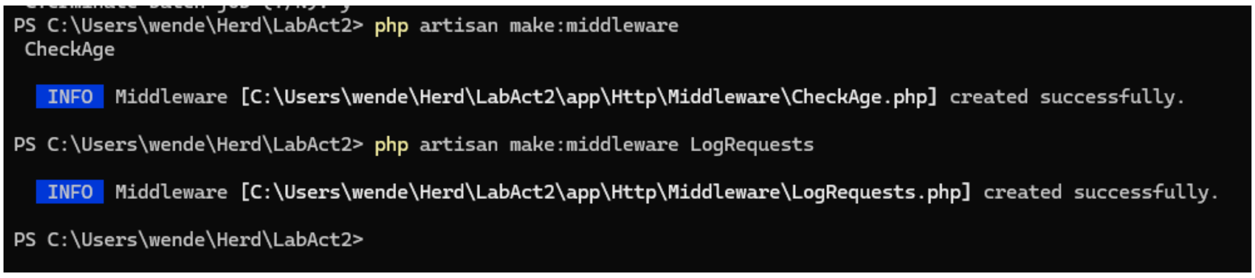
IT Elec 1: WEB DEVELOPMENT
DOCUMENTATION FOR MIDDLEWARES

WENDEE DIANE FLORES LLONA
BSIT 3C

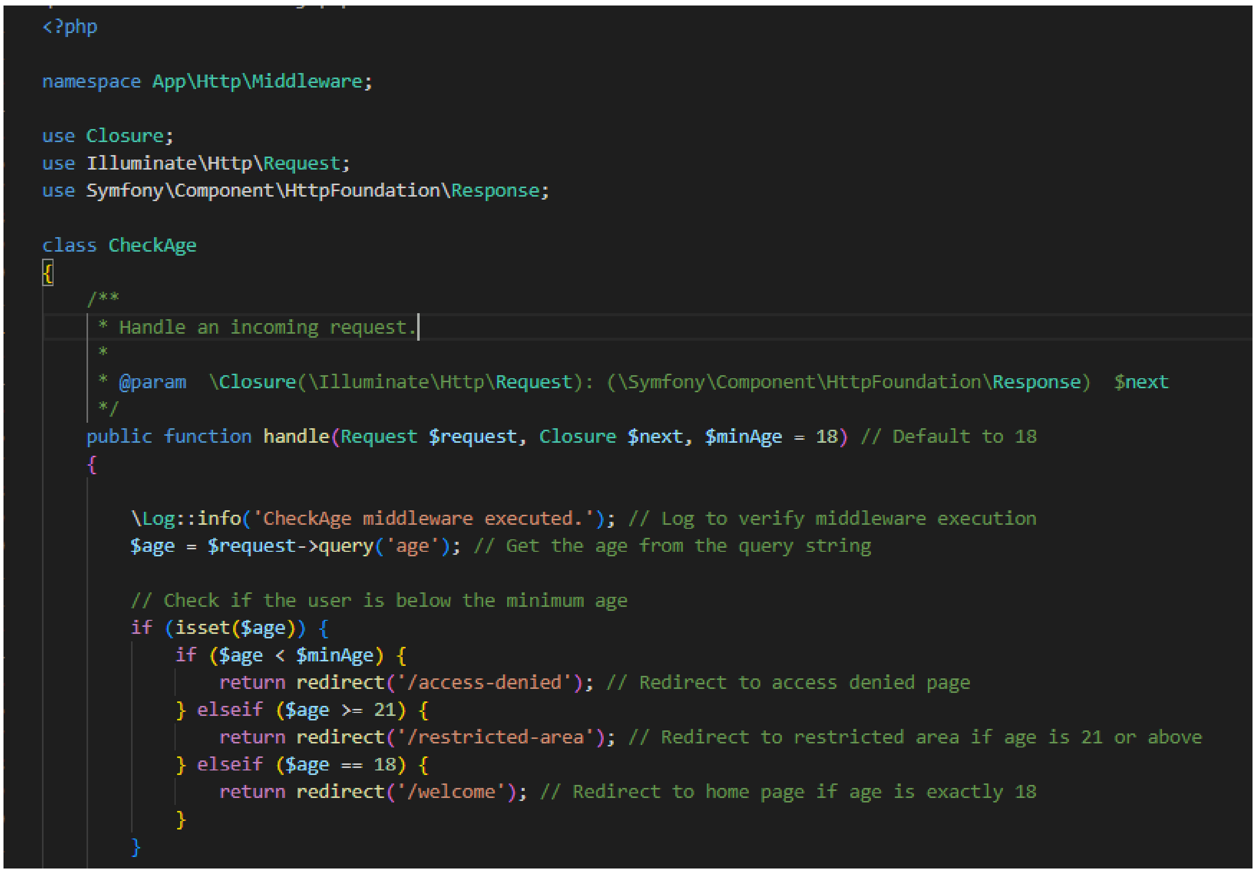
MIDDLEWARES: CREATION



```
PS C:\Users\wende\Herd\LabAct2> php artisan make:middleware
 CheckAge

   INFO  Middleware [C:\Users\wende\Herd\LabAct2\app\Http\Middleware\CheckAge.php] created successfully.

PS C:\Users\wende\Herd\LabAct2> php artisan make:middleware LogRequests

   INFO  Middleware [C:\Users\wende\Herd\LabAct2\app\Http\Middleware\LogRequests.php] created successfully.

PS C:\Users\wende\Herd\LabAct2>
```

We created the CheckAge and LogRequests middleware using the command prompt in our Laravel project. First, we executed the command php artisan make: middleware CheckAge to generate the CheckAge middleware, which checks user age and handles redirection based on age criteria. Next, we ran php artisan make: middleware LogRequests to create the LogRequests middleware, which is designed to log details of incoming HTTP requests, including the request method and full URL.

