**Project Report**

**CLUSY OS  
Clustered Operating System**

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# ****Abstract****

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# 1. Introduction:

# 2. A step by step progress how

## 2.1 Environment Setup

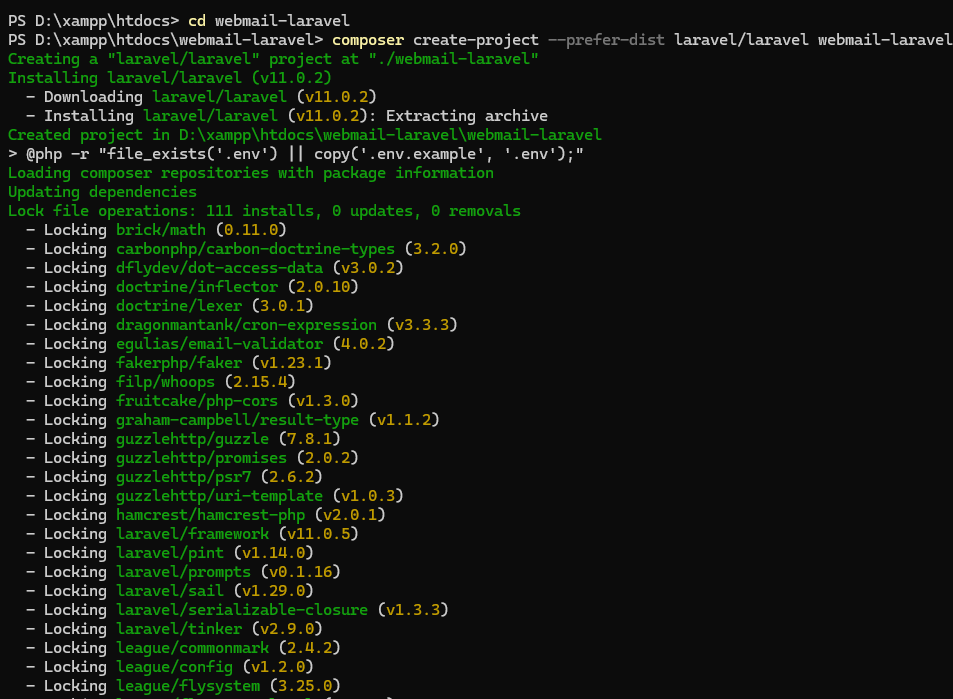
1. Github Repo created

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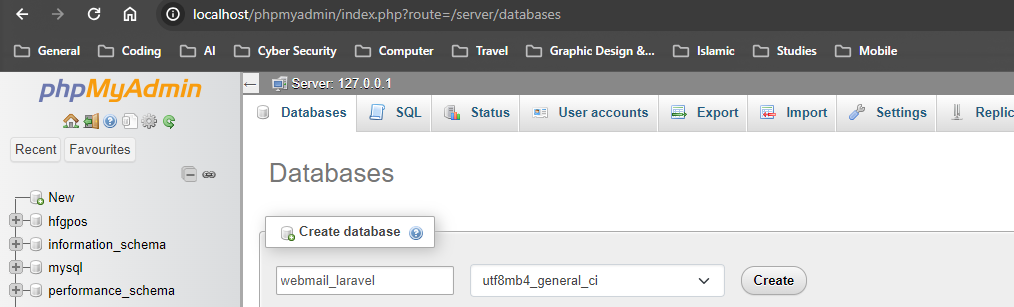
2. Install Laravel: First, you need to install Laravel. You can do this via Composer, assuming you have Composer installed on your system. Run the following command in your terminal:

composer create-project --prefer-dist laravel/laravel webmail-laravel



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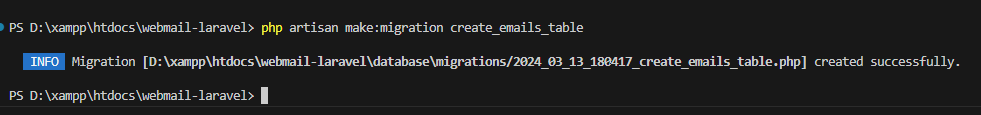
3. DB Creation in MYSQL PHPmyadmin

