API DOCUMENTATION

FOR PERFORMING REST API REQUESTS ON AWT DATABASE V1.0

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CMPS4191: Advanced Web-Technologies

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Introduction

This API enables developers to perform operations such as GET, POST, PUT, and DELETE on the students of the awt database. Its primary purpose is to enable developers to understand the requests' makeup and perform operations that yield expected results from the awt database. In addition, any error during the process is communicated to the developer to allow easy troubleshooting. This API is designed for any developer with knowledge of REST APIs, PHP, and MySQL.

These request examples can also be found in the online documentation.

Getting Started

If permitted, you can clone the repo from GitHub. In the extras directory, the file awt_sql_dump must be used to create the awt database. First, you'll need to create the "awt" database and then run the file's contents in that database. Include the necessary login credentials for your mysql database in the index.php file. If Apache is used, I recommend having the root directory set up as the parent directory of the repo. It should look like the following:

root/CMPS4191_adv_web_RESTAPI/…

If required, ensure that your port is provided in the URI. It should look like the following:

127.0.0.1:8036/CMPS4191_adv_web_RESTAPI/…

Endpoints

GET Get Students

`http://127.0.0.1/CMPS4191_adv_web_RESTAPI/students`

This request returns all information for all students in the awt database.

A successful request for all students will result in an *HTTP 200* status code.

Example Request:

```
curl --location '127.0.0.1/CMPS4191_adv_web_RESTAPI/students'
```

Example Response

See Appendix Page 9

GET Get Students by ID

`http://127.0.0.1/CMPS4191_adv_web_RESTAPI/students/{id}`

This request returns all information for a student with a certain ID in the awt database.

A successful request for all students will result in an *HTTP 200* status code.

Example Request:

```
curl --location '127.0.0.1/CMPS4191_adv_web_RESTAPI/students/3'
```

Example Response

See Appendix Page 10

GET Get Students in Associate Degree

http://127.0.0.1/CMPS4191_adv_web_RESTAPI/students/associate

The request returns all information for all students in the Associate's degree (ASSC) in the awt database.

A successful request for all Associate students will result in an *HTTP 200* status code.

Example Request:

```
curl --location '127.0.0.1/CMPS4191_adv_web_RESTAPI/students/associate'
```

Example Response

See Appendix Page 11

GET Get students in Bachelor Degree

http://127.0.0.1/CMPS4191_adv_web_RESTAPI/students/bachelor

The request returns all information for all students in the Bachelor’s degree (BACH) in the awt database.

A successful request for all Bachelor students will result in an *HTTP 200* status code.

Example Request:

```
curl --location '127.0.0.1/CMPS4191_adv_web_RESTAPI/students/bachelor'
```

Example Response

See Appendix Page 12

POST Create New Student

http://127.0.0.1/CMPS4191_adv_web_RESTAPI/students

The request creates a new student in the awt database with the details sent in the request body.

A successful request to create a student using the provided details will result in an *HTTP 200* status code.

Example Request:

curl --location '127.0.0.1/CMPS4191_adv_web_RESTAPI/students' \

--form 'firstname="David"' \

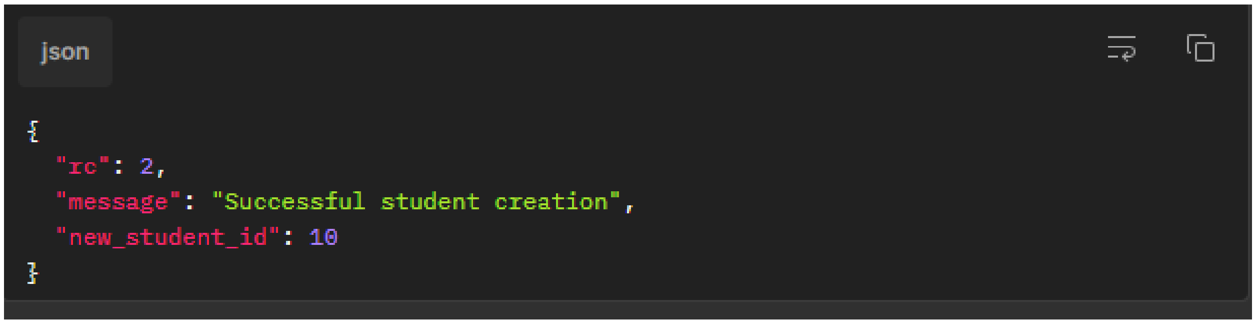
--form 'lastname="Goggins"' \

--form 'address="Cayo"' \

--form 'contact_number="833-9172"' \

--form 'degree="BACH"'

Example Response



```json
{
  "rc": 2,
  "message": "Successful student creation",
  "new_student_id": 10
}
```

PUT Update a Student Record

`http://127.0.0.1/CMPS4191_adv_web_RESTAPI/students/{id}`

The request updates an existing student record using an existing student's ID provided in the URI, and details to update in the request body.