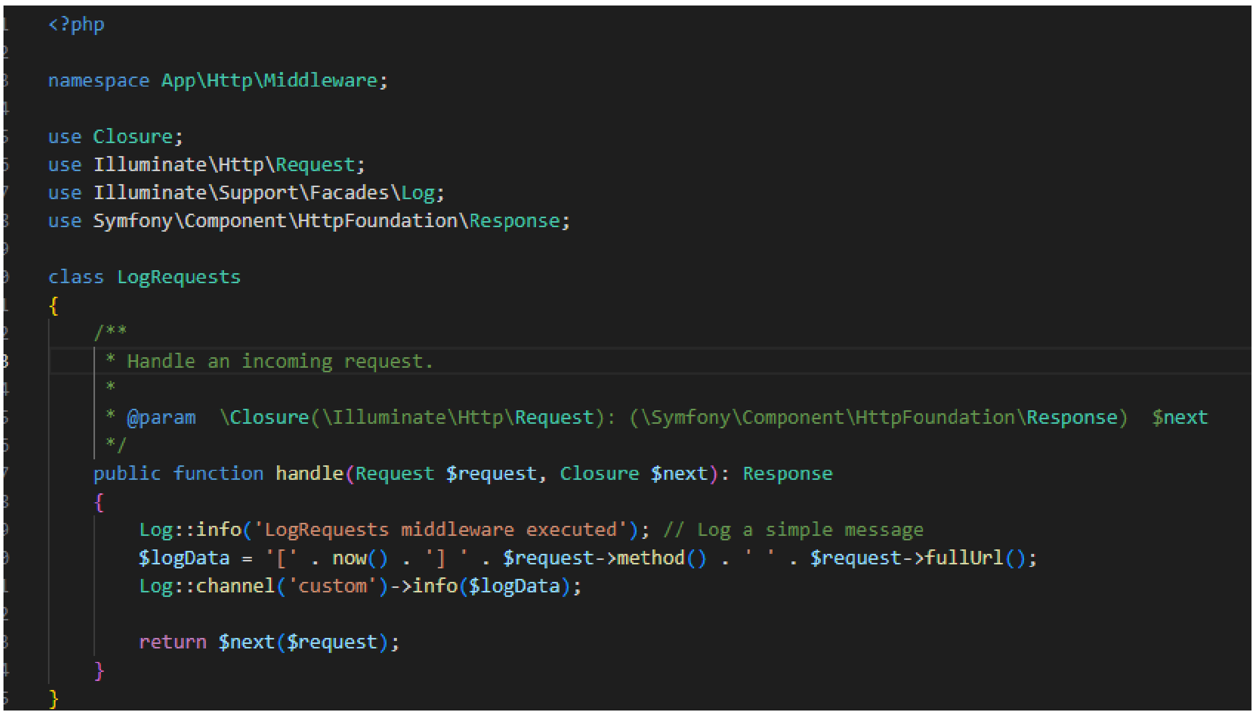
CheckAge.php



```php
<?php

namespace App\Http\Middleware;

use Closure;
use Illuminate\Http\Request;
use Symfony\Component\HttpFoundation\Response;

class CheckAge
{
    /**
     * Handle an incoming request.
     *
     * @param  \Closure(\Illuminate\Http\Request): (\Symfony\Component\HttpFoundation\Response)  $next
     */
    public function handle(Request $request, Closure $next, $minAge = 18) // Default to 18
    {

        \Log::info('CheckAge middleware executed.'); // Log to verify middleware execution
        $age = $request->query('age'); // Get the age from the query string

        // Check if the user is below the minimum age
        if (isset($age)) {
            if ($age < $minAge) {
                return redirect('/access-denied'); // Redirect to access denied page
            } elseif ($age >= 21) {
                return redirect('/restricted-area'); // Redirect to restricted area if age is 21 or above
            } elseif ($age == 18) {
                return redirect('/welcome'); // Redirect to home page if age is exactly 18
            }
        }
```

This middleware checks the user's age from the query string, defaulting to a minimum of 18. This logs execution and redirects users based on age: an "Access Denied" page if under the minimum, a "Restricted Area" if 21 or older, and a welcome page if exactly 18. If none of these conditions are met, the request can proceed.