4. Database Configuration: Make sure your database connection details are correctly configured in the .env file.

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5. Migration: Create a migration for the email table by running the following command:

php artisan make:migration create\_emails\_table

6. edited the Migration File with these commands additionally

Schema::create('emails', function (Blueprint $table) {

            $table->id();

            $table->string('recipient');

            $table->string('subject');

            $table->text('message');

            $table->enum('status', ['sent', 'draft'])->default('draft');

            $table->timestamp('sent\_at')->nullable();

            $table->timestamps();

        });

    }

A black background with many small dots

Description automatically generated with medium confidence7. Migration Command

8. Implement Laravel Default User Authentication

Install Laravel Breeze:

let's install Laravel Breeze for authentication:

composer require laravel/breeze --dev

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10.

php artisan serv

and register a user

A blue and black rectangular object

Description automatically generated with medium confidenceA screenshot of a login form

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A screenshot of a computer

Description automatically generatedChanged the welcome page

Now I am going to add a button on the dashboard for send new emails

To do that initially I added in the routes/web.php

use App\Http\Controllers\EmailController;

Route::get('/send-email', [EmailController::class, 'create'])->name('send-email.create');

Route::middleware('auth')->group(function () {

    Route::get('/profile', [ProfileController::class, 'edit'])->name('profile.edit');

    Route::patch('/profile', [ProfileController::class, 'update'])->name('profile.update');

    Route::delete('/profile', [ProfileController::class, 'destroy'])->name('profile.destroy');

    Route::get('/send-email', [EmailController::class, 'create'])->name('send-email.create');

});

Create the Email Controller

php artisan make:controller EmailController

Edited the EmailController

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A computer screen with text

Description automatically generatedCreated a new Blade file for New Email Form Creation

Now Going to add a table in Dashboard after the button created with laraval default paginations to view all the emails from DB

Added a function in EmailController

public function dashboard(){

        $emails = Email::paginate(10);

        return view('dashboard', compact('emails'));

    }

To make visible now added a model to get from emails table

PS D:\xampp\htdocs\webmail-laravel> php artisan make:model Email

   INFO  Model [D:\xampp\htdocs\webmail-laravel\app\Models\Email.php] created successfully.

Edited the email model file

<?php

namespace App\Models;

use Illuminate\Database\Eloquent\Factories\HasFactory;

use Illuminate\Database\Eloquent\Model;

class Email extends Model

{

    use HasFactory;

    protected $table = 'emails';

    protected $fillable = [

        'recipient',

        'subject',

        'message',

        'status',

        'created\_at'

    ];

}

To provide fake data to your database using factories in Laravel, you'll need to follow these steps:

Define Factory

Define a factory for your Email model. If you haven't already created a factory, you can generate one using the artisan command:

php artisan make:factory EmailFactory --model=Email

**Define Factory Attributes**

In your **EmailFactory.php** file, define the attributes you want to generate for your emails. You can use Faker to generate realistic data. For example:

php  
return [

            'recipient' => $this->faker->email,

            'subject' => $this->faker->sentence,

            'message' => $this->faker->paragraph,

            'status' => $this->faker->randomElement(['sent', 'draft']),

            'created\_at' => $this->faker->dateTimeBetween('-1 year', 'now'),

        ];

    }

**Seeder**

Create a seeder file using the following artisan command:

PS D:\xampp\htdocs\webmail-laravel> php artisan make:seeder EmailSeeder

   INFO  Seeder [D:\xampp\htdocs\webmail-laravel\database\seeders\EmailSeeder.php] created successfully.