A successful request to update a student using the provided ID will result in an *HTTP 200* status code.

Example Request

```
curl --location --request PUT '127.0.0.1/CMPS4191_adv_web_RESTAPI/students/9' \

--form 'firstname="Abel"' \

--form 'lastname="Blanco"' \

--form 'email="abelblanco@gmail.com"' \

--form 'age="23"'
```

Example Response

See Appendix Page 13

DELETE Delete a Student Record

`http://127.0.0.1/CMPS4191_adv_web_RESTAPI/students/{id}`

The request deletes an existing student record using an existing student's ID provided in the URI. A successful request to delete a student using the provided ID will result in an *HTTP 200* status code.

Example Request

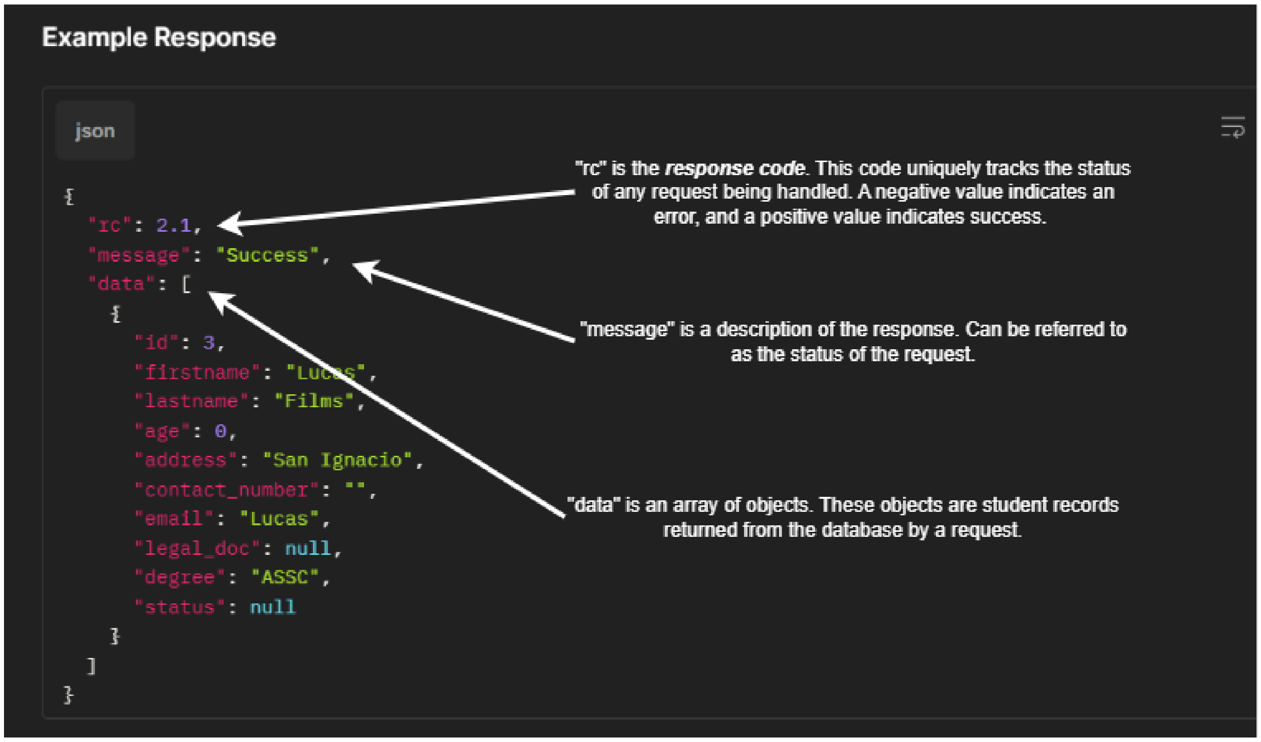
```
curl --location --request DELETE '127.0.0.1/CMPS4191_adv_web_RESTAPI/students/8'
```

Example Response

See Appendix Page 14

Response Format

API Structure



Example Response

```json
{
  "rc": 2.1,
  "message": "Success",
  "data": [
    {
      "id": 3,
      "firstname": "Lucas",
      "lastname": "Films",
      "age": 0,
      "address": "San Ignacio",
      "contact_number": "",
      "email": "Lucas",
      "legal_doc": null,
      "degree": "ASSC",
      "status": null
    }
  ]
}
```

"rc" is the ***response code***. This code uniquely tracks the status of any request being handled. A negative value indicates an error, and a positive value indicates success.

