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## Full Stack Developments - LAB 6

*React-app : Use React components to build interactive interfaces.*

### **Problem:**

In this assignment, you will demonstrate your proficiency in using React components to build interactive user interfaces. You will create a web application that incorporates various React components to deliver a dynamic and engaging user experience.

- Set up a new React project using Create React App or any preferred method.
- Ensure that your project structure is organized and follows best practices for React development.
- Design and create multiple React components to represent different parts of your application's user interface.
- Implement reusable components to enhance code modularity and maintainability.
- Apply CSS or a CSS framework (e.g., Bootstrap, Material-UI) to style your components and
- enhance the visual presentation of your application.
- Aim for a clean and aesthetically pleasing design while prioritizing usability and accessibility.
- Implement interactive features such as forms, buttons, navigation menus, and any other elements that enhance user engagement.

Design a registration form for a website and implement JavaScript event handling to ensure proper validation of user input. Your form should include the following fields: First Name, Last Name, Email, and Password.

### Installation of React App:

To install a new React app, you can use create-react-app which is a convenient tool for setting up React projects. You can install it globally using npm with the following command:

```
npm install -g create-react-app
```

Once installed, you can create a new React app by running:

```
npx create-react-app my-app
```

Replace my-app with the name you want for your project. After the project is created, you can navigate into its directory and start working on your React application.

## HTML Tags used:

1. **<form>**: Defines an HTML form for user input. It can contain input elements like text fields, checkboxes, radio buttons, submit buttons, and more.

```
<form id="validationForm">
  .
  .
  .
</form>
```

2. **<input type="button">** : Defines a clickable button that can trigger JavaScript functions

```
<input type="button" value="Activate Textboxes" onclick="activateTextboxes()" >
```

3. **<input type="submit">**: Defines a submit button for submitting form data to a server.

```
<input type="submit" value="Submit" onclick="submitForm(event)">
```

4. **<div>** is a generic container element used to group and structure content on a webpage.

```
<div class="container">
  <!-- Content goes here -->
</div>
```

## Code:

### App.js

```
import { Route, BrowserRouter as Router, Routes } from 'react-router-dom';
import LandingPage from './components/LandingPage';
import Signup from './components/Signup';
import Login from './components/Login';
import Navbar from './components/navbar';
import Home from './components/Home';

function App() {
  return (
    <div className="App">
      <Router>
        <Navbar />
        <Routes>
          <Route path="/signup" element={<Signup />} />
          <Route path="/login" element={<Login />} />

        </Routes>
      </Router>
    </div>
  );
}
```

```
export default App;
```

## Login.js

```
import React from 'react'
import '../styles/Login.css'

function Login() {
  return (
    <div className='body'>
      <form className='form'>
        <label for='label'>User Id</label>
        <input type='text' id='userid' name='userid' placeholder='Enter User Id'
required></input>
        <br></br>
        <label for='label'>Password</label>
        <input type='password' id='password' name='password' placeholder='Enter Password'
required></input>

        <br></br>
        <input type='submit' value='Log In'></input>
      </form>
    </div>
  )
}

export default Login
```

## Navbar.js

```
import React from 'react'
import logo from "../assests/sitlogo.jpg"
import { Link } from 'react-router-dom';
import '../styles/navbar.css'

function Navbar() {
  return (
    <div className='navbar'>
      <div className='navbar__left'>
        <img src={logo} alt='logo' />
      </div>

      <div className='navbar__right'>
        <Link to="/">Home</Link>
        <Link to="/login">Login</Link>
        <Link to="/signup">Sign Up</Link>
      </div>
    </div>
  )
}
```

```

    </div>

  </div>
)
}

export default Navbar

```

## Signup.js

```

import React from 'react'
import '../styles/Signup.css'

function Signup() {
  return (
    <div className='body'>
      <form className='signup'>
        <label for='label'>User Id</label>
        <input type='text' id='userid' name='userid' required></input>

        <label for='label'>Password</label>
        <input type='password' id='password' name='password' required></input>

        <label for='label'>Confirm Password</label>
        <input type='password' id='cpassword' name='cpassword' required></input>

        <label for='label'>Name</label>
        <input type='text' id='name' name='name' required></input>

        <label for='label'>Email</label>
        <input type='email' id='email' name='email' required></input>

        <label for='label'>Country</label>
        <select id='country' name='country' required>
          <option value='Bangladesh'>Bangladesh</option>
          <option value='India'>India</option>
          <option value='Pakistan'>Pakistan</option>
          <option value='Sri Lanka'>Sri Lanka</option>
        </select>

        <input type='submit' name='Registration' value='Sign Up'></input>
      </form>
    </div>
  )
}

