LAB MANUAL

FOR

FULL STACK DEVELOPMENT

Semester - 1

[Subject Code: 23OMC108]

Master of Computer Applications

Prepared By

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MCA 1st Semester – Full Stack Development Laboratory

Program	Master of Computer Applications
Semester	1
Course Title	Full Stack Development Laboratory
Course Code	23OMC108
Course Credits	2
Course Type	Laboratory

1. Course Summary

The aim of this course is to gain the skills and knowledge necessary to build simple web applications as well as full-stack web applications using modern and scalable web technologies and increase employability as a full-stack developer. The students are taught the basics of HTML, CSS, JavaScript, PHP, and the basic components of Full Stack development using MERN stack widely used in the industry for developing web pages. Students will learn the use of XHTML and CSS for developing presentable web pages. They will also be able to create dynamic web pages by applying event-handling mechanisms using JavaScript. Students will understand the concepts of cookies and sessions in PHP for creating large web applications. Students will learn to develop simple ReactJS applications.

2. Course Outcomes (COs)

After the successful completion of this course, the student will be able to:

CO-1. Demonstrate the usage of XHTML tags, and CSS for developing presentable web pages[L-3]

CO-2. Develop dynamic web pages by applying event-handling mechanisms using JavaScript [L-5]

CO-3. Demonstrate the use of COOKIES and SESSION in PHP [L-3]

CO-4. Develop simple ReactJS applications.[L-5]

3. Course Contents – Full Stack Development Laboratory Programs List

Full Stack Development Laboratory Programs

12. Create a React Application to display the message "Developing using ReactJS, Graphic Era University".

Steps for creating a ReactJS project using "create-react-app"

1. To create a ReactJS project by using "**create-react-app**", at the command prompt type

   E:\Reactexamples>create-react-app myreactapp

   or

   E:\Reactexamples>npx create-react-app myreactapp

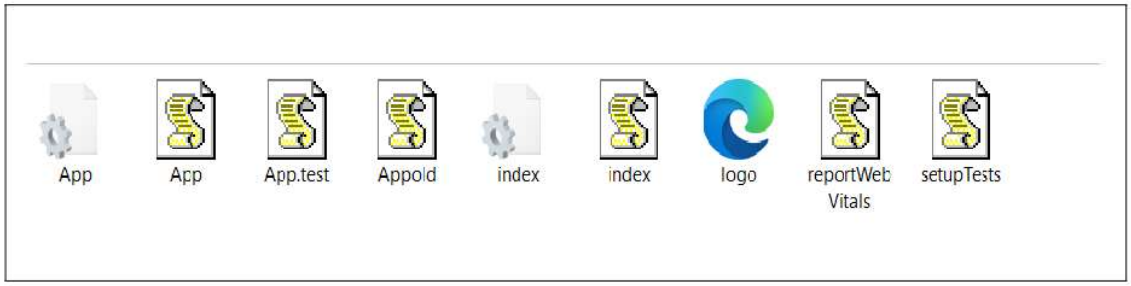
   This will create a new react project by the name "**myreactapp**"

2. Change to the new project directory created by the project **myreactapp** by giving the command at the command prompt

   E:\Reactexamples>cd myreactapp

3. Open the project folder "**myreactapp**" using Visual Studio Code

4. The folder **E:\Reactexamples\myreactapp\src** contains the files as shown below.



5. The Graphic Era University logo "**geulogo.png**" file can be placed in the **E:\Reactexamples\myreactapp\src** folder

6. The **App.js** file is responsible for displaying the output screen in React. So changes can be made in the **App.js** file which is the home page to display the message on the screen.

For displaying the message **"Developing using ReactJS, Graphic Era University"**, edit the file **"App.js"** and make the changes as shown below

"App.js"

```
import logo from './geulogo.png';
import './App.css';

function App() {
  return (
    <div className="App">
      <header className="App-header">
        <img src={logo} className="App-logo" alt="logo" />
        <p>Developing using ReactJS, Graphic Era University</p>
        </header>
    </div>
  );
}
export default App;
```

7. To change the background color to **"blue"** make the following changes in the **"App.css"** file as follows

```
.App-header {
        background-color: blue;    // default is #282c34
        min-height: 100vh;
        display: flex;
        flex-direction: column;
        align-items: center;
        justify-content: center;
        font-size: calc(10px + 2vmin);
        color: white;
}
```