"message" is a description of the response. Can be referred to as the status of the request.

"data" is an array of objects. These objects are student records returned from the database by a request.

HTTP Response Codes Usage

Two response codes are used in the current version of the API:

HTTP Response Code 200

- 200 OK: The request was successful.

HTTP Response Code 400

- The client's request is malformed.

Response Codes and their Meanings

Common Errors

-1: Invalid Request. Unknown resource Requested; expecting “students”.

-2: Unsupported Request Method. Could not find the request method GET, POST, PUT, or DELETE.

-3: No Database connection; Database connection was lost

GET Requests Errors

-11: Default; Invalid GET Request

-12: Default; Students’ details not found

-13: STMT Execution Error when getting all students

-14: Default; Student details not found with the ID provided

-15: STMT Execution Error when getting students with the ID provided

-16: Default; Associate students’ details not found

-17: STMT Execution Error when getting all associate students

-18: Default; Bachelor students’ details not found

-19: STMT Execution Error when getting all bachelor students

POST Request Errors

-20: Default; Invalid POST Request

-21: STMT Execution Error when creating a new student

PUT Request Errors

-22: Default; Invalid PUT Request

-23: STMT Execution Error when updating an existing student’s details

DELETE Request Errors

-24: Default; Invalid DELETE Request

-25: STMT Execution Error when deleting a student

Success Response Codes

50: Successful GET request for all students’ details

51: Successful GET request for student with the provided ID

52: Successful GET request for all associate students’ details

53: Successful GET request for all bachelor students’ details

54: Successful POST request for creating a new student

55: Successful PUT request for updating a student with provided ID

56: Successful DELETE request for deleting a student with provided ID

100: Test function is working.

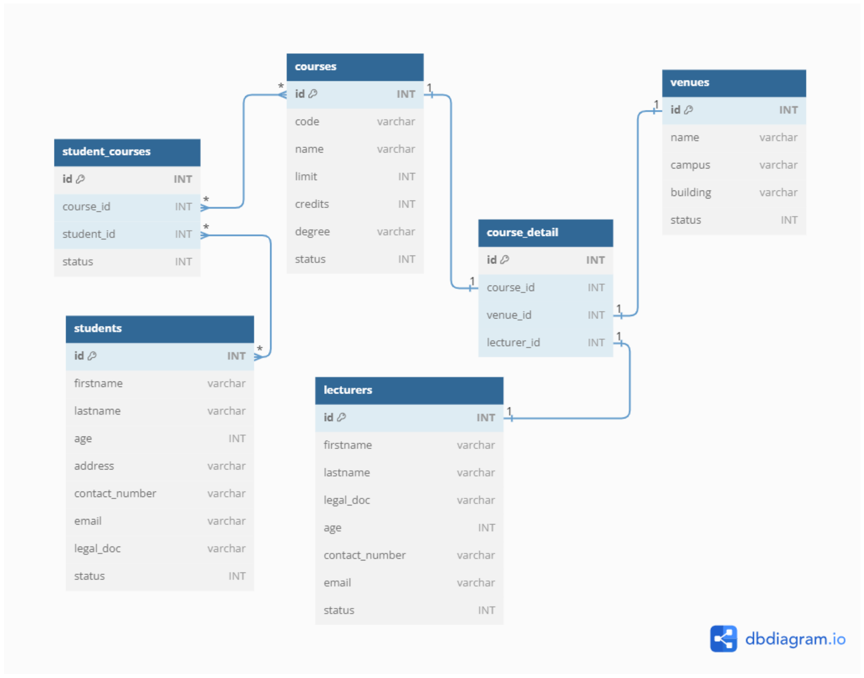
Support

If there are unhandled errors, kindly email me at 2021154344@ub.edu.bz. Ensure you have proper descriptions of the encountered problem and the events leading up to it. If you can, include pictures to demonstrate further.

