



COLLEGE NAME: MEENAKSHI COLLEGE OF ENGINEERING

COLLEGE CODE: 3114

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GIT HUB LINK: <https://github.com/Arivu611/crud.git>

COLLEGE COUNSELING MANAGEMENT SYSTEM

1. INTRODUCTION

The College Counseling System is a web-based application developed to help manage the college counseling process in an organized and efficient manner.

This system allows administrators to store, update, view, and delete student information digitally.

It reduces manual work and improves accuracy in handling student data during counseling.

2. PROBLEM STATEMENT

Traditional college counseling is mostly done manually, which leads to:

Data duplication

Human errors

Time consumption

Difficulty in managing large student records

Hence, there is a need for an automated system to manage the counseling process efficiently.

3. OBJECTIVES OF THE PROJECT

The main objectives of the College Counseling System are:

To automate the student counseling process

To store student data securely

To perform fast data retrieval

To reduce manual errors

To provide a structured counseling workflow

4. SCOPE OF THE PROJECT

The scope of this project includes:

Managing student details

Performing CRUD operations (Create, Read, Update, Delete)

Providing API-based backend support

Testing APIs using Postman

This system can be enhanced in the future by:

Adding a frontend user interface

Connecting to a database

Implementing real-time counseling logic

5. SYSTEM REQUIREMENTS

5.1 Hardware Requirements

Computer or Laptop

Minimum 4 GB RAM

Internet connection (optional)

5.2 Software Requirements

Operating System: Windows / Linux

Node.js

Visual Studio Code

Postman

Web Browser

6. TECHNOLOGIES USED

Programming Language: JavaScript

Backend Runtime: Node.js

Framework: Express.js

API Testing Tool: Postman

Development Tool: Visual Studio Code

7. SYSTEM ARCHITECTURE

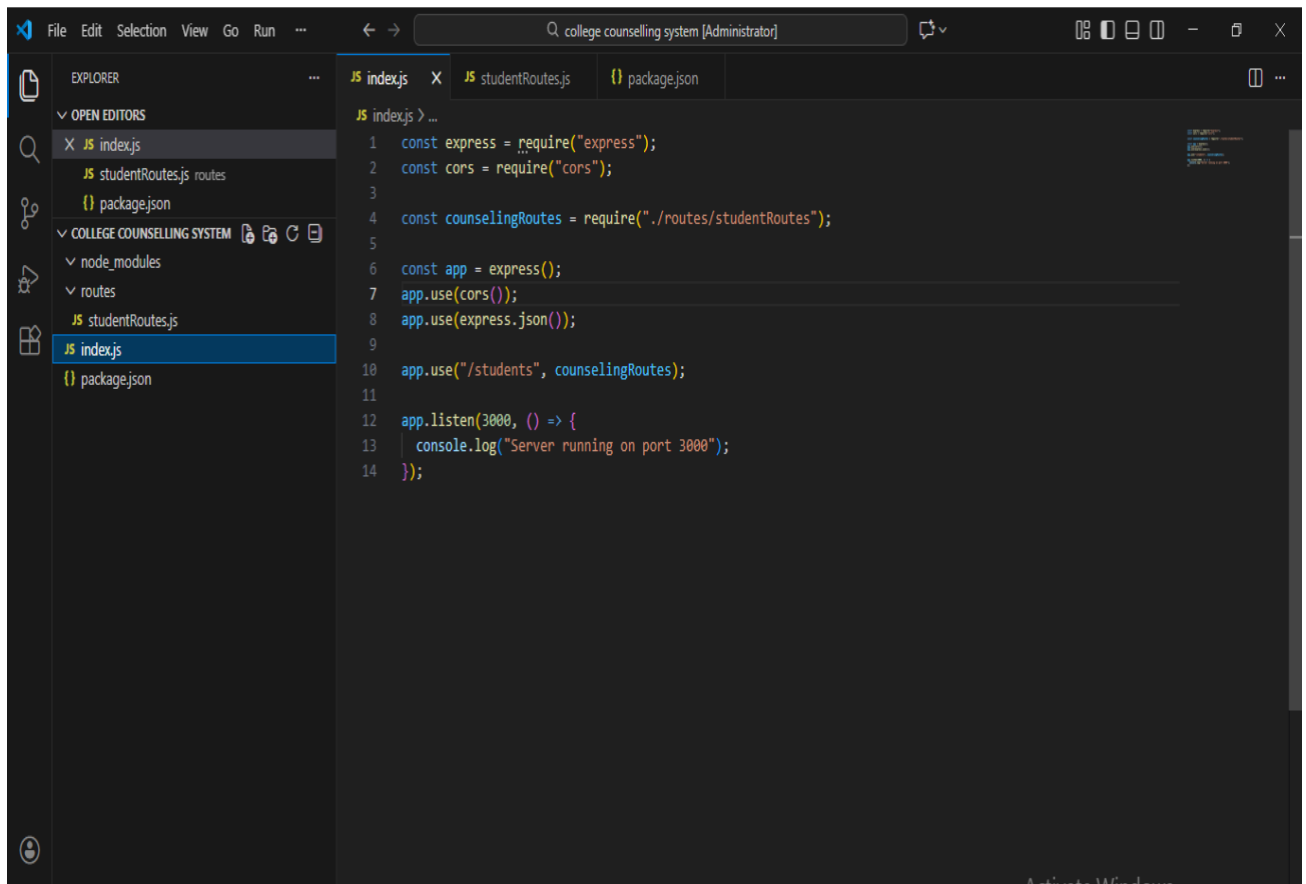
The College Counseling System follows a client-server architecture.