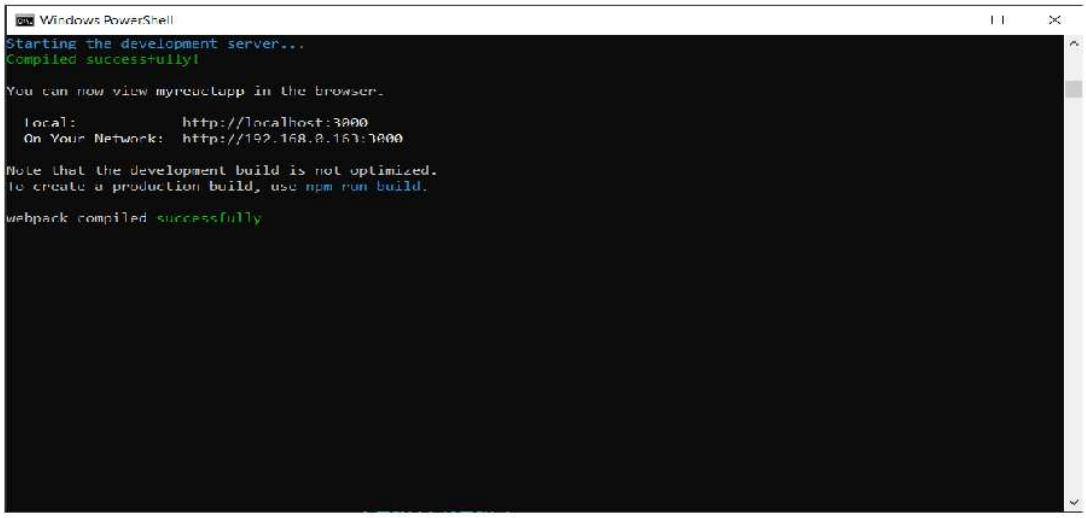
8. Make the following changes in **"index.js"** file as follows

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

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

root.render(
  <React.StrictMode>
    <App />
  </React.StrictMode>
 );
```

9. **Start the server** by giving the following command at the command prompt

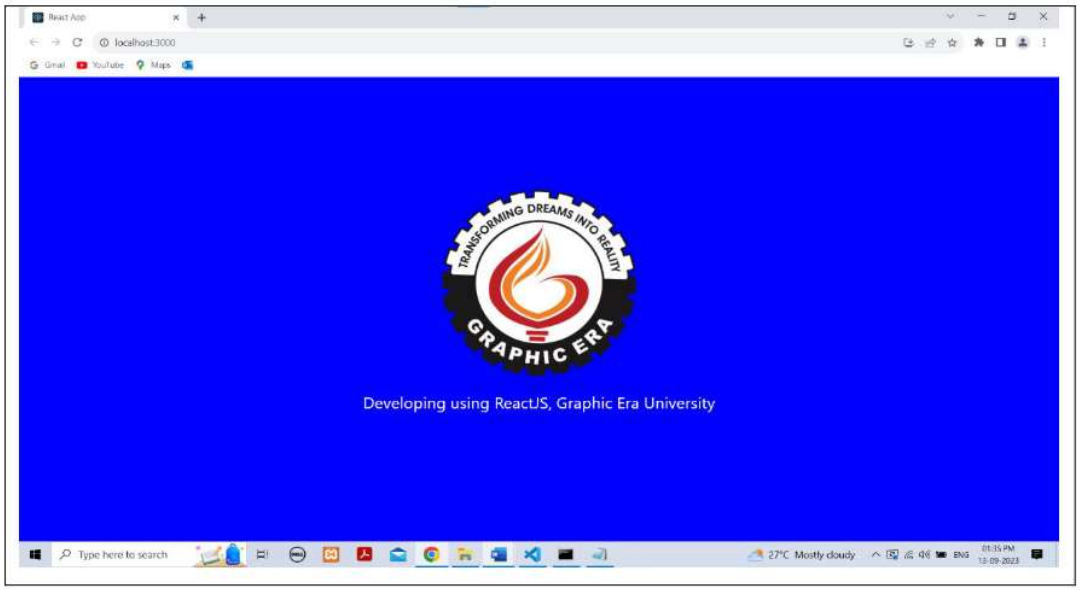
E:\Reactexamples\myreactapp\>npm start

The server gets started and displays the messages as follows if no errors are present.



10. Run the application by opening the browser and giving the **URL** http://localhost:3000 The following output is displayed with a blue background and the message **"Developing using ReactJS, Graphic Era University".**

Program 12 – Output:



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