Changelog

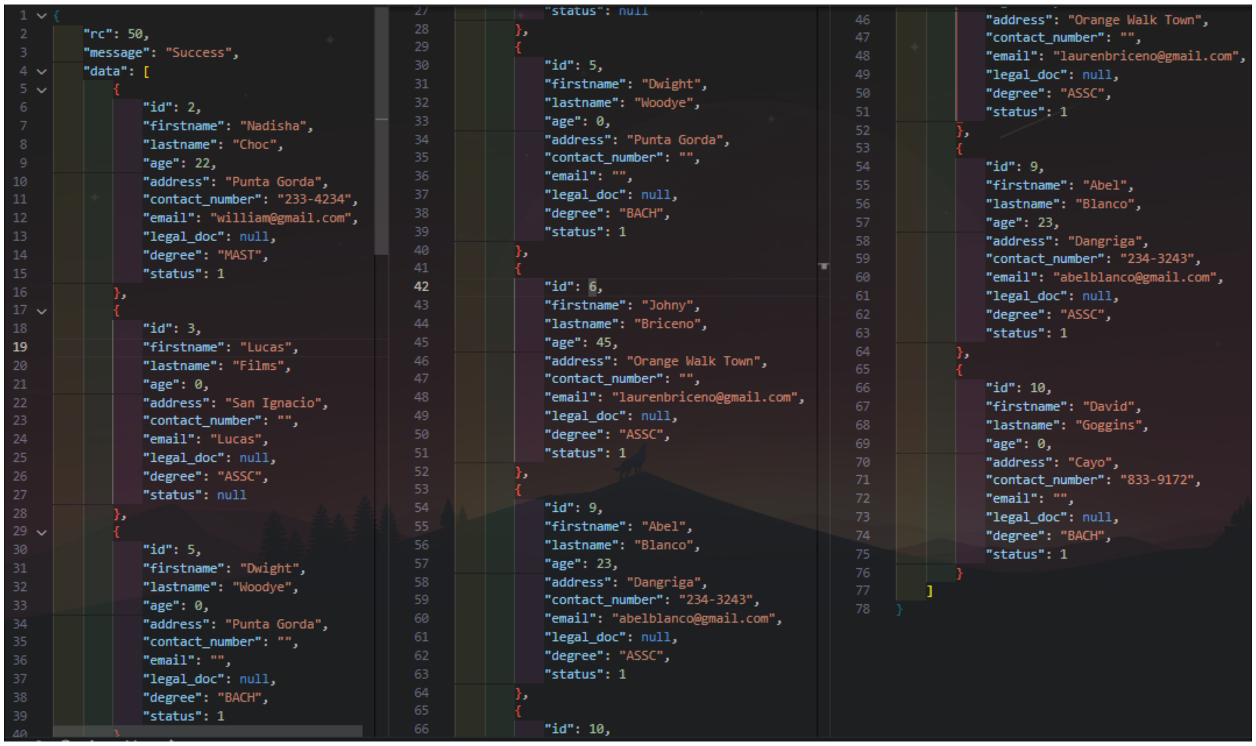
API updates, new features, and bug fixes are communicated in the commits of the git repository.

Appendix



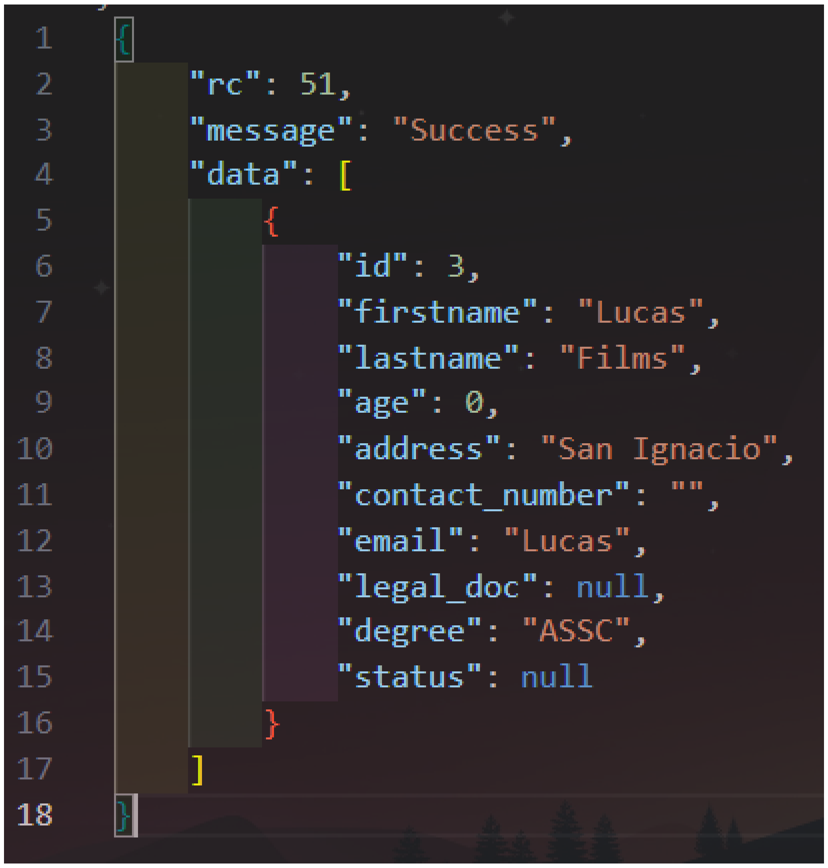
Database Entity Relationship Diagram (ERD)

