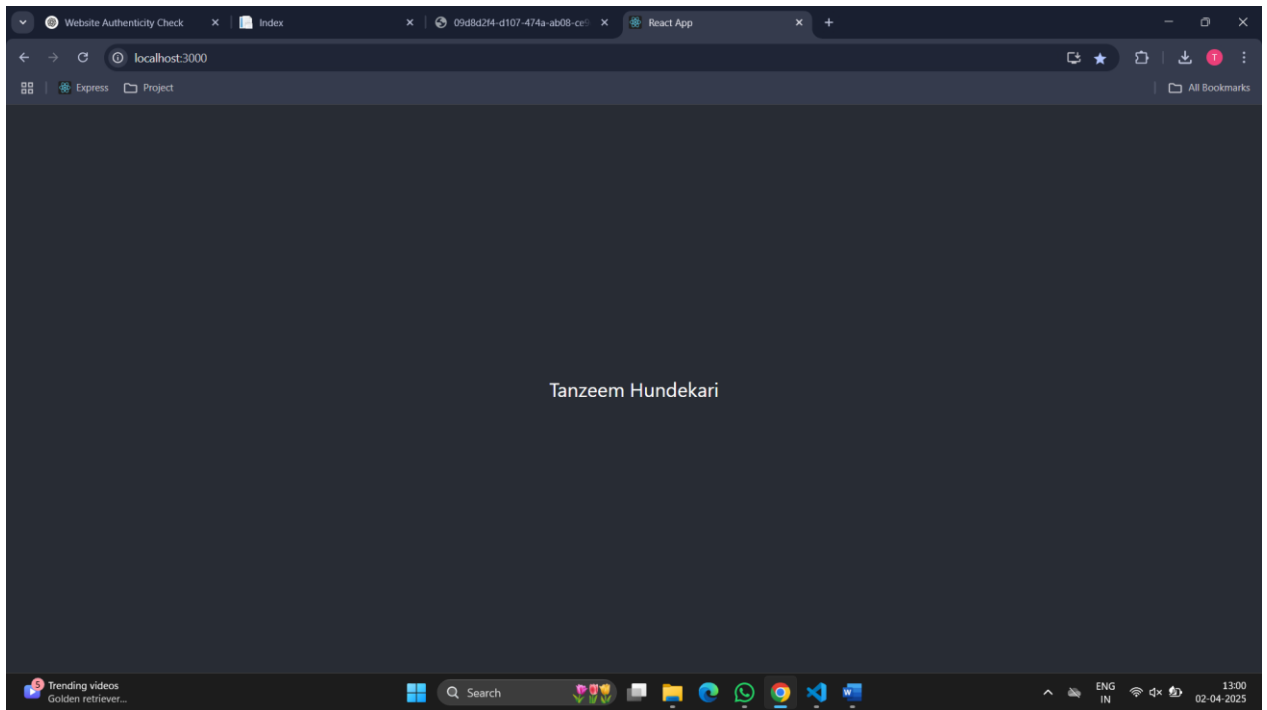
2. **Write JSX to Display a Paragraph**
   Inside a <div>, display a <p> tag with your name.
   →App.js
   import './App.css';

   function App() {
     return (
       <div className="App">
         <header className="App-header">
           <p>Tanzeem Hundekari</p>
         </header>
       </div>
     );
   }

   export default App;

3. **Create a JSX expression that renders the current date and time dynamically.**
   →DateTime.jsx
   ```
   import './App.css';
   function DateTime() {
     const currentDate = new Date().toLocaleDateString();
     const currentTime =new Date().toLocaleTimeString();

     return (
       <div className="DateTime">
         <header className="App-header">
       <p>{currentDate}-{currentTime}</p>{/*JSX expression*/}
       <p>Current Date and Time</p>
       </header>
     </div>
    );
   }
   export default DateTime;
   ```