The client sends HTTP requests.

The server processes the requests.

The server returns responses in JSON format.

The system uses REST APIs to communicate between client and server.



The screenshot shows the Visual Studio Code interface with a project named "college counselling system [Administrator]". The Explorer sidebar on the left shows the file structure: "index.js" is selected under "COLLEGE COUNSELLING SYSTEM". The main editor displays the content of "index.js":

```
1  const express = require("express");
2  const cors = require("cors");
3
4  const counselingRoutes = require("./routes/studentRoutes");
5
6  const app = express();
7  app.use(cors());
8  app.use(express.json());
9
10 app.use("/students", counselingRoutes);
11
12 app.listen(3000, () => {
13   console.log("Server running on port 3000");
14 });
```

```
routes > JS studentRoutes.js > router.post("/") callback
1  const express = require("express");
2  const router = express.Router();
3
4  // Temporary data (acts like database)
5  let students = [
6    { id: 1, name: "Arun", dept: "CSE", age: 23 },
7    { id: 2, name: "Aravind", dept: "ECE", age: 21 }
8  ];
9
10 // GET - Get all students
11 router.get("/", (req, res) => {
12   res.json(students);
13 });
14
15 // POST - Add new student
16 router.post("/", (req, res) => {
17   const newStudent = req.body;
18   students.push(newStudent);
19
20   res.json({
21     message: "Student added successfully",
22     students
23   });
24 });
25
26 // PUT - Update student
27 router.put("/", (req, res) => {
28   const updatedStudent = req.body;
29
30   students = students.map(student =>
```

```
{ package.json > ...
1  {
2    "name": "college-counselling-system",
3    "version": "1.0.0",
4    "main": "node index.js",
5    "scripts": {
6      "start": "node index.js"
7    }
8  }
9  |
```

8. MODULE DESCRIPTION

Student Management Module

This module handles all student-related operations:

Add student details

View student list

Update student information

Delete student records

9. WORKING PRINCIPLE

The server is started using Node.js.

APIs are created using Express.js.

Postman is used to send requests to the server.

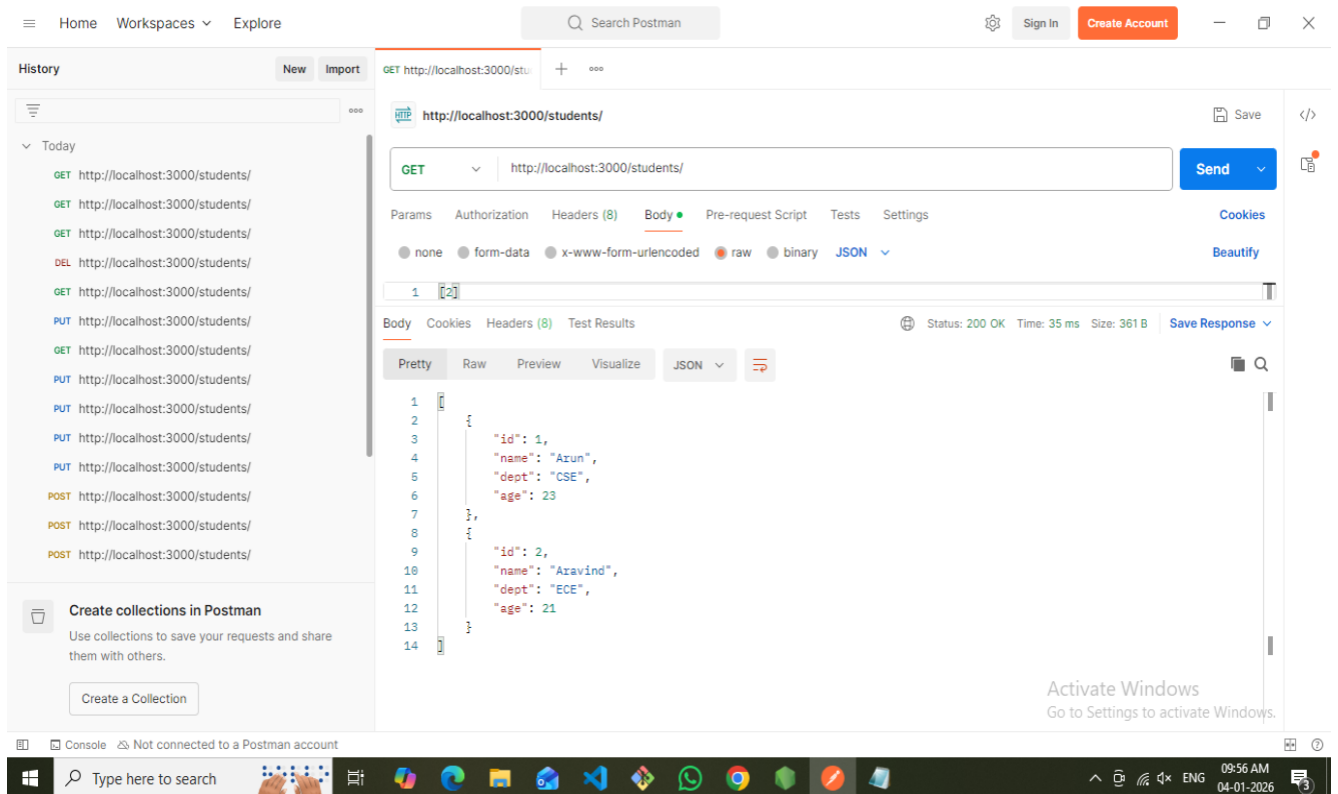
The server processes the request.

The response is sent back in JSON format.