GET - Get Students Example Response



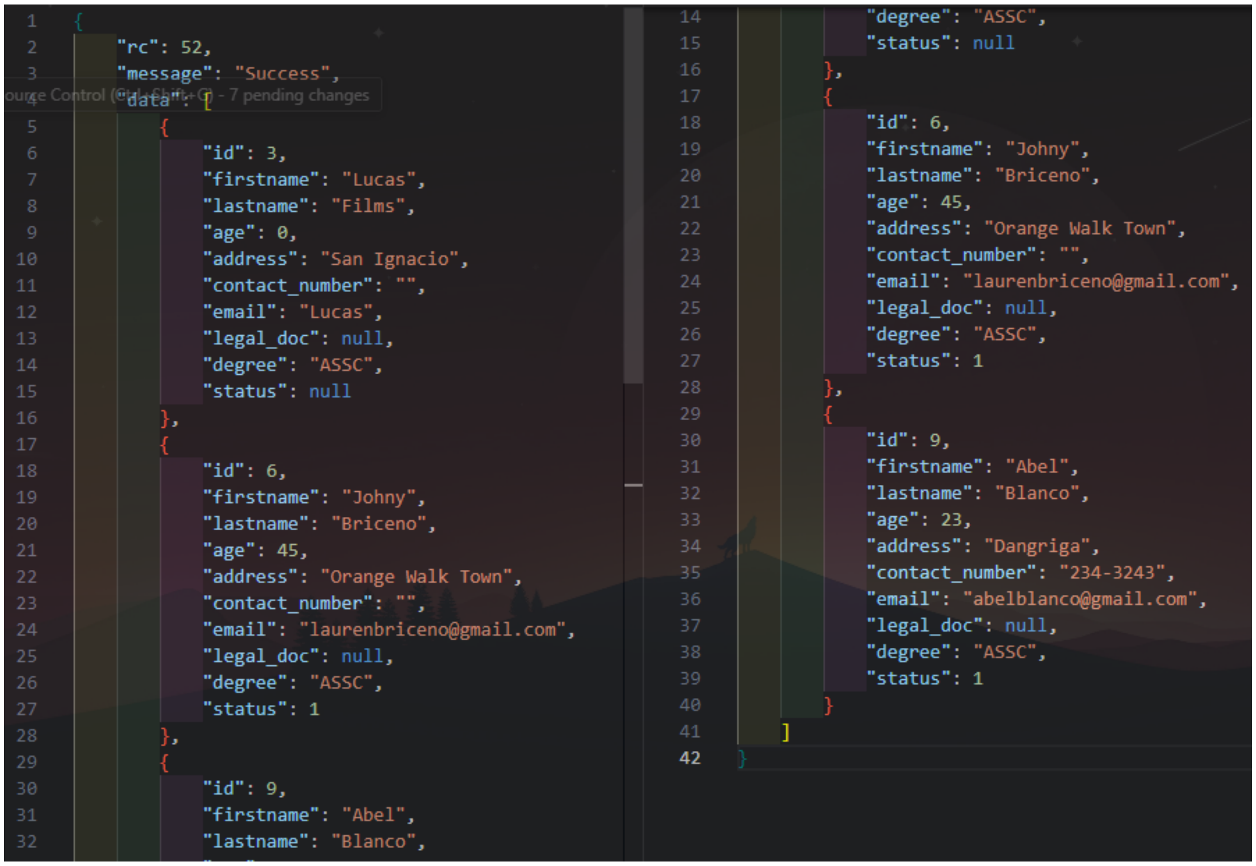
```
{
    "rc": 50,
    "message": "Success",
    "data": [
        {
            "id": 2,
            "firstname": "Nadisha",
            "lastname": "Choc",
            "age": 22,
            "address": "Punta Gorda",
            "contact_number": "233-4234",
            "email": "william@gmail.com",
            "legal_doc": null,
            "degree": "MAST",
            "status": 1
        },
        {
            "id": 3,
            "firstname": "Lucas",
            "lastname": "Films",
            "age": 0,
            "address": "San Ignacio",
            "contact_number": "",
            "email": "Lucas",
            "legal_doc": null,
            "degree": "ASSC",
            "status": null
        },
        {
            "id": 5,
            "firstname": "Dwight",
            "lastname": "Woodye",
            "age": 0,
            "address": "Punta Gorda",
            "contact_number": "",
            "email": "",
            "legal_doc": null,
            "degree": "BACH",
            "status": 1
        },
        {
            "id": 6,
            "firstname": "Johny",
            "lastname": "Briceno",
            "age": 45,
            "address": "Orange Walk Town",
            "contact_number": "",
            "email": "laurenbriceno@gmail.com",
            "legal_doc": null,
            "degree": "ASSC",
            "status": 1
        },
        {
            "id": 9,
            "firstname": "Abel",
            "lastname": "Blanco",
            "age": 23,
            "address": "Dangriga",
            "contact_number": "234-3243",
            "email": "abelblanco@gmail.com",
            "legal_doc": null,
            "degree": "ASSC",
            "status": 1
        },
        {
            "id": 10,
            "firstname": "David",
            "lastname": "Goggins",
            "age": 0,
            "address": "Cayo",
            "contact_number": "833-9172",
            "email": "",
            "legal_doc": null,
            "degree": "BACH",
            "status": 1
        }
    ]
}
```