public function run(): void

    {

        //For 15 fake emails

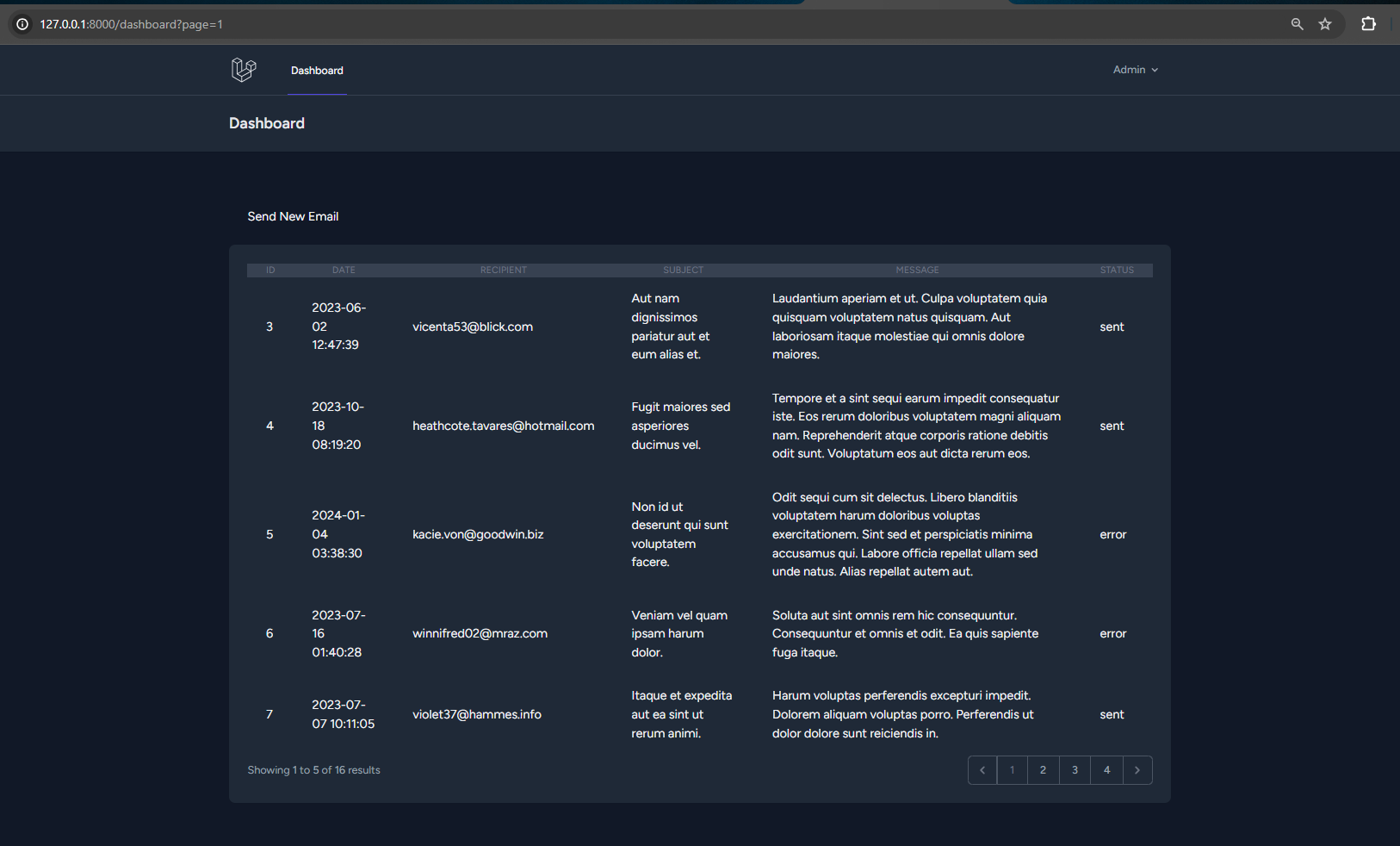
        Email::factory()->count(15)->create();

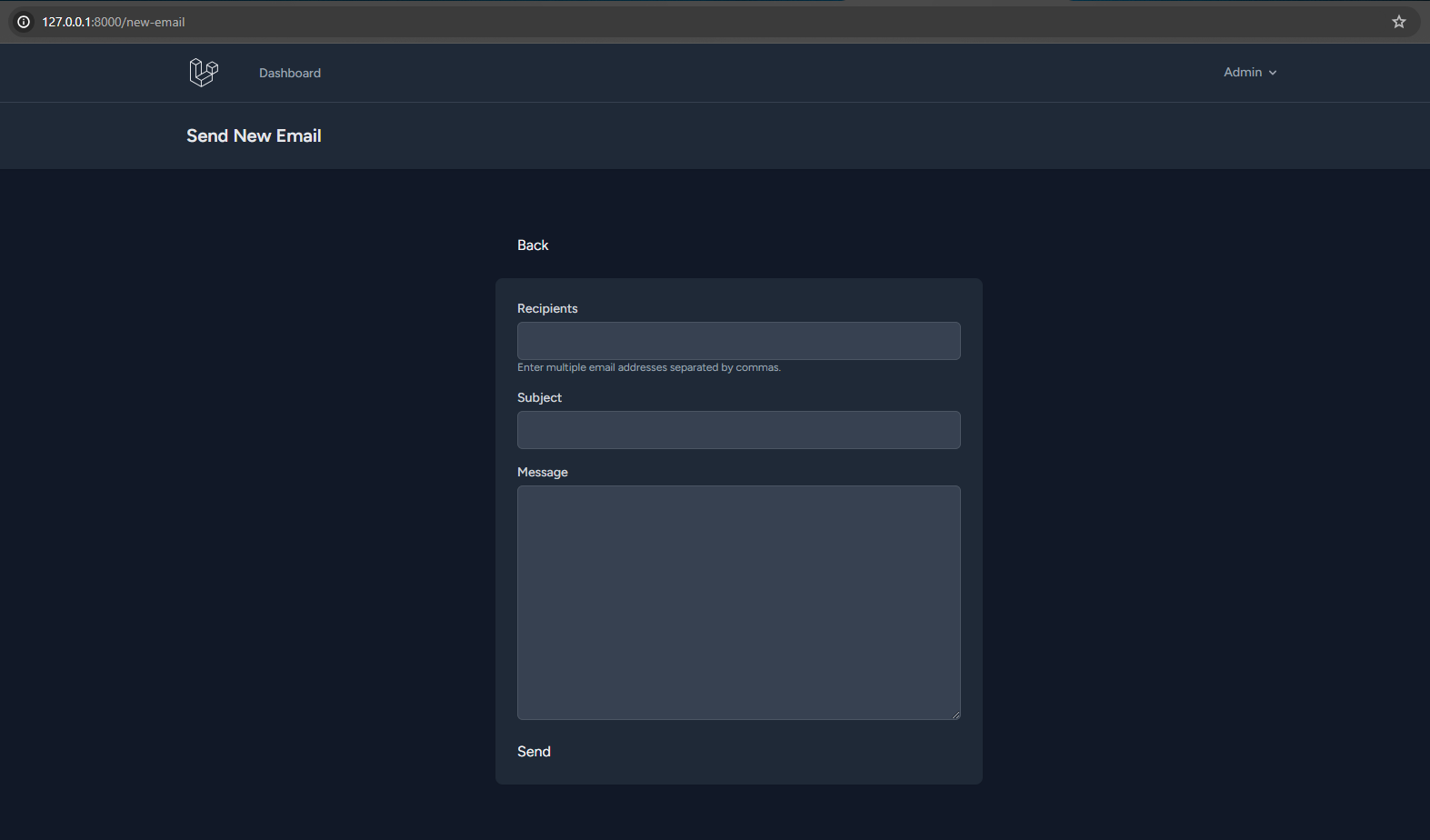
    }

**Run Seeder**

Finally, run the seeder to populate your database with fake data:

php artisan db:seed --class=EmailSeeder



Now edited the new-email blade file to create a form In frontend

Now Editing the logic in email controller

**Sending Emails**: Utilize Laravel's Mail functionality to send emails to the specified recipients.

use App\Mail\SendEmail;

input field validations, splitting emails by comma and send each then storing to the db  
Here I have added an error handling method to find the status, if there any issues it’ll show as an error

public function send(Request $request)

    {

        // Validate the form inputs

        $request->validate([

            'recipients' => 'required',

            'subject' => 'required',

            'message' => 'required',

        ]);

        // Split the recipient emails by comma

        $recipients = explode(',', $request->input('recipients'));

        // Loop through each recipient and send the email

        foreach ($recipients as $recipient) {

            try {

                // Send email

                Mail::to(trim($recipient))->send(new SendEmail($request->all()));

                // Store data in the database

                Email::create([

                    'recipient' => trim($recipient),

                    'subject' => $request->input('subject'),

                    'message' => $request->input('message'),

                    'status' => 'sent',

                ]);

            } catch (\Exception $e) {

                // Handle any exceptions and update status as error

                Email::create([

                    'recipient' => trim($recipient),

                    'subject' => $request->input('subject'),

                    'message' => $request->input('message'),

                    'status' => 'error',

            }

        }

        // Redirect back with success message

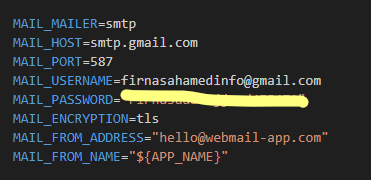
        return redirect()->back()->with('success', 'Email(s) sent successfully.');

    }

created the SendEmail Mailable class and configured my mail settings properly

PS D:\xampp\htdocs\webmail-laravel> php artisan make:mail SendEmail

   INFO  Mailable [D:\xampp\htdocs\webmail-laravel\app\Mail\SendEmail.php] created successfully.