10. API OPERATIONS

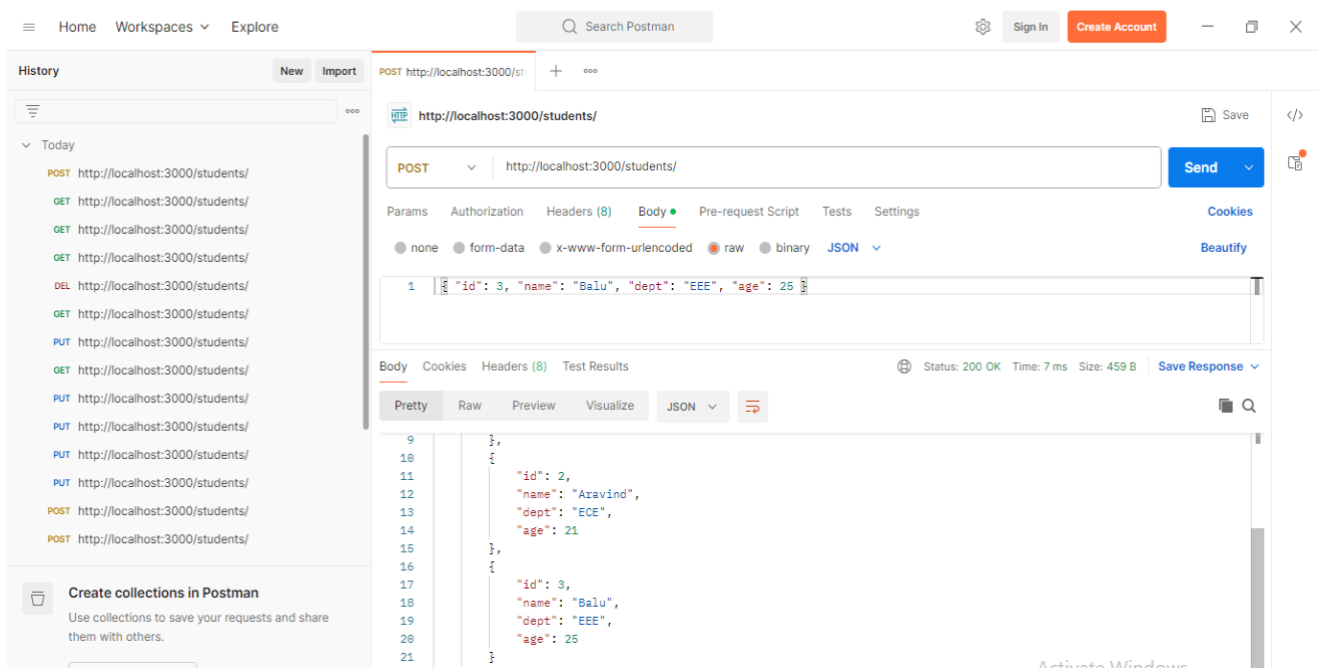
GET Operation

Used to fetch student details



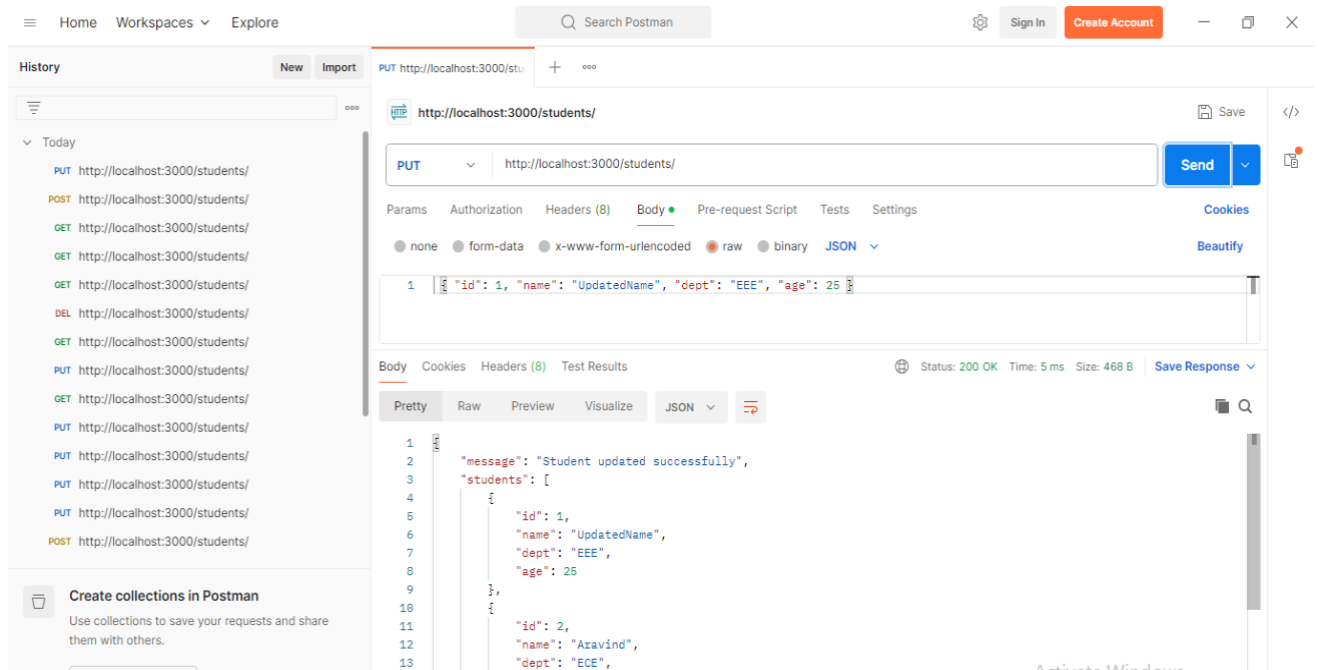
POST Operation

Used to add new student information



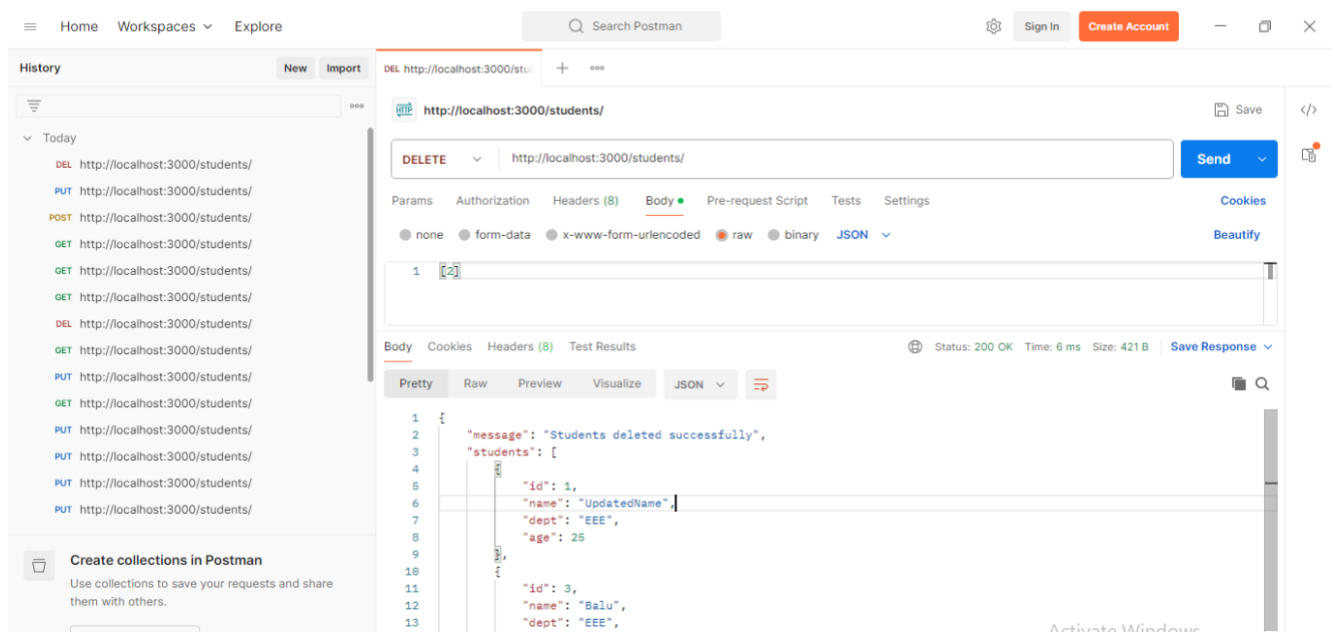
PUT Operation

Used to update existing student data



DELETE Operation

Used to delete student records



11. ADVANTAGES OF THE SYSTEM

Easy to use

Saves time

Reduces manual errors

Organized data handling

Scalable for future enhancement

12. LIMITATIONS

No frontend UI

No permanent database

Limited to backend operations

13. FUTURE ENHANCEMENTS

Database integration (MySQL / Mongo DB)

User authentication

Frontend interface

College cutoff logic

Role-based access (Admin / Student)

14. CONCLUSION

The College Counseling System provides an efficient solution for managing student counseling data.

It simplifies the counseling process and reduces manual effort.

This project demonstrates the practical implementation of REST APIs using Node.js and Express.

15. REFERENCES

Node.js Official Documentation

Express.js Documentation

Postman Learning Center

The screenshot shows a web browser window displaying a GitHub repository page. The browser's address bar shows the URL `github.com/Arivu611/crud/tree/arivanantham`. The repository is named `crud` and is public. It has 2 branches and 0 tags. The repository is owned by `Arivu611`. The page shows a commit from 1 minute ago with 1 commit. The commit message is "Add files via upload". The commit includes three files: `index.js`, `package.json`, and `studentRoutes.js`. Each file has a link to "Add files via upload" and a timestamp of "1 minute ago". The repository has a README section with the text "Add a README" and "Help people interested in this repository understand your project." The right sidebar shows the repository's activity, including 0 stars, 0 watching, and 0 forks. It also shows the "Releases" section with "No releases published" and a link to "Create a new release". The "Packages" section shows "No packages published" and a link to "Publish your first package". The "Languages" section shows "Activate Windows".

crud Public

Pin Watch 0 Fork 0 Star 0

arivanantham 2 Branches 0 Tags

Go to file Add file Code

About

No description, website, or topics provided.

Activity

0 stars

0 watching

0 forks

Releases

No releases published

Create a new release

Packages

No packages published

Publish your first package

Languages

Activate Windows

Arivu611 Add files via upload 2014665 · 1 minute ago 1 Commit

index.js Add files via upload 1 minute ago

package.json Add files via upload 1 minute ago

studentRoutes.js Add files via upload 1 minute ago

README

Add a README

Help people interested in this repository understand your project.