   Index.js
   ```
   import React from 'react';
   import ReactDOM from 'react-dom/client';
   import './index.css';
   //import App from './App';
   import DateTime from './DateTime';
   import reportWebVitals from './reportWebVitals';
   ```

```
const root = ReactDOM.createRoot(document.getElementById('root'));
root.render(
  <React.StrictMode>
    <DateTime />
  </React.StrictMode>
);

reportWebVitals();
```

4. **Create a simple functional component that returns a heading <h2>**
   → **Tanzeem.jsx**

```
function Name() {
    return <h2>This is an example of a simple functional component
that returns a heading</h2>;
}
export default Name;
```


This is an example of a simple functional component that returns a heading

5. **Write a program to demonstration of nested functional component**
   Tanzeem.jsx

```
import './App.css';
function OuterName() {
    return (
      <div className="App">
        <InnerName/>
      </div>
    );
}
function InnerName() {
```

```
    return <h2>This is an example of inner funtional component in
react js</h2>;
}
export default OuterName;

-> index.js
import React from 'react';
import ReactDOM from 'react-dom/client';
import './index.css';
import Tanzeem from './Tanzeem';
import reportWebVitals from './reportWebVitals';
const root =
ReactDOM.createRoot(document.getElementById('root'));
root.render(
  <React.StrictMode>
    <Tanzeem/>
  </React.StrictMode>
);
```


This is an example of inner functional component in react js

6. **Create a parent component that passes a name prop to a child component and displays it.**
   ParentComponent.js
   ```
   import './App.css';
   function ParentComponent(prop) {
     return (
       <div className="App">
         <ChildComponent name={prop.name} />
       </div>
     );
   }
   ```

```jsx
function ChildComponent(prop) {
    return (
        <div className="App">
            <h2>Hello, {prop.name}!</h2>
        </div>
    );
}
export default ParentComponent;
```

index.js

```jsx
import React from 'react';
import ReactDOM from 'react-dom/client';
import './index.css';
import Tanzeem from './Tanzeem';
import reportWebVitals from './reportWebVitals';
const root =
ReactDOM.createRoot(document.getElementById('root'));
root.render(
  <React.StrictMode>
    <ParentComponent name="Tanzeem"/>
  </React.StrictMode>
);
```


Hello, Tanzeem!

7. **Create an array of students which includes roll number, name and age pass it as a props to functional component and display all information.**
   →Student.jsx
   ```jsx
   import './App.css'
   function StudentList(props){
       return(
           <ul>
               {props.students.map((student) => (
                   <li key={student.rollNumber}>
                       RollNo:{student.rollNumber},Name:{student.name},Age:{student.age}
                   </li>
   ```

```
        ))}
      </ul>
  );
}
const students=[
    {rollNumber: 1, name: 'John', age: 20},
    {rollNumber: 2, name: 'Jane', age: 22},
    {rollNumber: 3, name: 'Jim', age: 21},
];
export default function App(){
    return(
      <div>
        <h1>Student List</h1>
        <StudentList students={students}/>
      </div>
  );
}
```

Index.js
```
import React from 'react';
import ReactDOM from 'react-dom/client';
import './index.css';
import Student from './Student';
import reportWebVitals from './reportWebVitals';
const root = ReactDOM.createRoot(document.getElementById('root'));
root.render(
  <React.StrictMode>
  <Student/>
  </React.StrictMode>
);

reportWebVitals();
```

Student List

- RollNo:1,Name:John,Age:20
- RollNo:2,Name:Jane,Age:22
- RollNo:3,Name:Jim,Age:21

8. **Pass an array of colors (as props) to a child component and render them as <li> items.**
   Colors.jsx

```
import './App.css'
function Colors(props){
  return(
    <ul>
      {props.colors.map((color) => (
        <li key={color}>
          {color}
        </li>
      ))}
    </ul>
  );
}
const colors=[
  'Red',
  'Green',
  'Blue',
  'Yellow',
  'Purple',
];
export default function App(){
  return(
    <div>
      <h1>Color List</h1>
      <Colors colors={colors}/>
    </div>
  );
}
```