Configure Mail Settings in ENV for Gmail

Added a function in SendEmail.php mailable class

public function build()

    {

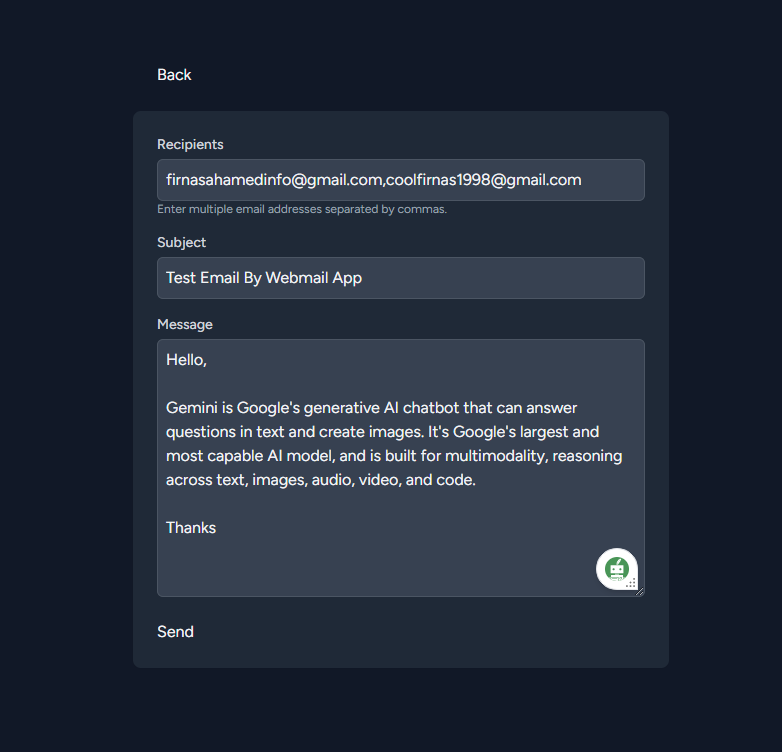
        return $this->view('emails.new-email');