LogRequests.php

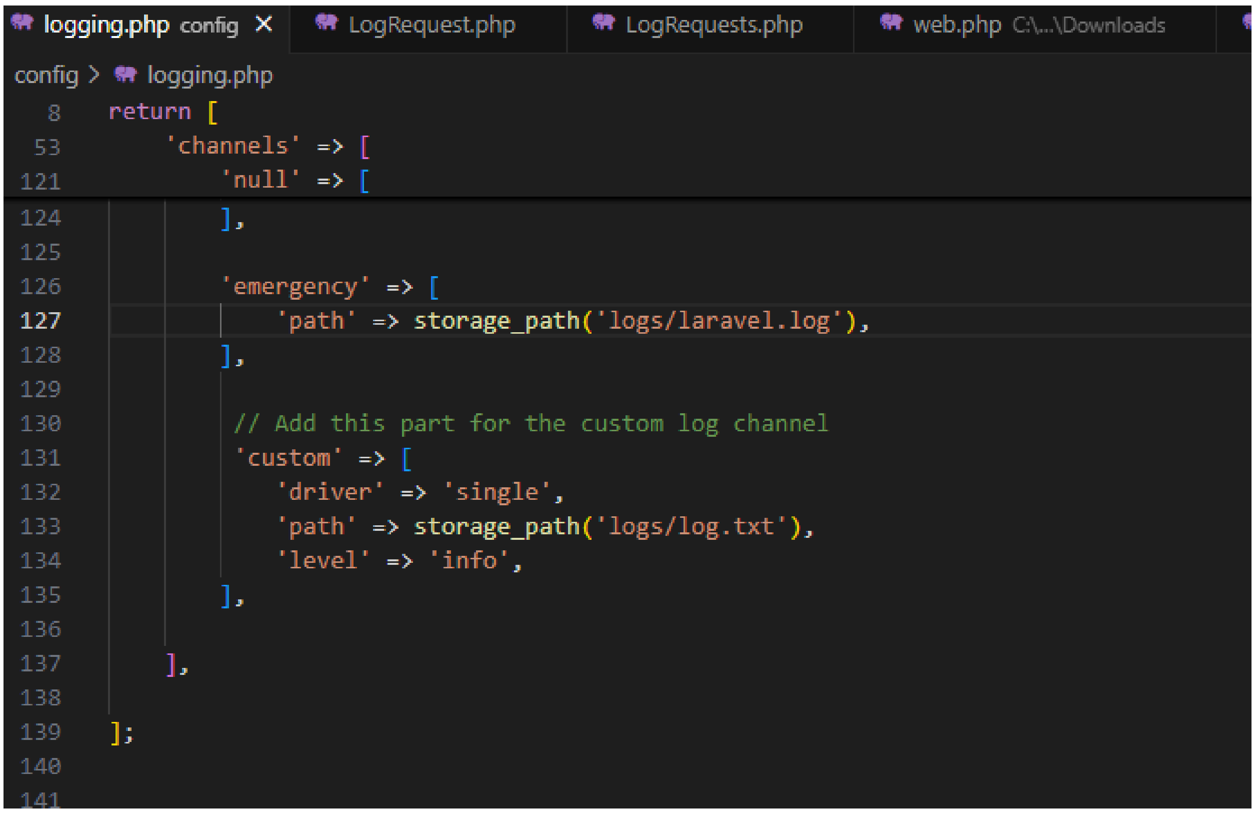


```php
<?php

namespace App\Http\Middleware;

use Closure;
use Illuminate\Http\Request;
use Illuminate\Support\Facades\Log;
use Symfony\Component\HttpFoundation\Response;

class LogRequests
{
    /**
     * Handle an incoming request.
     *
     * @param  \Closure(\Illuminate\Http\Request): (\Symfony\Component\HttpFoundation\Response)  $next
     */
    public function handle(Request $request, Closure $next): Response
    {
        Log::info('LogRequests middleware executed'); // Log a simple message
        $logData = '[' . now() . '] ' . $request->method() . ' ' . $request->fullUrl();
        Log::channel('custom')->info($logData);

        return $next($request);
    }
}
```

This middleware logs incoming HTTP requests by recording a simple message and detailed request data, including the request method and full URL with a timestamp. This uses a custom logging channel to store the information. After logging, the middleware allows the request to proceed to the next middleware or route.

config/logging.php

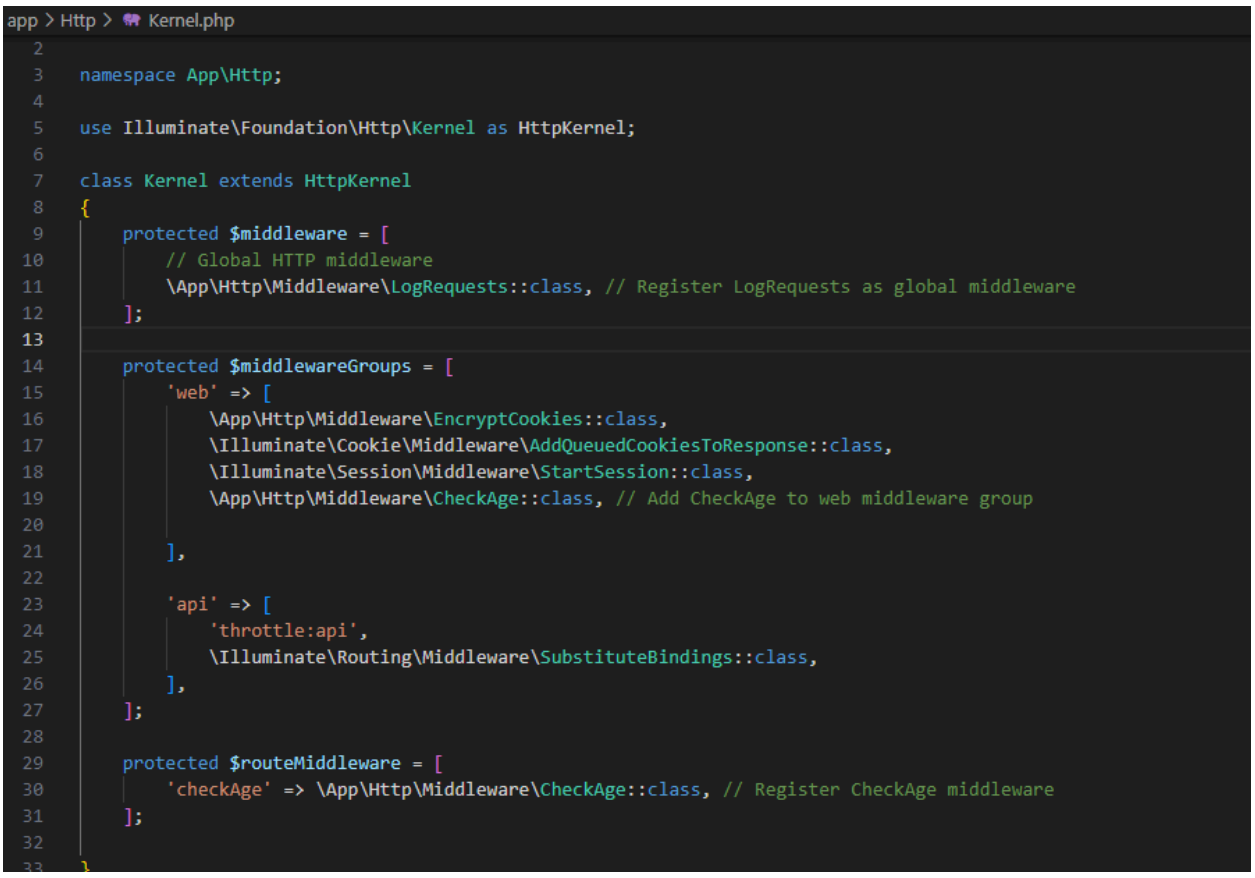
For the LogRequests middleware to work and generate the output in log.txt, we added a custom log channel in the logging.php file. We configured the 'custom' channel with a 'single' driver, specifying that all log entries generated by the LogRequests middleware would be stored in log.txt under the storage/logs directory. This ensures that all logged information, such as URLs and timestamps, is directed to this specific file.



```php
return [
    'channels' => [
        'null' => [
        ],

        'emergency' => [
            'path' => storage_path('logs/laravel.log'),
        ],

         // Add this part for the custom log channel
         'custom' => [
            'driver' => 'single',
            'path' => storage_path('logs/log.txt'),
            'level' => 'info',
        ],

    ],

];
```