GET - Get Students by ID Example Response



```
{
    "rc": 51,
    "message": "Success",
    "data": [
        {
            "id": 3,
            "firstname": "Lucas",
            "lastname": "Films",
            "age": 0,
            "address": "San Ignacio",
            "contact_number": "",
            "email": "Lucas",
            "legal_doc": null,
            "degree": "ASSC",
            "status": null
        }
    ]
}
```

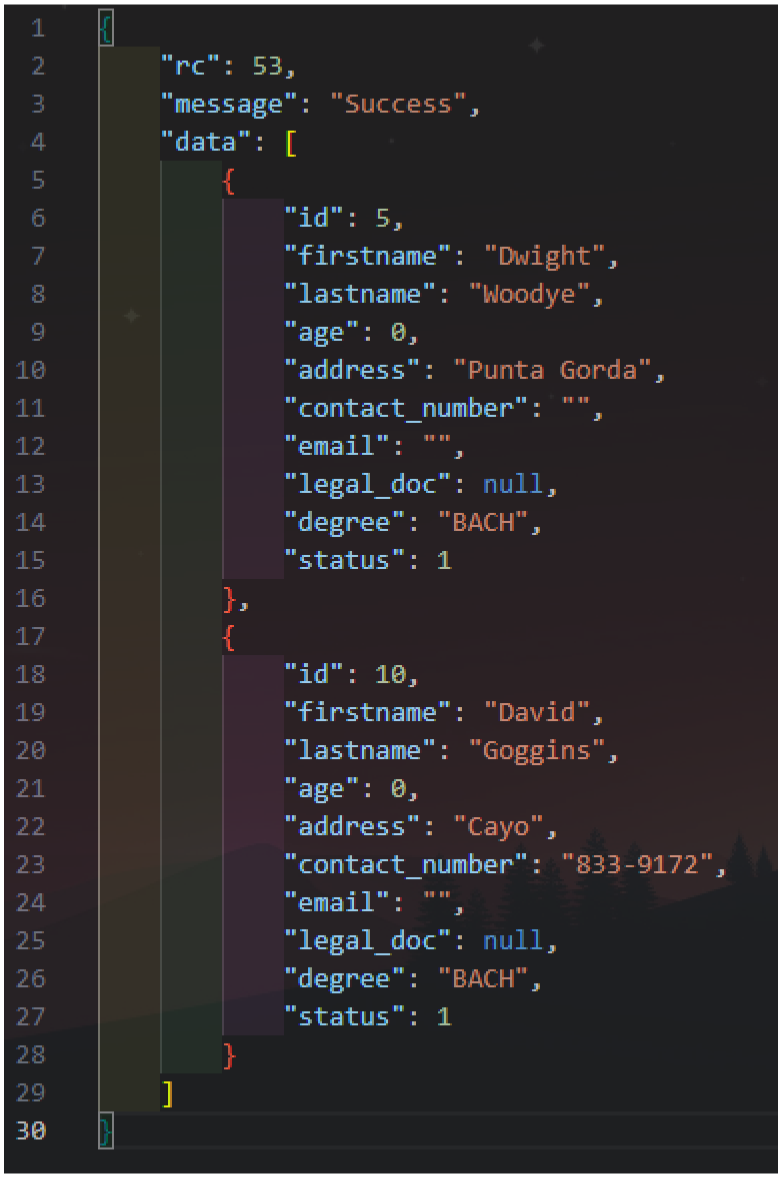
GET - Get Associate Students Example Response



```
{
    "rc": 52,
    "message": "Success",
    "data": [
        {
            "id": 3,
            "firstname": "Lucas",
            "lastname": "Films",
            "age": 0,
            "address": "San Ignacio",
            "contact_number": "",
            "email": "Lucas",
            "legal_doc": null,
            "degree": "ASSC",
            "status": null
        },
        {
            "id": 6,
            "firstname": "Johny",
            "lastname": "Briceno",
            "age": 45,
            "address": "Orange Walk Town",
            "contact_number": "",
            "email": "laurenbriceno@gmail.com",
            "legal_doc": null,
            "degree": "ASSC",
            "status": 1
        },
        {
            "id": 9,
            "firstname": "Abel",
            "lastname": "Blanco",
```