```

```
}
export default Signup
```

## CSS:

### Login.css

```
.body{
  font-family: Arial, Helvetica, sans-serif;
  display: flex;
  justify-content: center;
  align-items: center;
  height: 100vh ;
  background-color: #f9f9f9;
}

form{
  max-width: 400px;
  width: 100%;
  background-color: #fff;
  padding: 20px;
  box-shadow: 0 0 10px 0 rgba(0,0,0,.5);
  border-radius: 8px;
}

label{
  display: block;
  margin-bottom: 8px;
  font-weight: bold ;
}

input,select{
  width: 100%;
  padding: 8px;
  border-radius: 4px;
  margin-bottom: 5px;
  border: 1px solid #ccc;
  box-sizing: border-box;
}

input[type=submit]{
  background-color: #45a049;
  color: white;
  margin-top: 10px;
}

input[type=submit]:hover{
  background-color: green;
  color: white;
}
```

```
input[type=radio]{
  margin-right: 5px;
}

.group {
  display: flex;
  gap: 10px;
}
```

## Navbar.css

```
.navbar{
  width: 100%;
  height: 100%;
  background-color: black;
  display: flex;
  flex-direction: row;
}

.navbar .navbar__left{
  flex : 50%;
  height: 100%;
  display: flex;
  align-items: center;
  padding-left: 20px;
}

.navbar .navbar__left img{
  width: 70px;
  height: 70px;
}

.navbar .navbar__right{
  flex : 50%;
  height: 100%;
  display: flex;
  justify-content: flex-end;
  padding-left: 20px;
}

.navbar a{
  color: white;
  margin: 20px;
}
```

## Signup.css

```
.body{
```

```

    font-family: Arial, Helvetica, sans-serif;
    display: flex;
    justify-content: center;
    align-items: center;
    height: 100vh ;
    background-color: #f9f9f9;
}

form{
    max-width: 400px;
    width: 100%;
    background-color: #fff;
    padding: 40px;
    box-shadow: 0 0 10px 0 rgba(0,0,0,.5);
    border-radius: 8px;
}

label{
    display: block;
    margin-bottom: 8px;
    font-weight: bold ;
}

input,select{
    width: 100%;
    padding: 8px;
    border-radius: 4px;
    margin-bottom: 5px;
    border: 1px solid #ccc;
    box-sizing: border-box;
}

input[type=submit]{
    background-color: #45a049;
    color: white;
    margin-top: 10px;
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    color: white;
}

input[type=radio]{
    margin-right: 5px;
}

.group {
    display: flex;
    gap: 10px;
}

```

## Explanation of Js Code:

### App.js:

This file serves as the main entry point of the React application. It sets up routing using `react-router-dom`, defining routes for different components. Here's a brief explanation:

- **Import Statements:** Import necessary components and routing functionalities.
- **App Function:** Defines the main App component which wraps the entire application.
- **Router Setup:** Utilizes `BrowserRouter` to establish routing functionality.
- **Routes:** Defines different routes using `<Routes>` and `<Route>` components, mapping URLs to corresponding components.

### Login.js and Signup.js:

These files contain React components representing the login and signup forms, respectively. They define form elements like input fields and submit buttons. Here's a brief explanation for both:

- **Component Function:** Defines a functional component for the login/signup form.
- **Form Structure:** Includes HTML form elements like labels, inputs, and submit buttons.
- **Styling:** Applies CSS classes to style the form elements.
- **Export:** Exports the component for use in other parts of the application.

### Navbar.js:

This file contains the navigation bar component for the application. It displays links to different pages of the application. Here's an explanation:

- **Component Function:** Defines a functional component for the navigation bar.
- **Navigation Links:** Uses `<Link>` component from `react-router-dom` to create links to different pages.
- **Styling:** Applies CSS classes to style the navigation bar.
- **Export:** Exports the component for use in other parts of the application.

### CSS Files:

These files contain CSS styles for the corresponding components. They define styles for elements like forms, labels, inputs, and navigation bars.



## Output:

localhost:3000/signup

Home Login Sign Up

**User Id**  
astro2105

**Password**  
\*\*\*\*\*

**Confirm Password**  
\*\*\*\*\*

**Name**  
Jainil Patel

**Email**  
jainil.patel.btech2021@sitpune.edu.in

**Country**  
India

Sign Up

localhost:3000/login

Home Login Sign Up

**User Id**  
astro215

**Password**  
\*\*\*\*\*

Log In