REGISTRATION IN Kernel.php:

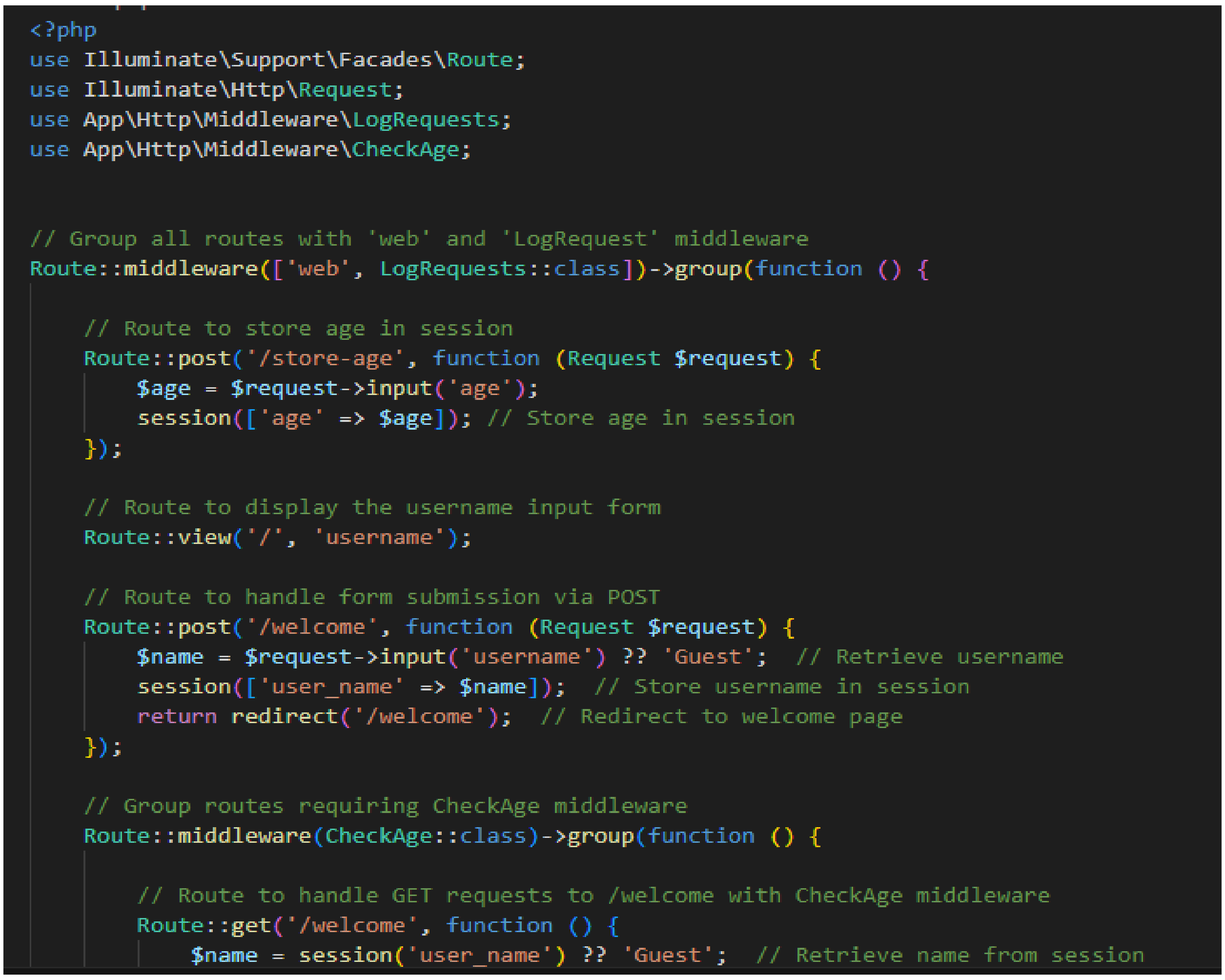
Since we could not find the Kernel.php file in the App/Http directory, we decided to create a new file in that location to register our middleware because it is essential for managing middleware functionality within the application. We registered the CheckAge.php middleware as route-specific because it only needs to be applied to certain routes that require age verification. In contrast, the LogRequests.php middleware was registered as global middleware to ensure that all incoming HTTP requests are logged consistently throughout the application, regardless of the route.