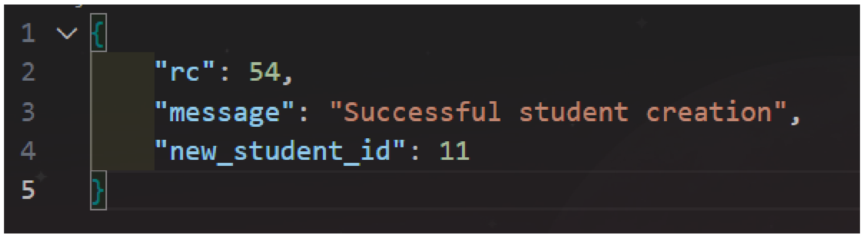
```
            "degree": "ASSC",
            "status": null
        },
        {
            "id": 6,
            "firstname": "Johny",
            "lastname": "Briceno",
            "age": 45,
            "address": "Orange Walk Town",
            "contact_number": "",
            "email": "laurenbriceno@gmail.com",
            "legal_doc": null,
            "degree": "ASSC",
            "status": 1
        },
        {
            "id": 9,
            "firstname": "Abel",
            "lastname": "Blanco",
            "age": 23,
            "address": "Dangriga",
            "contact_number": "234-3243",
            "email": "abelblanco@gmail.com",
            "legal_doc": null,
            "degree": "ASSC",
            "status": 1
        }
    ]
}
```

GET - Get Bachelor Students Example Response



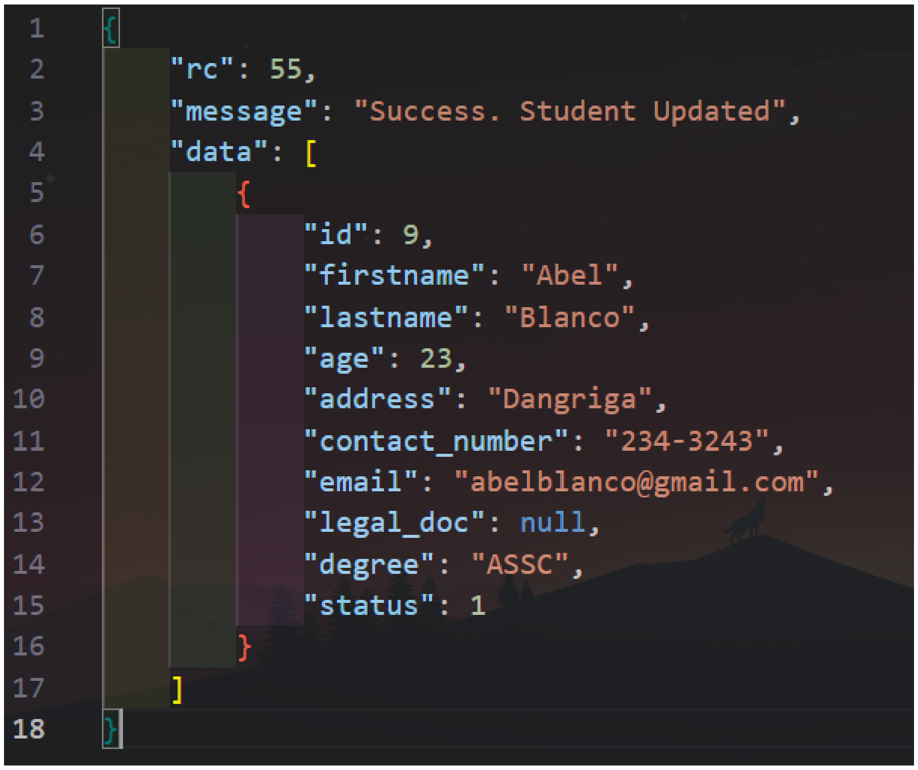
```json
{
    "rc": 53,
    "message": "Success",
    "data": [
        {
            "id": 5,
            "firstname": "Dwight",
            "lastname": "Woodye",
            "age": 0,
            "address": "Punta Gorda",
            "contact_number": "",
            "email": "",
            "legal_doc": null,
            "degree": "BACH",
            "status": 1
        },
        {
            "id": 10,
            "firstname": "David",
            "lastname": "Goggins",
            "age": 0,
            "address": "Cayo",
            "contact_number": "833-9172",
            "email": "",
            "legal_doc": null,
            "degree": "BACH",
            "status": 1
        }
    ]
}
```