Index.js

```
import React from 'react';
import ReactDOM from 'react-dom/client';
import './index.css';
import Colors from './Colors';
import reportWebVitals from './reportWebVitals';
const root = ReactDOM.createRoot(document.getElementById('root'));
root.render(
  <React.StrictMode>
  <Colors/>
  </React.StrictMode>
);

reportWebVitals();
```

Color List

- Red
- Green
- Blue
- Yellow
- Purple

9. **Build a counter with two buttons (+ and -) to increment/decrement a state variable.**
Increment.jsx

```
import React,{useState}from 'react';
function Counter(){
   const [count, setCount] = useState(0);
   const increment = () => {
      setCount(count + 1);
   };
   const decrement = () => {
      setCount(count - 1);
   };
   return(
      <div>
         <h1>Count: {count}</h1>
         <button onClick={increment}>+</button>
```

```jsx
        <button onClick={decrement}>-</button>
      </div>
    );
  }
export default Counter;
```
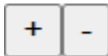
index.js
```jsx
import React from 'react';
import ReactDOM from 'react-dom/client';
import './index.css';
import Increment from './Increment';
import reportWebVitals from './reportWebVitals';
const root = ReactDOM.createRoot(document.getElementById('root'));
root.render(
  <React.StrictMode>
  <Increment/>
  </React.StrictMode>
);

reportWebVitals();
```

Count: 1

```
┌───┬───┐
│ + │ - │
└───┴───┘
```

10. **Create an input field that logs its value to the console on every keystroke (use onChange).**
    Keystroke.jsx
```jsx
import React,{useState} from 'react';
function Keystroke(){
   const [inputValue, setInputValue] = useState('');
   const handleChange = (event) => {
      setInputValue(event.target.value);
      console.log(event.target.value);
   };
   return(
     <div>
        <input type="text" value={inputValue} onChange={handleChange} />
     </div>
```
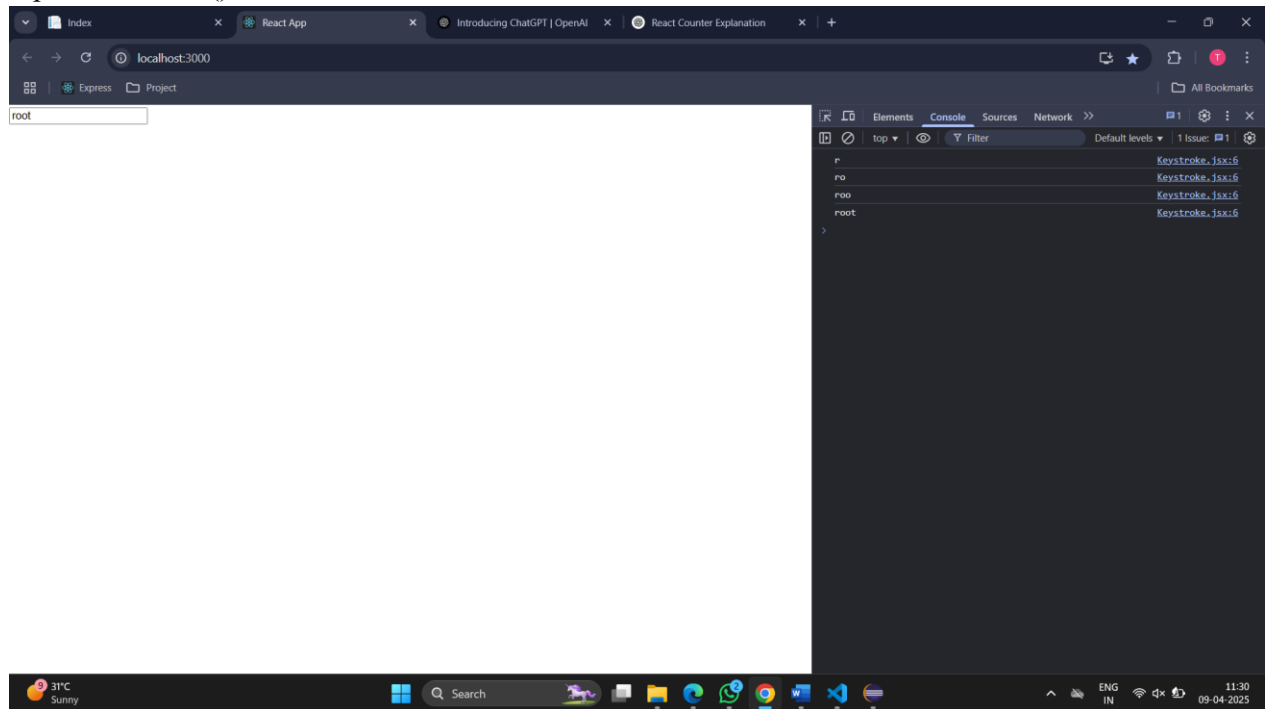
```
  );
}
export default Keystroke;
```