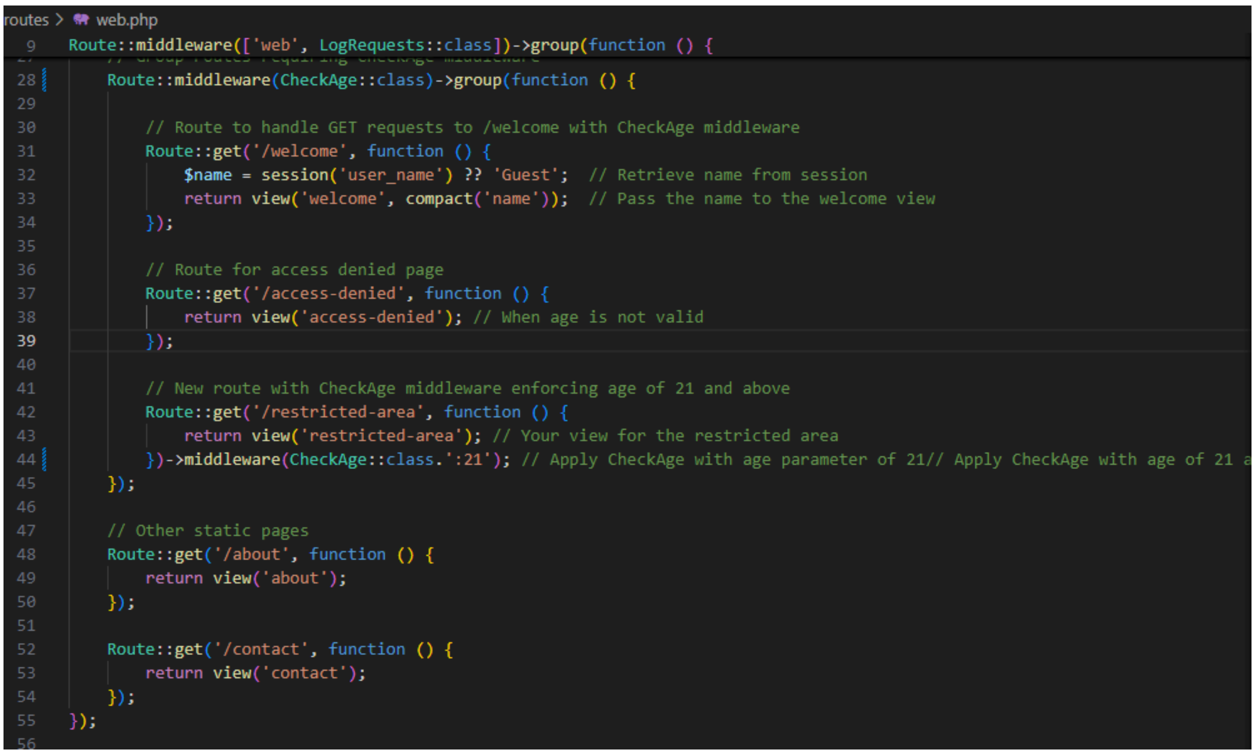
app > Http > Kernel.php

```php

namespace App\Http;

use Illuminate\Foundation\Http\Kernel as HttpKernel;

class Kernel extends HttpKernel
{
    protected $middleware = [
        // Global HTTP middleware
        \App\Http\Middleware\LogRequests::class, // Register LogRequests as global middleware
    ];

    protected $middlewareGroups = [
        'web' => [
            \App\Http\Middleware\EncryptCookies::class,
            \Illuminate\Cookie\Middleware\AddQueuedCookiesToResponse::class,
            \Illuminate\Session\Middleware\StartSession::class,
            \App\Http\Middleware\CheckAge::class, // Add CheckAge to web middleware group

        ],

        'api' => [
            'throttle:api',
            \Illuminate\Routing\Middleware\SubstituteBindings::class,
        ],
    ];

    protected $routeMiddleware = [
        'checkAge' => \App\Http\Middleware\CheckAge::class, // Register CheckAge middleware
    ];

}
```

ROUTING CONFIGURATION:



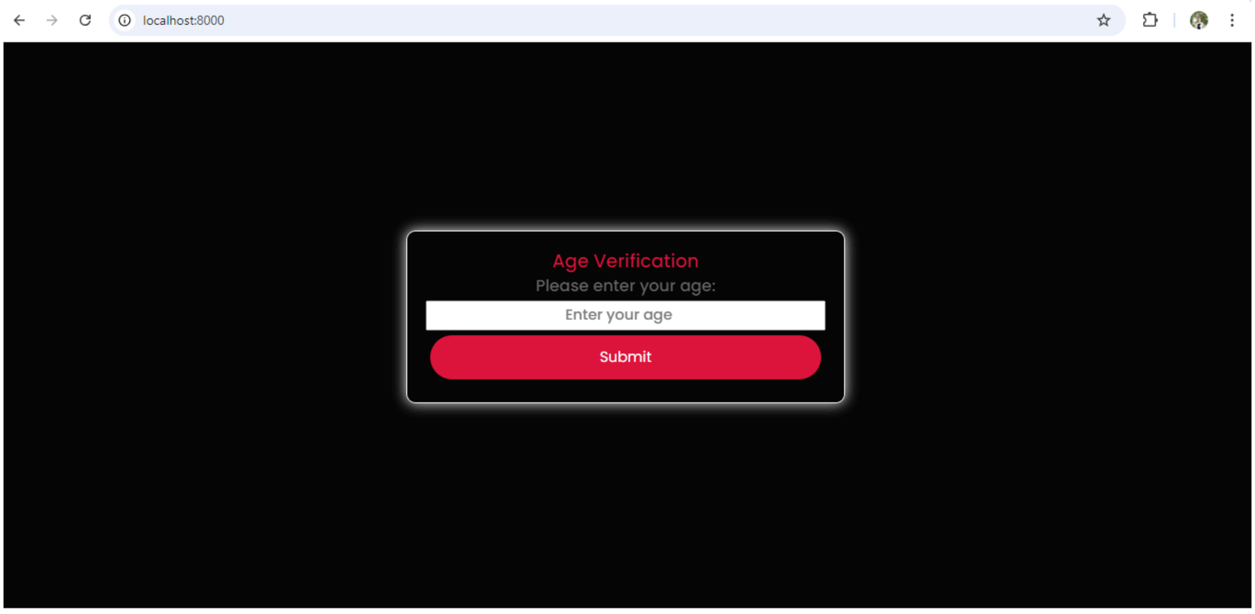
```php
<?php
use Illuminate\Support\Facades\Route;
use Illuminate\Http\Request;
use App\Http\Middleware\LogRequests;
use App\Http\Middleware\CheckAge;


// Group all routes with 'web' and 'LogRequest' middleware
Route::middleware(['web', LogRequests::class])->group(function () {

    // Route to store age in session
    Route::post('/store-age', function (Request $request) {
        $age = $request->input('age');
        session(['age' => $age]); // Store age in session
    });

    // Route to display the username input form
    Route::view('/', 'username');

    // Route to handle form submission via POST
    Route::post('/welcome', function (Request $request) {
        $name = $request->input('username') ?? 'Guest';  // Retrieve username
        session(['user_name' => $name]);  // Store username in session
        return redirect('/welcome');  // Redirect to welcome page
    });

    // Group routes requiring CheckAge middleware
    Route::middleware(CheckAge::class)->group(function () {

        // Route to handle GET requests to /welcome with CheckAge middleware
        Route::get('/welcome', function () {
            $name = session('user_name') ?? 'Guest';  // Retrieve name from session
```



```php
Route::middleware(['web', LogRequests::class])->group(function () {
    Route::middleware(CheckAge::class)->group(function () {

        // Route to handle GET requests to /welcome with CheckAge middleware
        Route::get('/welcome', function () {
            $name = session('user_name') ?? 'Guest';  // Retrieve name from session
            return view('welcome', compact('name'));  // Pass the name to the welcome view
        });

        // Route for access denied page
        Route::get('/access-denied', function () {
            return view('access-denied'); // When age is not valid
        });

        // New route with CheckAge middleware enforcing age of 21 and above
        Route::get('/restricted-area', function () {
            return view('restricted-area'); // Your view for the restricted area
        })->middleware(CheckAge::class.':21'); // Apply CheckAge with age parameter of 21// Apply CheckAge with age of 21 a
    });

    // Other static pages
    Route::get('/about', function () {
        return view('about');
    });

    Route::get('/contact', function () {
        return view('contact');
    });
});
```

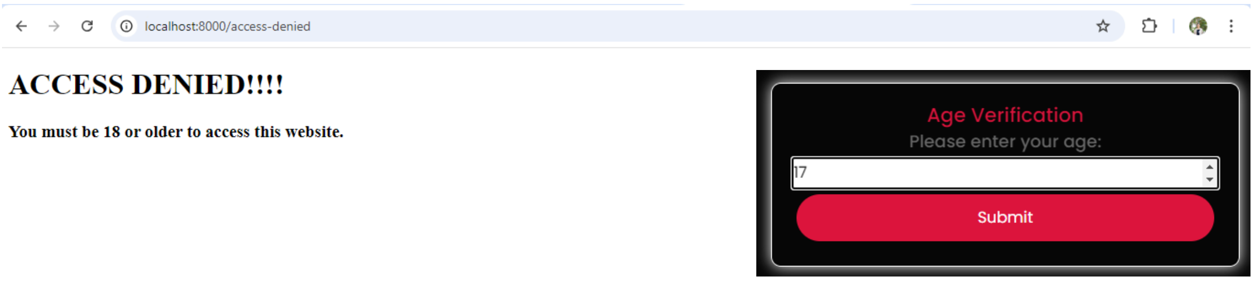
This routes/web.php utilizes two middleware—LogRequests and CheckAge—to enhance the application's functionality. The LogRequests middleware is applied to all routes in the group, ensuring that details of each incoming request, including the method and URL, are logged for monitoring purposes. The CheckAge middleware enforces age restrictions on specific routes within a nested group. It checks the user's age stored in the session, allowing access to the /welcome page for those who meet the age requirement while redirecting underage users to an "Access Denied" page. A separate route for a "Restricted Area" also requires users to be 21 or older. This middleware implementation effectively manages user access based on age while maintaining a log of all requests for accountability.

RENDERED WEB PAGES: With CheckAge Middleware



This is our username.blade.php file, where we added a modal that will pop up right before the user accesses our website to validate their age.

Age Inputs (18 below):


localhost:8000/access-denied

ACCESS DENIED!!!!

You must be 18 or older to access this website.