POST - Create New Student Example Response



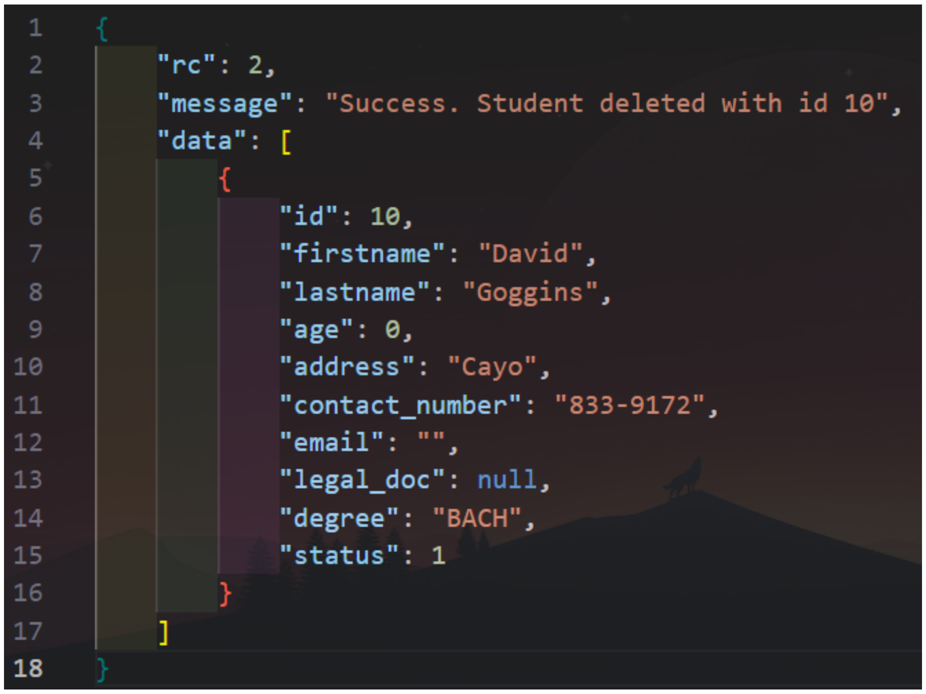
```
{
    "rc": 54,
    "message": "Successful student creation",
    "new_student_id": 11
}
```

PUT - Update Student Record Example Response



```
{
    "rc": 55,
    "message": "Success. Student Updated",
    "data": [
        {
            "id": 9,
            "firstname": "Abel",
            "lastname": "Blanco",
            "age": 23,
            "address": "Dangriga",
            "contact_number": "234-3243",
            "email": "abelblanco@gmail.com",
            "legal_doc": null,
            "degree": "ASSC",
            "status": 1
        }
    ]
}
```

DELETE - Delete Student Record Example Response



```json
{
    "rc": 2,
    "message": "Success. Student deleted with id 10",
    "data": [
        {
            "id": 10,
            "firstname": "David",
            "lastname": "Goggins",
            "age": 0,
            "address": "Cayo",
            "contact_number": "833-9172",
            "email": "",
            "legal_doc": null,
            "degree": "BACH",
            "status": 1
        }
    ]
}
```