Academic Year 2024-25

Course - IT22 Full Stack Development

React JS – Hands on Assignment -1

1. **Create a Simple React App**

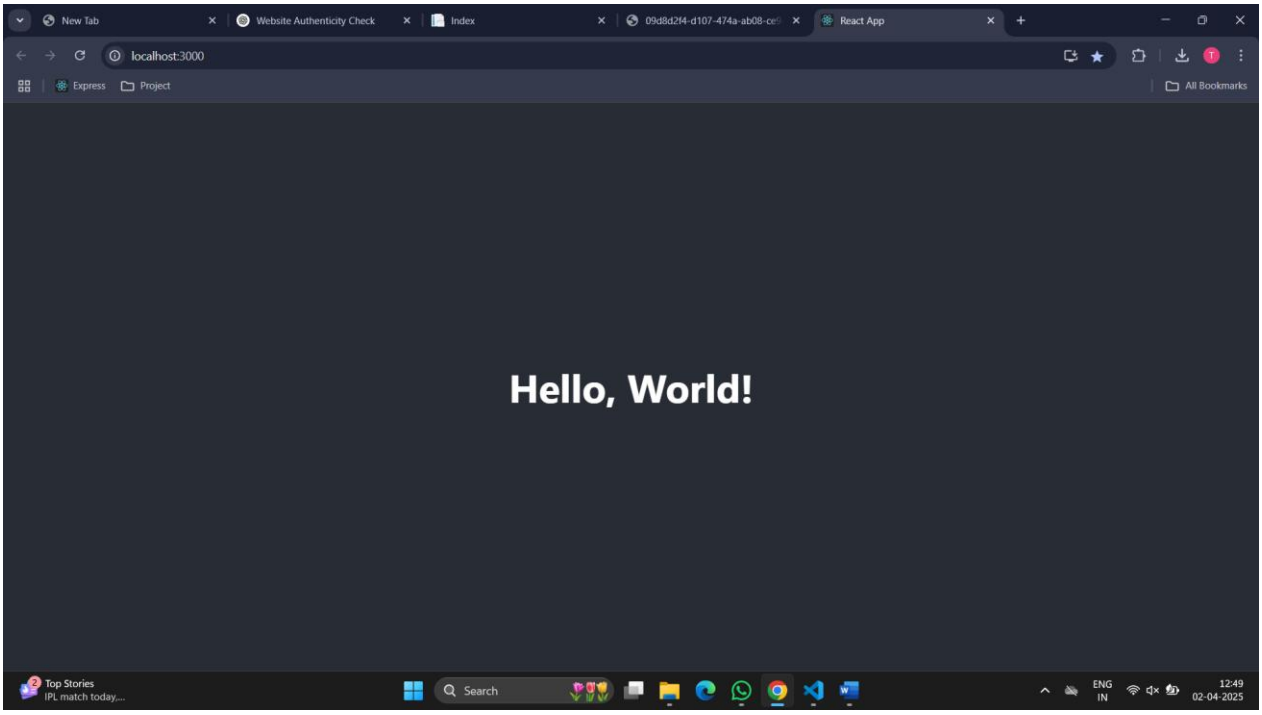
   Display "Hello, World!" inside an <h1> tag.

   →App.js:-

```
import './App.css';

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

export default App;
```