index.js
```
import React from 'react';
import ReactDOM from 'react-dom/client';
import './index.css';
import Keystroke from './Keystroke';
import reportWebVitals from './reportWebVitals';
const root = ReactDOM.createRoot(document.getElementById('root'));
root.render(
  <React.StrictMode>
  <Keystroke />
  </React.StrictMode>
);

reportWebVitals();
```


11. **Create a button that changes its background color when clicked (use onClick and state).
BackgroundColor.jsx**

```
import React, { useState } from 'react';
function ColorButton(){
    const [color, setColor] = useState('red');
    const handleClick = () => {
        setColor(color === 'red' ? 'blue' : 'red');
```

```jsx
    };
    return(
        <div>
            <button style={{ backgroundColor: color }} onClick={handleClick}>
                Click me
            </button>
        </div>
    );

}
export default ColorButton;
```

index.js
```jsx
import React from 'react';
import ReactDOM from 'react-dom/client';
import './index.css';
import BackgroundColor from './BackgroundColor';
import reportWebVitals from './reportWebVitals';
const root = ReactDOM.createRoot(document.getElementById('root'));
root.render(
  <React.StrictMode>
  <BackgroundColor />
  </React.StrictMode>
);

reportWebVitals();
```

12. **Build a form with name and email fields that alerts the submitted values (use onSubmit).**
    Form.jsx

```jsx
import React, { useState } from 'react';
function MyForm(){
    const [name, setName] = useState('');
    const [email,setEmail] = useState('');
    const handleSubmit = (event) => {
        event.preventDefault();
        alert(`Name:${name} Email: ${email}`);
    };
    return(
```

```jsx
      <form onSubmit={handleSubmit}>
        <div>
          <label htmlFor="name">Name:</label>
          <input
            type="text"
            id="name"
            value={name}
            onChange={(e) => setName(e.target.value)}
          />
        </div>
        <div>
          <label htmlFor="email">Email:</label>
          <input
            type="email"
            id="email"
            value={email}
            onChange={(e) => setEmail(e.target.value)}/>
        </div>
        <button type="submit">Submit</button>
      </form>
    );
}
export default MyForm;
```

index.js
```jsx
import React from 'react';
import ReactDOM from 'react-dom/client';
import './index.css';
import Form from './Form';
import reportWebVitals from './reportWebVitals';
const root = ReactDOM.createRoot(document.getElementById('root'));
root.render(
  <React.StrictMode>
  <Form />
  </React.StrictMode>
);

reportWebVitals();
```

localhost:3000

Express   Project

Name: Tanzeem

Email: tanzeem8324@gmail.com

Submit

localhost:3000 says

Name:Tanzeem Email: tanzeem8324@gmail.com

OK