    }

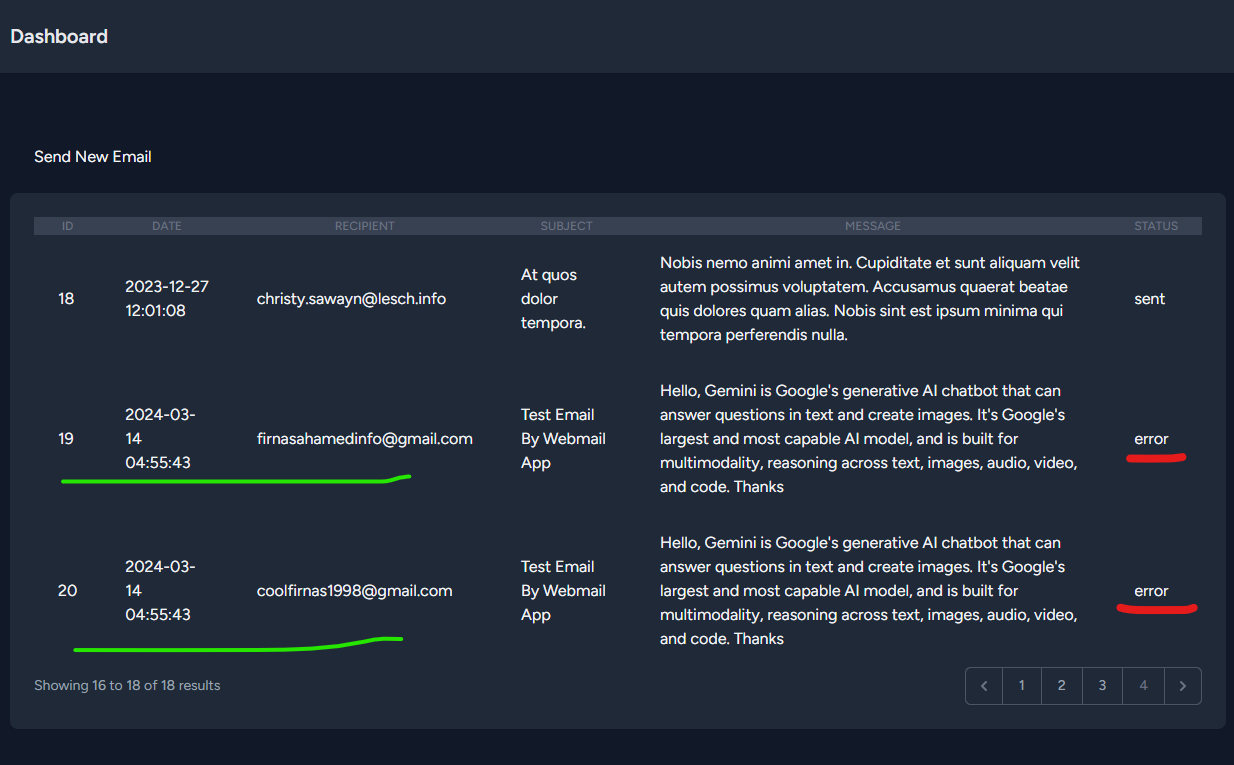
Added form action to route

    Route::post('/new-email', [EmailController::class, 'send'])->name('new-email');

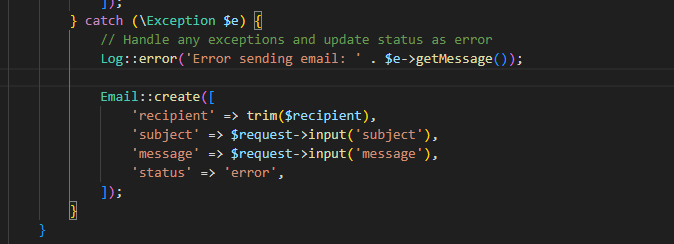
 <form action="{{ route('new-email') }}" method="POST">

Testing

Checking the DB in Dashboard

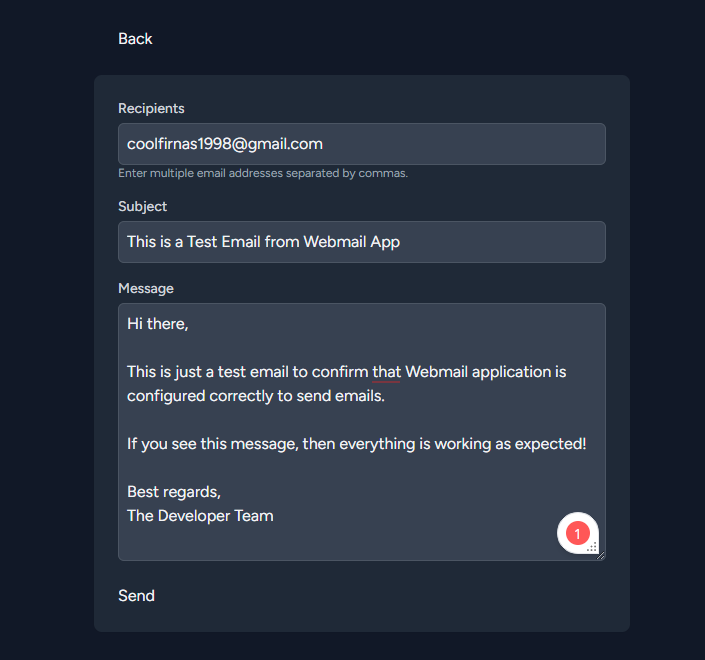


It’s Perfectly Stores in the DB and showing in the pagination, But here the status is showing as an error, Will fix that

Added a laraval Log

It’s showing as

[2024-03-14 05:28:52] local.ERROR: **Error** sending email: View [emails.new-email] not found.

After fixing every bugs

A screenshot of a computer

Description automatically generatedStatus indicates as sent

Received in the mail box

A screenshot of a computer

Description automatically generated