

3.ReactJS-HOL

Objectives

- Explain React components
- Identify the differences between components and JavaScript functions
- Identify the types of components
- Explain class component
- Explain function component
- Define component constructor
- Define render() function

In this hands-on lab, you will learn how to:

- Create a function component
- Apply style to components
- Render a component

Prerequisites

The following is required to complete this hands-on lab:

- Node.js
- NPM
- Visual Studio Code

Create a react app for Student Management Portal named scorecalculatorapp and create a function component named "CalculateScore" which will accept Name, School, Total and goal in order to calculate the average score of a student and display the same.

Code:

CalculateScore.js

```
import '../Stylesheets/mystyle.css';

const percentToDecimal = (decimal) => {
  return (decimal * 100).toFixed(2) + '%';
}

const calcScore = (total, goal) => {
  return percentToDecimal(total / goal);
}

export const CalculateScore = ({ Name, School, total, goal }) => (
  <div className="formatstyle">
    <h1><font color="Brown">Student Details:</font></h1>

    <div>
      <b><span>Name:</span></b>
      <span> {Name}</span>
    </div>

    <div className="School">
      <b><span>School:</span></b>
      <span> {School}</span>
    </div>

    <div className="Total">
      <b><span>Total:</span></b>
      <span> {total} Marks</span>
    </div>

    <div className="Score">
      <b>Score:</b>
      <span> A {calcScore(total, goal)}</span>
    </div>
  </div>
);
```

mystyle.css

```
.Name {
  font-weight: 300;
  color: blue;
}

.School {
  color: crimson;
}

.Total {
  color: darkmagenta;
}

.formatstyle {
  text-align: center;
  font-size: large;
}

.Score {
  color: forestgreen;
}
```

App.js

```
import logo from './logo.svg';
import './App.css';
import { CalculateScore } from './components/CalculateScore';
function App() {
  return (
    <div className="App">
      <CalculateScore Name={"Disha"}
        School={"KIET Group of Institutions"}
        total={284} goal={3}/>
    </div>
  );
}

export default App;
```

Terminal Output:

```
PS E:\Cognizant-Java FSE\Week 6\Code\3.ReactJS-HOL> npx create-react-app scorecalculatorapp

Creating a new React app in E:\Cognizant-Java FSE\Week 6\Code\3.ReactJS-HOL\scorecalculatorapp.

Installing packages. This might take a couple of minutes.
Installing react, react-dom, and react-scripts with cra-template...

added 1323 packages in 58s

269 packages are looking for funding
  run `npm fund` for details

Installing template dependencies using npm...

added 18 packages, and changed 1 package in 6s

269 packages are looking for funding
  run `npm fund` for details
Removing template package using npm...

removed 1 package, and audited 1341 packages in 4s

269 packages are looking for funding
  run `npm fund` for details

9 vulnerabilities (3 moderate, 6 high)

PS E:\Cognizant-Java FSE\Week 6\Code\3.ReactJS-HOL> cd scorecalculatorapp
PS E:\Cognizant-Java FSE\Week 6\Code\3.ReactJS-HOL\scorecalculatorapp> npm start

> scorecalculatorapp@0.1.0 start
> react-scripts start

(node:10520) [DEP_WEBPACK_DEV_SERVER_ON_AFTER_SETUP_MIDDLEWARE] DeprecationWarning: 'onAfterSetupMiddleware' option is deprecated. Please use 'onSetupMiddlewares' option.
(Use `node --trace-deprecation ...` to show where the warning was created)
(node:10520) [DEP_WEBPACK_DEV_SERVER_ON_BEFORE_SETUP_MIDDLEWARE] DeprecationWarning: 'onBeforeSetupMiddleware' option is deprecated. Please use 'onSetupMiddlewares' option.
Starting the development server...
```

Browser Output:

