

FEDF Assignment 2 – CGPA Management System Using ReactJS Routing

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Overview

This document provides the complete explanation and implementation details of the **CGPA Management System** developed using **ReactJS** and **React Router DOM**.

The application allows users to **add and view student CGPA details** through a smooth, route-based interface.

Project Summary

The project uses **React Router DOM** to manage navigation between two main pages:

1. AddCGPA Page:

- Accepts student details such as name, roll number, and CGPA.
- Stores the entered data using React's state management.

2. ViewCGPA Page:

- Displays the stored student details for easy viewing.

Routing ensures seamless switching between these two pages without reloading the application.

Commands Executed in Terminal

```
npx create-react-app student-cgpa
```

```
cd student-cgpa
```

```
npm install react-router-dom
```

```
npm start
```

Code Implementation

AddCGPA.jsx

```

import React, { useState } from "react";

const AddCGPA = ({ setData }) => {
  const [studentName, setStudentName] = useState("");
  const [rollNumber, setRollNumber] = useState("");
  const [cgpa, setCgpa] = useState("");

  const handleSubmit = (e) => {
    e.preventDefault();
    if (studentName && rollNumber && cgpa) {
      setData({ studentName, rollNumber, cgpa });
      alert("Student CGPA Added Successfully!");
    } else {
      alert("Please fill all fields!");
    }
  };

  return (
    <div>
      <h2>Add Student CGPA</h2>
      <form onSubmit={handleSubmit}>
        <div>
          <label>Student Name:</label>
          <input
            type="text"
            value={studentName}
            onChange={(e) => setStudentName(e.target.value)}
            placeholder="Enter name"

```

```
        required
      />
    </div>
    <div>
      <label>Roll Number:</label>
      <input
        type="text"
        value={rollNumber}
        onChange={(e) => setRollNumber(e.target.value)}
        placeholder="Enter roll number"
        required
      />
    </div>
    <div>
      <label>CGPA:</label>
      <input
        type="number"
        step="0.01"
        value={cgpa}
        onChange={(e) => setCgpa(e.target.value)}
        placeholder="Enter CGPA"
        required
      />
    </div>
    <button type="submit">Add CGPA</button>
  </form>
</div>
);
```

```
};
```

```
export default AddCGPA;
```

ViewCGPA.jsx

```
import React from "react";
```

```
const ViewCGPA = ({ studentData }) => {
```

```
  return (
```

```
    <div>
```

```
      <h2>View Student CGPA</h2>
```

```
      {studentData ? (
```

```
        <div>
```

```
          <p><strong>Student Name:</strong> {studentData.studentName}</p>
```

```
          <p><strong>Roll Number:</strong> {studentData.rollNumber}</p>
```

```
          <p><strong>CGPA:</strong> {studentData.cgpa}</p>
```

```
        </div>
```

```
      ) : (
```

```
        <p>No student data available. Please add CGPA first.</p>
```

```
    )}
```

```
    </div>
```

```
  );
```

```
};
```

```
export default ViewCGPA;
```

App.jsx

```
import React, { useState } from "react";
```

```
import { BrowserRouter as Router, Route, Routes, Link } from "react-router-dom";
import AddCGPA from "../components/AddCGPA";
import ViewCGPA from "../components/ViewCGPA";

const App = () => {
  const [studentData, setStudentData] = useState(null);

  return (
    <Router>
      <div
        style={{
          display: "flex",
          flexDirection: "column",
          alignItems: "center",
          justifyContent: "center",
          height: "100vh",
          textAlign: "center",
          backgroundColor: "#f9f9f9",
        }}
      >
        <nav style={{ marginBottom: "20px" }}>
          <ul style={{ listStyleType: "none", padding: 0, display: "flex", gap: "20px" }}>
            <li>
              <Link to="/" style={{ textDecoration: "none", color: "#007BFF", fontWeight: "bold"
            </Link>
          </li>
          <li>
              <Link to="/add" style={{ textDecoration: "none", color: "#007BFF", fontWeight: "bold"
            </Link>
          </li>
          <li>
              <Link to="/view" style={{ textDecoration: "none", color: "#007BFF", fontWeight: "bold"
            </Link>
          </li>
        </ul>
      </nav>
      <div>
        <AddCGPA />
      </div>
    </div>
  )
}
```

```

    </li>

    <Link to="/view-cgpa" style={{ textDecoration: "none", color: "#007BFF",
fontWeight: "bold" }}>
      View CGPA
    </Link>

  </li>

</ul>

</nav>

<div style={{ width: "100%", maxWidth: "500px" }}>
  <Routes>
    <Route path="/" element={<AddCGPA setStudentData={setStudentData} />} />
    <Route path="/view-cgpa" element={<ViewCGPA studentData={studentData} />} />
  </Routes>
</div>
</div>
</Router>
);
};

```

```
export default App;
```

index.js

```

import React from "react";
import ReactDOM from "react-dom/client";
import App from "./App";

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

```

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

Outputs:

[Add CGPA](#) [View CGPA](#)

Add Student CGPA

Student Name:

Roll Number:

CGPA:

localhost:3000 says

Student CGPA Added Successfully!

[Add CGPA](#) [View CGPA](#)

Add Student CGPA

Student Name:

Roll Number:

CGPA:

GitHub Repository

 <https://github.com/Avinash-2007-M/FEDF-Assignments>