Module 4

Exercise 8(NextJs API Route)

Q1.) Create a json file with 5 records of teachers and 30 records of students.

A1.) students.json

Module4 > Exercise8 > api-proj > public > data > {} students.json > ...


```
{
  "students": [
    {"id":1,"name":"Aarav","standard":"10th","mentor":"Sapna"},
    {"id":2,"name":"Vivaan","standard":"9th","mentor":"Ashish"},
    {"id":3,"name":"Aditya","standard":"8th","mentor":"Tanya"},
    {"id":4,"name":"Krishna","standard":"10th","mentor":"Samar"},
    {"id":5,"name":"Ishaan","standard":"9th","mentor":"Mayank"},
    {"id":6,"name":"Ananya","standard":"8th","mentor":"Sapna"},
    {"id":7,"name":"Diya","standard":"7th","mentor":"Ashish"},
    {"id":8,"name":"Saanvi","standard":"6th","mentor":"Tanya"},
    {"id":9,"name":"Aanya","standard":"10th","mentor":"Samar"},
    {"id":10,"name":"Riya","standard":"9th","mentor":"Mayank"},
    {"id":11,"name":"Arjun","standard":"8th","mentor":"Sapna"},
    {"id":12,"name":"Kabir","standard":"7th","mentor":"Ashish"},
    {"id":13,"name":"Reyansh","standard":"6th","mentor":"Tanya"},
    {"id":14,"name":"Atharv","standard":"10th","mentor":"Samar"},
    {"id":15,"name":"Shaurya","standard":"9th","mentor":"Mayank"},
    {"id":16,"name":"Myra","standard":"8th","mentor":"Sapna"},
    {"id":17,"name":"Kiara","standard":"7th","mentor":"Ashish"},
    {"id":18,"name":"Navya","standard":"6th","mentor":"Tanya"},
    {"id":19,"name":"Meera","standard":"10th","mentor":"Samar"},
    {"id":20,"name":"Ira","standard":"9th","mentor":"Mayank"},
    {"id":21,"name":"Yash","standard":"8th","mentor":"Sapna"},
    {"id":22,"name":"Rohan","standard":"7th","mentor":"Ashish"},
    {"id":23,"name":"Aryan","standard":"6th","mentor":"Tanya"},
    {"id":24,"name":"Dev","standard":"10th","mentor":"Samar"},
    {"id":25,"name":"Harsh","standard":"9th","mentor":"Mayank"},
    {"id":26,"name":"Nitya","standard":"8th","mentor":"Sapna"},
    {"id":27,"name":"Tanvi","standard":"7th","mentor":"Ashish"},
    {"id":28,"name":"Pari","standard":"6th","mentor":"Tanya"},
    {"id":29,"name":"Siddharth","standard":"10th","mentor":"Samar"},
    {"id":30,"name":"Laksh","standard":"9th","mentor":"Mayank"}
  ]
```

teachers.json

Module4 > Exercise8 > api-proj > public > data > {} teachers.json > [ ] teachers > { } 4 > abc subject


```
{
  "teachers": [
    {
      "id": "1",
      "name": "Sapna",
      "subject": "OOPS"
    },
    {
      "id": "2",
      "name": "Ashish",
      "subject": "C++"
    },
    {
      "id": "3",
      "name": "Tanya",
      "subject": "Java"
    },
    {
      "id": "4",
      "name": "Samar",
      "subject": "Javascript"
    },
    {
      "id": "5",
      "name": "Mayank",
      "subject": "ReactJs"
    }
  ]
}
```

Q2.) Create an API endpoint to fetch the list of all the teachers.

