

# STUDENT MANAGEMENT SERVICE

DATABASE SCHEMA:

1. SCHEMA DETAILS

- Table 1: For storing student login details

| FIELD NAME | DATA TYPE | DESCRIPTION                          |                                       |
|------------|-----------|--------------------------------------|---------------------------------------|
|            |           |                                      |                                       |
| SID        | STRING    | A unique id assigned to each student | PRIMARY KEY, NOT NULL, AUTO-INCREMENT |
| PASS       | STRING    | Password of each student             | NOT NULL                              |

- Table 2: For storing the student details

| FIELD NAME | DATA TYPE | DESCRIPTION                           |                        |
|------------|-----------|---------------------------------------|------------------------|
|            |           |                                       |                        |
| SID        | STRING    | Unique ID of the student              | FOREIGN KEY, NOT NULL, |
| S_NAME     | STRING    | Name of the student                   | NOT NULL               |
| CLASS      | STRING    | Class to which the student belongs to | NOT NULL               |
| AY         | INT       | Academic Year                         | NOT NULL               |
| SUB1       | INT       | Marks obtained in Subject 1           | -                      |
| SUB2       | INT       | Marks obtained in Subject 2           | -                      |
| SUB3       | INT       | Marks obtained in Subject 3           | -                      |
| ...        | ....      | (Other subject marks if any)          | ....                   |

|      |       |  |          |
|------|-------|--|----------|
| YOJ  | INT   | The year when the student joined the school                          | NOT NULL |
| AVGM | FLOAT | The average of the marks obtained in various subjects by the student | NOT NULL |

- **Table 3: For storing teacher login details**

| FIELD NAME | DATA TYPE | DESCRIPTION                          |                                       |
|------------|-----------|--------------------------------------|---------------------------------------|
|            |           |                                      |                                       |
| TID        | STRING    | A unique id assigned to each teacher | PRIMARY KEY, NOT NULL, AUTO-INCREMENT |
| PASS       | STRING    | Password of each student             | NOT NULL                              |

- **Table 4: For storing the faculty details**

| FIELD NAME | DATA TYPE | DESCRIPTION                   |                       |
|------------|-----------|-------------------------------|-----------------------|
|            |           |                               |                       |
| TID        | STRING    | Unique ID of the teacher      | FOREIGN KEY, NOT NULL |
| T_NAME     | STRING    | Name of the teacher           | NOT NULL              |
| SUB        | STRING    | Subject taught by the teacher | NOT NULL              |
| CLASS      | INT       | Class taught by the teacher   | NOT NULL              |

## 2. OPERATIONS TO BE PERFORMED:

- **Select** – To retrieve data from the database according to the relevant get request
- **Insert** – To insert new data into the database as provided by a valid post request
- **Update** – To make changes in the database according to the put request made by the user

- **Avg()** – To find the average of all the marks obtained by a student, which will be utilised to rank the students in the dashboard
- **Order by** – To sort the students in descending order based on their average marks

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*API CONTRACTS:*

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**1. POST/sms/student/login**– Logs student into the system

**PARAMETERS:**

- SID
- Password

**JSON ENTITIES:**

"sid": "string"

"pass": "string"

**DEFAULT RESPONSE:**

Successfully Logged in

Token ID and expiry time

**ERROR:**

Invalid sid/password

## 2. **POST/sms/teacher/login** – Logs teacher into the system

|   |
|---|
| <b>PARAMETERS:</b>  |
| <ul style="list-style-type: none"><li>○ TID</li><li>○ Password</li></ul>                                    |
| <b>JSON ENTITIES:</b>   |
| <ul style="list-style-type: none"><li>○ "sid": "string"</li><li>○ "pass": "string"</li></ul>                |
| <b>DEFAULT RESPONSE:</b>  |
| <ul style="list-style-type: none"><li>○ Successfully Logged in</li><li>○ Token ID and expiry time</li></ul> |
| <b>ERROR:</b>   |
| Invalid Tid/password  |

## 3. **POST/teacher/student/add**– Add a new student

|   |
|---|
| <b>PARAMETERS:</b>  |
| <ul style="list-style-type: none"><li>○ Name</li><li>○ Class</li><li>○ Year</li></ul> |
| <b>JSON ENTITIES:</b>   |
| "name": "string"  |
| "class": "integer"  |
| "year": "integer"   |
| <b>DEFAULT RESPONSE:</b>  |
| Successfully added  |
| <b>ERROR:</b>   |
| Invalid Input   |

4. **GET /student/:sid/marks** – To get the marks of a student, with the specified SID

**PARAMETERS:**

No parameters

**DEFAULT RESPONSE:**

Successful Operation

5. **GET/student/dashboard**– To show the performance of the students based on the average marks obtained by each student, sorted according to the academic year

**PARAMETERS:**

No parameters

**DEFAULT RESPONSE:**

Successful Operation

6. **GET/teacher/student/all**- To get the list of all the students containing their details

**PARAMETERS:**

No parameters

**DEFAULT RESPONSE:**

Successful Operation

7. **GET/teacher/student/marks**- To get the marks list of all the students.

**PARAMETERS:**

No parameters

**DEFAULT RESPONSE:**

Successful Operation

## 8. PUT/teacher/:tid/student/:sid/marks -

### PARAMETERS:

- Year
- Marks
- Class

### JSON:

"year": "integer"

"class": "integer"

"marks": "integer"

### DEFAULT RESPONSE:

Successful Operation

### ERROR:

Invalid Input

## 9. DELETE/student/:sid/login— Logs out current logged in student session

### PARAMETERS:

No parameters

### DEFAULT RESPONSE:

Successfully Logged Out

## 10. DELETE /teacher/:tid/login - Logs out current logged in teacher session

### PARAMETERS:

No parameters

### DEFAULT RESPONSE:

Successfully Logged Out

