

# Simple Calculator Microservice Documentation

## GitHub Link:

[https://github.com/HaydenDuong/SIT323\\_Cloud\\_Native\\_Application\\_Development/tree/main/task\\_4.1P](https://github.com/HaydenDuong/SIT323_Cloud_Native_Application_Development/tree/main/task_4.1P)

## 1. What It Does

This is a simple calculator API built with Node.js and Express. It can do:

- Addition (/add)
- Subtraction (/subtract)
- Multiplication (/multiply)
- Division (/divide)

## 2. How to Run

1. Make sure you have **Node.js** installed.
2. Download the code and run:  

```
npm install
```

```
node server.js
```
3. The server will start at <http://localhost:3040>.

## 3. How to Use

Send a **GET** request with two numbers (num1 and num2) in the URL.

### Examples:

- **Add two numbers:**

```
GET /add?a=5&num2=3
```

```
Response: {"status":"success","statusCode":200,"message":"Addition successful","data":{"result":8}}
```

- **Subtract two numbers:**

GET /subtract?a=3&b=5

Response: {"status":"success","statusCode":200,"message":"Subtraction successful","data":{"result":-2}}

- **Multiply two numbers:**

GET /multiply?a=3&b=3

Response: {"status":"success","statusCode":200,"message":"Multiplication successful","data":{"result":9}}

- **Divide two numbers:**

GET /divide?a=3&b=5

Response: {"status":"success","statusCode":200,"message":"Division successful","data":{"result":0.6}}

- **Error if input is invalid:**

GET /add?a=abc&b=3

Response: {"error":"Invalid input. Please provide two numbers."}

- **Error if the divisor is zero:**

GET/divide?a=10&b=0

Response: {"status":"error","statusCode":400,"message":"Division by zero is not allowed."}

#### 4. Code Structure

- **server.js** – Main file with all the API routes.
- **package.json** – Lists required dependencies (only express).

#### 5. Testing

You can test it with:

- **Browser:** Just open the URL (e.g., <http://localhost:3000/add?a=2&b=3>).