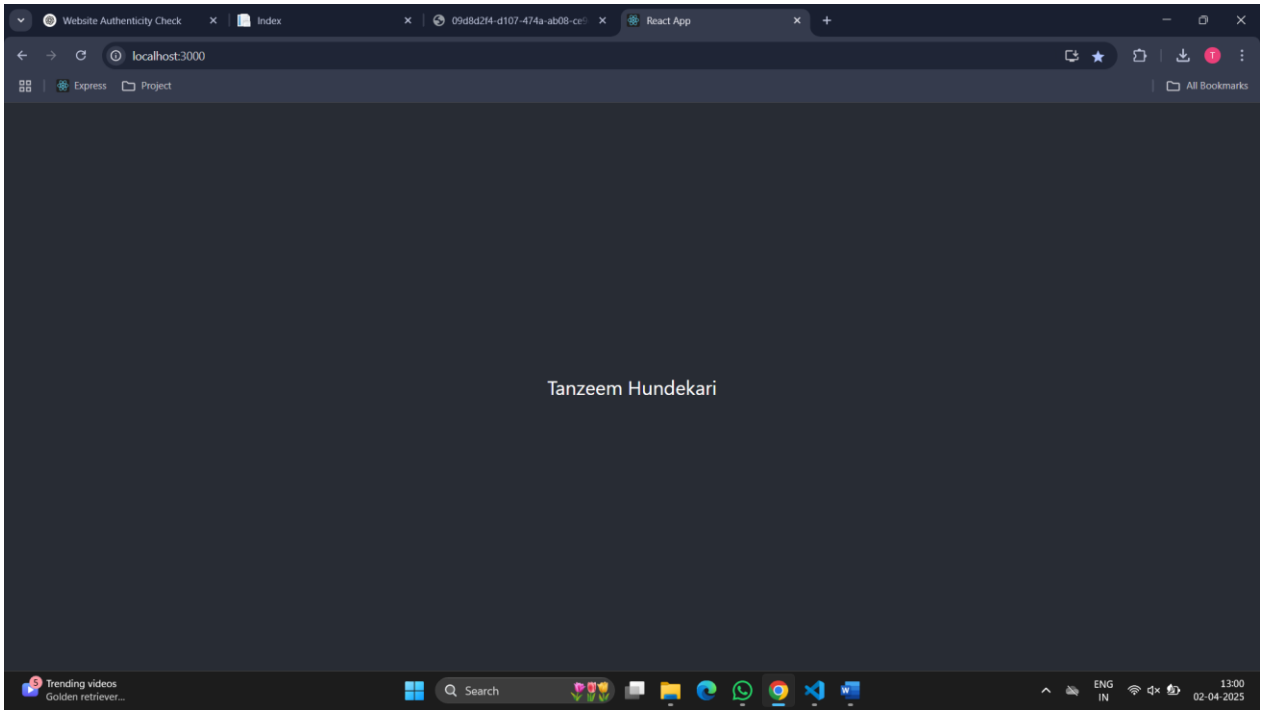


2. **Write JSX to Display a Paragraph**
   Inside a , display a <p> tag with your name.
   →App.js

```
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>
    );
}
```

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

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>
    <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

```
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.**

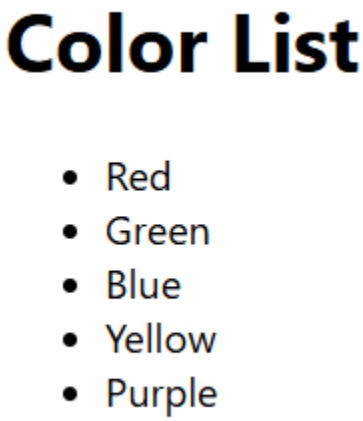
Colors.jsx

```
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();
```



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>
```

```
            <button onClick={decrement}>-</button>
        </div>
    );
}
export default Counter;
```

index.js

```
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

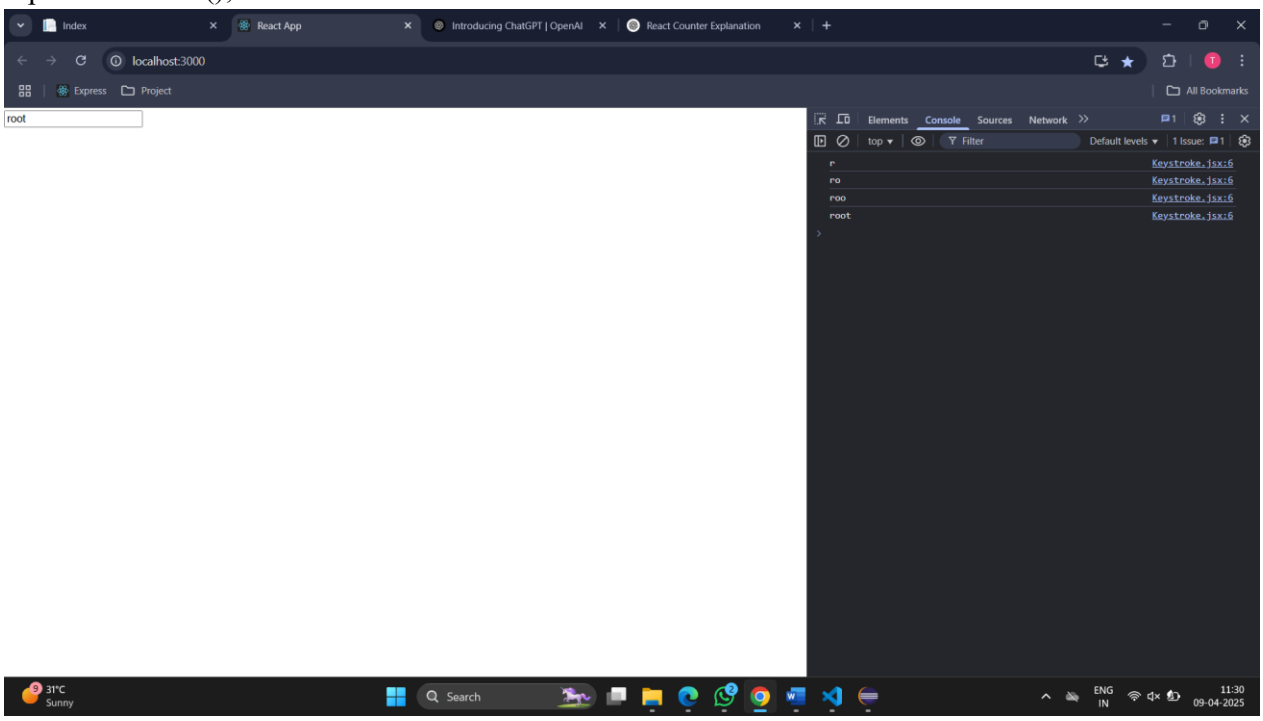
```
import React,{useState} from 'react';
function Keystroke(){
    const [inputValue, setInputValue] = useState('');
    const handleChange = (event) => {
        setInputValue(event.target.value);
        console.log(event.target.value);
    };
    return(
        <div>
            <input type="text" 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');
```

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

}
export default ColorButton;
```