A2.) api/teacher

```
e4 > Exercise8 > api-proj > app > api > teacher > route.js > POST
import fs from 'fs'
import path from 'path';
export async function GET() {
    try{
        const res=await fetch('http://localhost:3000/data/teachers.json');
        const data= await res.json();

        return Response.json(data)
    }catch(error){
        return Response.json(
            {error:error.message},
            {status:500}
        )
    }
}
```

/teachers

```
e4 > Exercise8 > api-proj > app > teachers > page.jsx > TeachersPage
"use client";

import { useEffect, useState } from "react";
import './page.css'

export default function TeachersPage() {
  const [teachers, setTeachers] = useState([]);
  const [form, setForm] = useState({
    id:0,
    name: "",
    subject: "",
  });

  const getTeachers = async () => {
    const res = await fetch("/api/teacher");
    const data = await res.json();
    setTeachers(data.teachers || []);
  };

  useEffect(() => {
    getTeachers();
  }, []);
```

Output


Teachers List
Sapna - OOPS
Ashish - C++
Tanya - Java
Samar - Javascript
Mayank - ReactJs

Q3.) Create an API endpoint to fetch the list of all the students.

A3.) api/student

```
export async function GET(request) {
  try {
    const { searchParams } = new URL(request.url);
    const teacherName = searchParams.get('teacherName');
    const res=await fetch('http://localhost:3000/data/students.json');
    const {students}=await res.json();

    if (!teacherName) {
      return Response.json(
        students
      );
    }
```

/students

```
"use client";

import { useState } from "react";
import './page.css'

export default function StudentsPage() {
  const [teacherName, setTeacherName] = useState("");
  const [students, setStudents] = useState([]);

  const fetchStudents = async () => {
    if(teacherName===""){
        const res=await fetch('/api/student');
        const data=await res.json();

        setStudents(data);
    }
```

Output


Aarav - Mentor: Sapna
Vivaan - Mentor: Ashish
Aditya - Mentor: Tanya
Krishna - Mentor: Samar
Ishaan - Mentor: Mayank
Ananya - Mentor: Sapna
Diya - Mentor: Ashish
Saanvi - Mentor: Tanya
Aanya - Mentor: Samar
Riya - Mentor: Mayank
Arjun - Mentor: Sapna
Kabir - Mentor: Ashish
Reyansh - Mentor: Tanya
Atharv - Mentor: Samar
Shaurya - Mentor: Mayank
Myra - Mentor: Sapna
Kiara - Mentor: Ashish

Q4.) Create an API endpoint to fetch the list of students who are under a specific teacher.

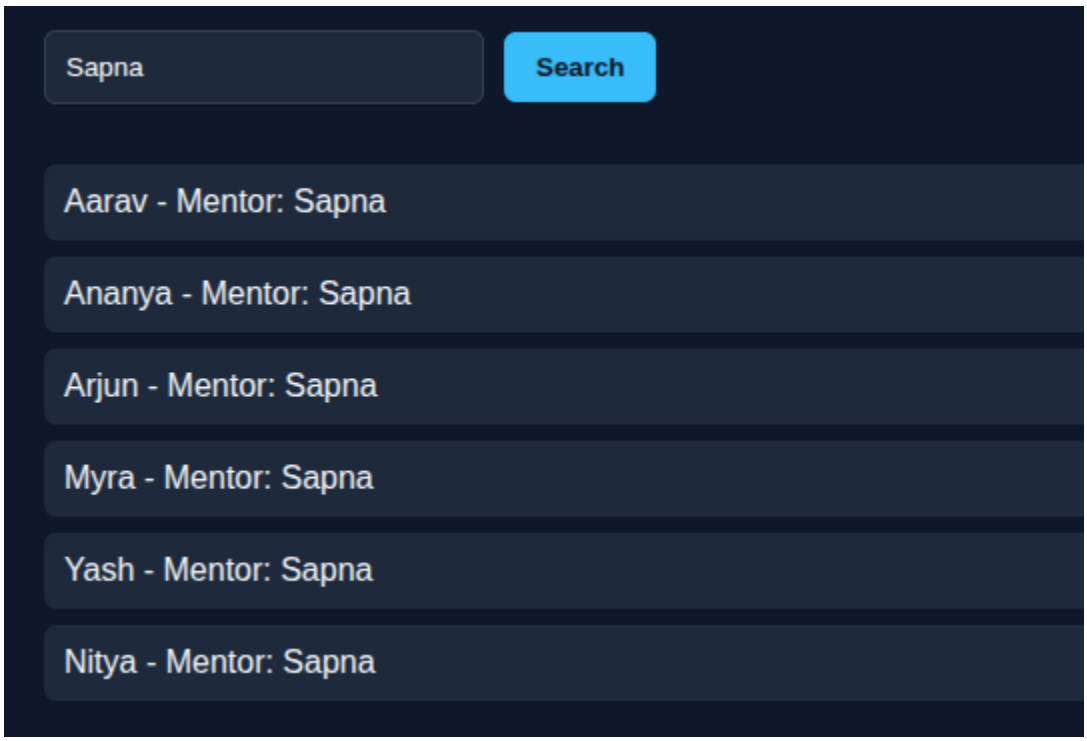
A4.) api/student

```
    const filteredStudents =students.filter(
      (student) =>
        student.mentor.toLowerCase() === teacherName.toLowerCase()
    );

    return Response.json(filteredStudents);
  } catch (error) {
    return Response.json(
      { error: error.message },
      { status: 500 }
    );
  }
}
```

