School Management REST API Specification

Overview

This API allows users to manage students, teachers, courses, and enrollments in a school system.

Base URL

```
http://localhost:8000/api/v1
```

Endpoints

1. Students

GET /students

- **Description:** Retrieve a list of all students.
- **Response:**

```
[
  {
    "id": 1,
    "name": "John Doe",
    "birthdate": "2006-05-15",
    "grade": "10th"
  }
]
```

GET /students/{id}

- **Description:** Retrieve details of a specific student.
- **Response:**

```
{
  "id": 1,
  "name": "John Doe",
  "birthdate": "2006-05-15",
```

```
  "grade": "10th"
}
```

POST /students

- **Description:** Add a new student.
- **Request Body:**

```
{
  "name": "Jane Doe",
  "birthdate": "2007-08-20",
  "grade": "9th"
}
```

- **Response:**

```
{
  "id": 2,
  "name": "Jane Doe",
  "birthdate": "2007-08-20",
  "grade": "9th"
}
```

PUT /students/{id}

- **Description:** Update an existing student.
- **Request Body:**

```
{
  "name": "John Doe",
  "birthdate": "2006-05-15",
  "grade": "11th"
}
```

- **Response:**

```
{
  "id": 1,
  "name": "John Doe",
  "birthdate": "2006-05-15",
```

```
    "grade": "11th"
}
```

DELETE /students/{id}

- **Description:** Remove a student.
- **Response:**

```
{
  "message": "Student deleted successfully"
}
```

2. Teachers

GET /teachers

- **Description:** Retrieve a list of all teachers.
- **Response:**

```
[
  {
    "id": 1,
    "name": "Mr. Smith",
    "subject": "Mathematics"
  }
]
```

GET /teachers/{id}

- **Description:** Retrieve details of a specific teacher.
- **Response:**

```
{
  "id": 1,
  "name": "Mr. Smith",
  "subject": "Mathematics"
}
```

POST /teachers

- **Description:** Add a new teacher.
- **Request Body:**

```
{
  "name": "Mrs. Johnson",
  "subject": "Science"
}
```

- **Response:**

```
{
  "id": 2,
  "name": "Mrs. Johnson",
  "subject": "Science"
}
```

PUT /teachers/{id}

- **Description:** Update an existing teacher.
- **Request Body:**

```
{
  "name": "Mr. Smith",
  "subject": "Physics"
}
```

- **Response:**

```
{
  "id": 1,
  "name": "Mr. Smith",
  "subject": "Physics"
}
```

DELETE /teachers/{id}

- **Description:** Remove a teacher.
- **Response:**

```
{
  "message": "Teacher deleted successfully"
}
```

3. Courses

GET /courses

- **Description:** Retrieve a list of all courses.
- **Response:**

```
[
  {
    "id": 101,
    "name": "Algebra 1",
    "teacher_id": 1
  }
]
```

GET /courses/{id}

- **Description:** Retrieve details of a specific course.
- **Response:**

```
{
  "id": 101,
  "name": "Algebra 1",
  "teacher_id": 1
}
```

4. Enrollments

POST /enrollments

- **Description:** Enroll a student in a course.
- **Request Body:**

```
{
  "student_id": 1,
```

```
    "course_id": 101
  }
```

- **Response:**

```
{
  "message": "Student enrolled successfully"
}
```

GET /enrollments/{student_id}

- **Description:** Retrieve all courses a student is enrolled in.
- **Response:**

```
{
  "student": {
    "id": 1,
    "name": "John Doe",
    "birthdate": "2006-05-15",
    "grade": "10th"
  },
  "enrollments": [
    {
      "course_id": 101,
      "course_name": "Algebra 1"
    }
  ]
}
```

DELETE /enrollments/{student_id}/{course_id}

- **Description:** Remove a student from a course.
- **Response:**

```
{
  "message": "Student unenrolled successfully"
}
```

Status Codes

- **200 OK** – Successful request.
- **201 Created** – Resource successfully created.
- **400 Bad Request** – Invalid request data.
- **404 Not Found** – Resource not found.
- **500 Internal Server Error** – Server error.