index.js

```
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

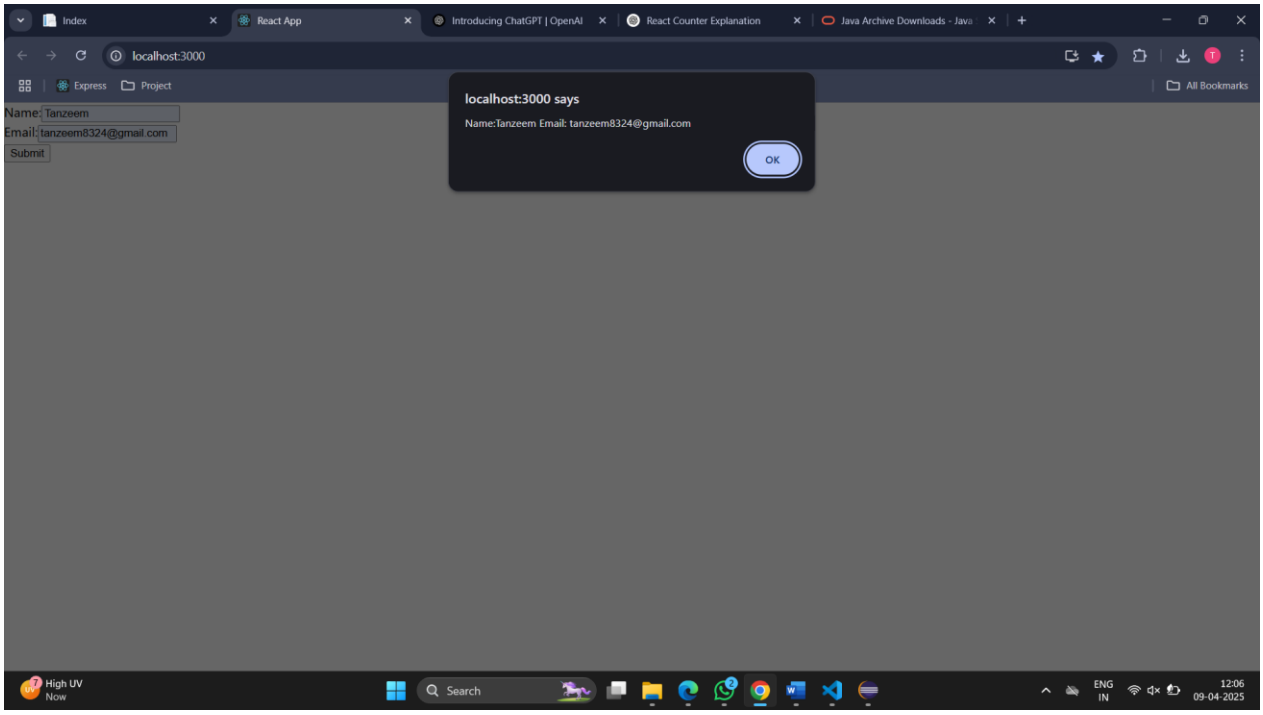
```
import React, { useState } from 'react';
function MyForm(){
  const [name, setName] = useState('');
  const [email,setEmail] = useState('');
  const handleSubmit = (event) => {
    event.preventDefault();
    alert(`Name:${name} Email: ${email}`);
  };
  return(
```

```
      <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

```
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();
```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Email: tanzeem8324@gmail.com
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OK
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Now
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12:06
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