/students

```
  else{
      const res = await fetch(
      `/api/student?teacherName=${teacherName}`
      );

      const data = await res.json();

      setStudents(data);
  }

};

return (
  <div className="students-page">
    <h2>Find Students by Teacher</h2>

    <input
      type="text"
      placeholder="Teacher Name"
      value={teacherName}
      onChange={(e) => setTeacherName(e.target.value)}
```

Output


Sapna
Search
Aarav - Mentor: Sapna
Ananya - Mentor: Sapna
Arjun - Mentor: Sapna
Myra - Mentor: Sapna
Yash - Mentor: Sapna
Nitya - Mentor: Sapna

Q5.) Create an endpoint to add a teacher in the list. (Optional)

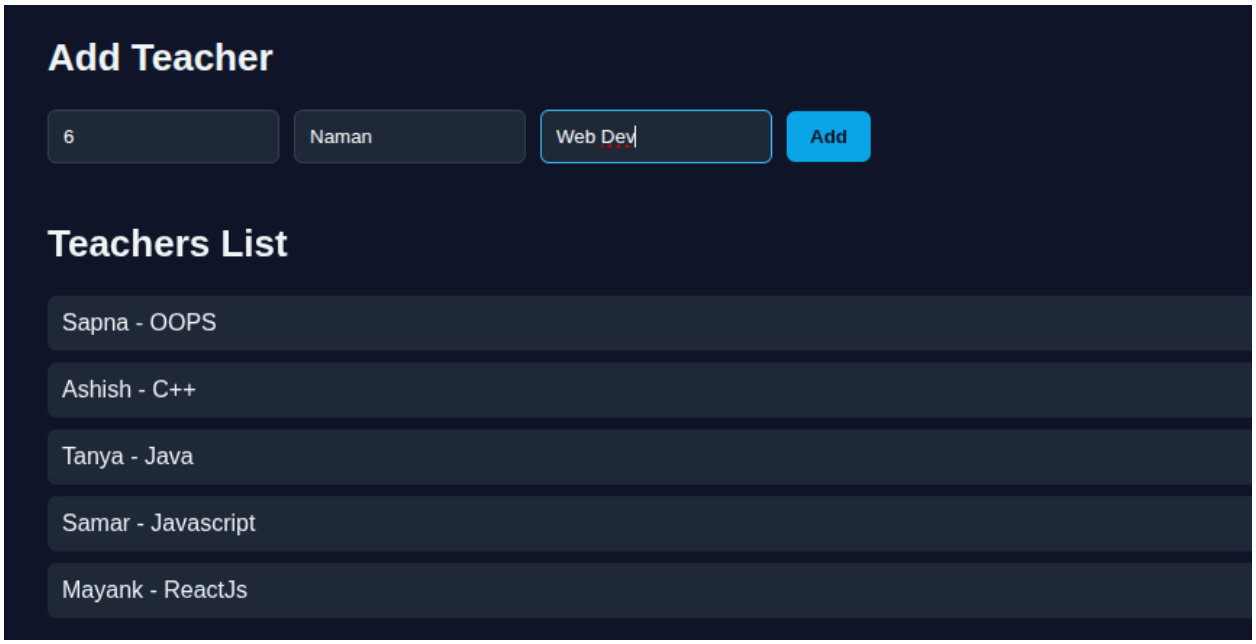
A5.) /api/teacher

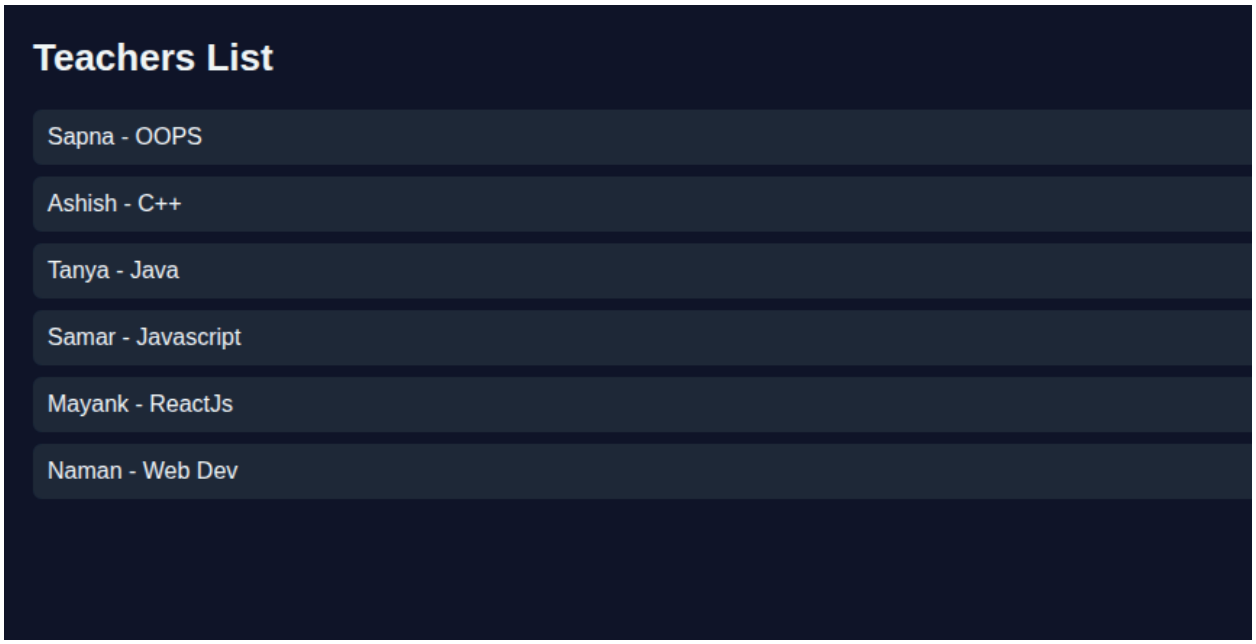
```
const filePath=path.join(process.cwd(),'public/data/teachers.json')
export async function POST(req) {
    try{
        const body=await req.json();
        const fileData=fs.readFileSync(filePath,'utf-8');
        const {teachers}=JSON.parse(fileData);
        teachers.push(body);

        fs.writeFileSync(filePath,JSON.stringify({teachers},null,2));

        return Response.json({
            message:"Teachers are added succesfully"

        },{
            status:200
        });
    }
    catch(error){
        return Response.json({
            message:error.message},
            {status:error.status}
        )
    }
}
```

/teachers

```
const handleSubmit = async (e) => {
  e.preventDefault();

  const res = await fetch("/api/teacher", {
    method: "POST",
    headers: {
      "Content-Type": "application/json",
    },
    body: JSON.stringify(form),
  });

  if (res.ok) {
    setForm({ id:0, name: "", subject: "" });
    getTeachers();
  }
};

return (
  <div className="teachers-page">
    <h2>Add Teacher</h2>

    <form onSubmit={handleSubmit}>
      <input
        type="number"
        placeholder="Id"
        value={form.id}
        onChange={(e) =>
          setForm({ ...form, id: e.target.value })
        }
        required
```

Output


Add Teacher
6
Naman
Web Dev
Add
Teachers List
Sapna - OOPS
Ashish - C++
Tanya - Java
Samar - Javascript
Mayank - ReactJs


Teachers List
Sapna - OOPS
Ashish - C++
Tanya - Java
Samar - Javascript
Mayank - ReactJs
Naman - Web Dev