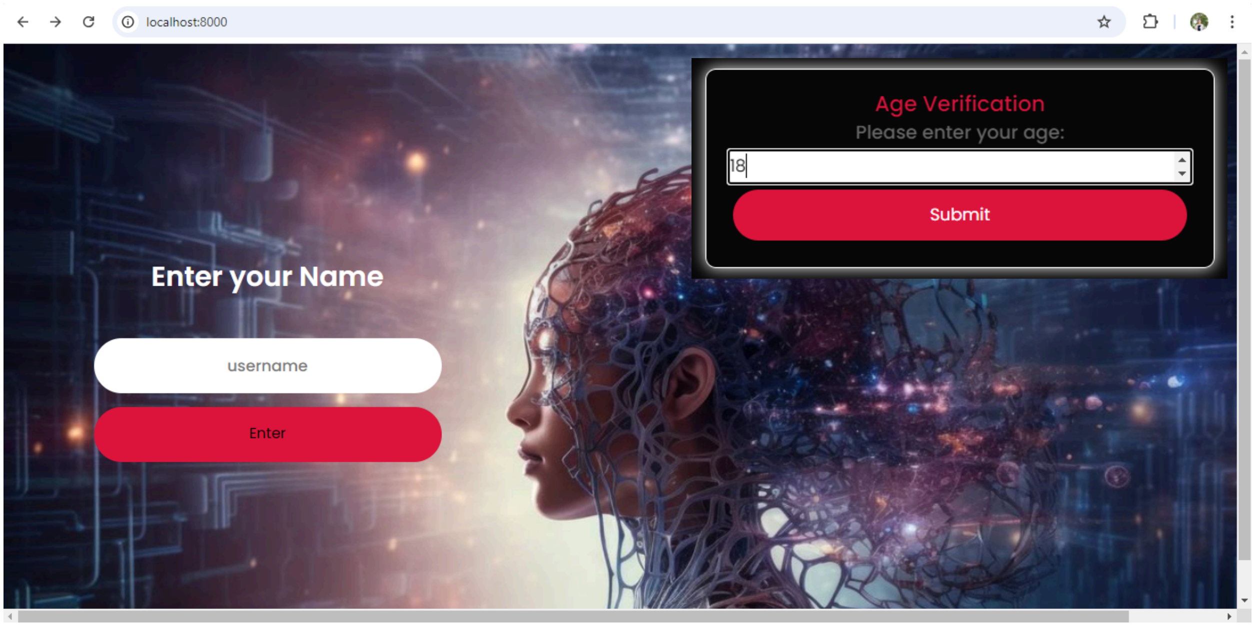
Age Verification

Please enter your age:

17

This is our access-denied.blade.php file. If the user enters an age below 18, they will be redirected to this page because they do not meet the age requirement to access our website.

Age Inputs (18-20):


localhost:8000

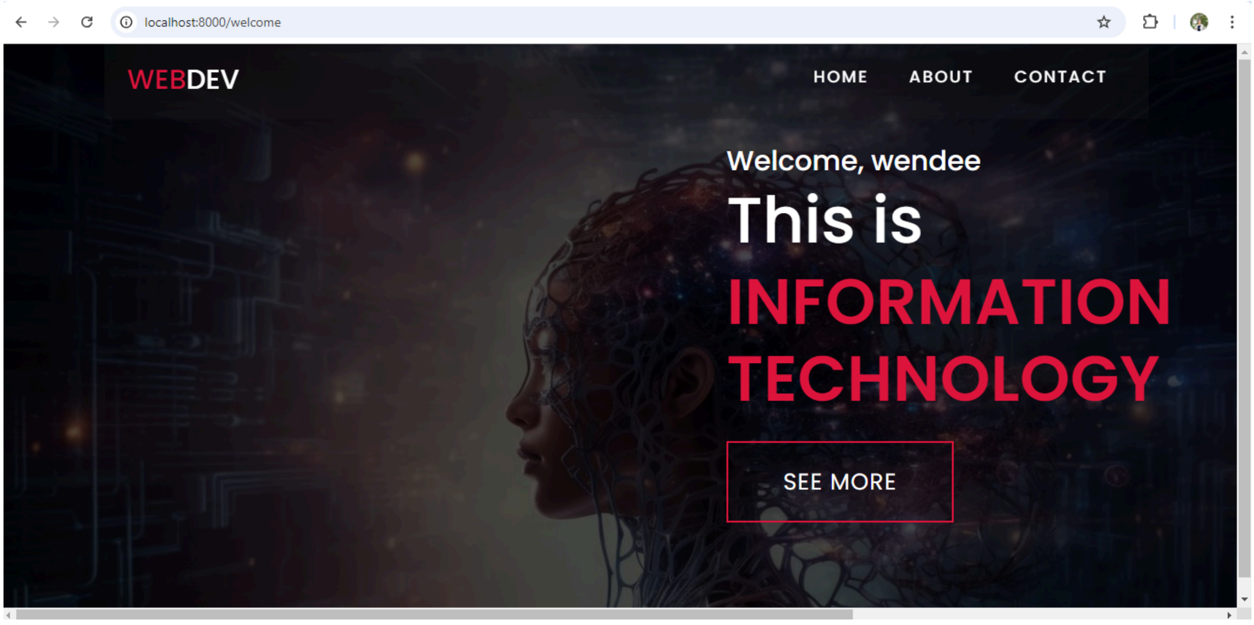
Age Verification

Please enter your age:

18

Enter your Name

username

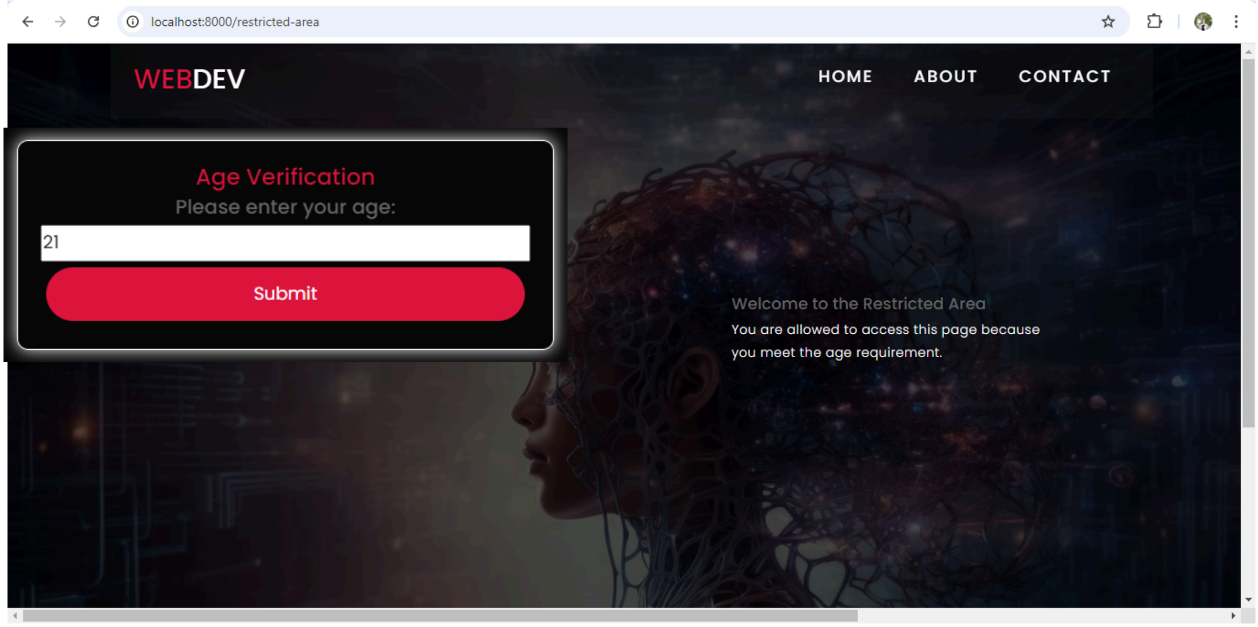

localhost:8000/welcome

Welcome, wendee

This is INFORMATION TECHNOLOGY

This is our username input form in the username.blade.php and the welcome page in the welcome.blade.php. If the user meets the minimum age requirement of 18, they will be allowed to enter their username and, upon successful login, will be able to access this page and other pages.

Age Inputs (21 and above):

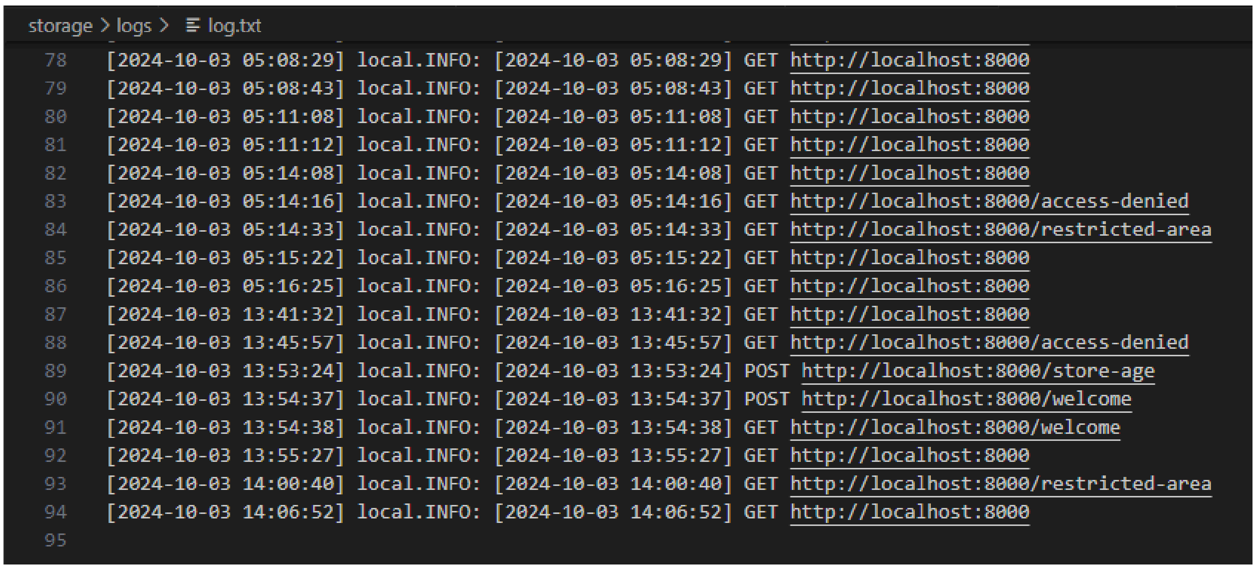


Welcome to the Restricted Area

You are allowed to access this page because you meet the age requirement.

This is our restricted-area.blade.php file, which is a specialized page for users who meet the age requirement of 21 and above. It is restricted to users aged 18-20 years. In addition to this restricted page, users 21 and older will be able to access other pages on our website. It's as if users in this age group have more privileges than the rest.

OUTPUT: With LogRequests Middleware



```
[2024-10-03 05:08:29] local.INFO: [2024-10-03 05:08:29] GET http://localhost:8000
[2024-10-03 05:08:43] local.INFO: [2024-10-03 05:08:43] GET http://localhost:8000
[2024-10-03 05:11:08] local.INFO: [2024-10-03 05:11:08] GET http://localhost:8000
[2024-10-03 05:11:12] local.INFO: [2024-10-03 05:11:12] GET http://localhost:8000
[2024-10-03 05:14:08] local.INFO: [2024-10-03 05:14:08] GET http://localhost:8000
[2024-10-03 05:14:16] local.INFO: [2024-10-03 05:14:16] GET http://localhost:8000/access-denied
[2024-10-03 05:14:33] local.INFO: [2024-10-03 05:14:33] GET http://localhost:8000/restricted-area
[2024-10-03 05:15:22] local.INFO: [2024-10-03 05:15:22] GET http://localhost:8000
[2024-10-03 05:16:25] local.INFO: [2024-10-03 05:16:25] GET http://localhost:8000
[2024-10-03 13:41:32] local.INFO: [2024-10-03 13:41:32] GET http://localhost:8000
[2024-10-03 13:45:57] local.INFO: [2024-10-03 13:45:57] GET http://localhost:8000/access-denied
[2024-10-03 13:53:24] local.INFO: [2024-10-03 13:53:24] POST http://localhost:8000/store-age
[2024-10-03 13:54:37] local.INFO: [2024-10-03 13:54:37] POST http://localhost:8000/welcome
[2024-10-03 13:54:38] local.INFO: [2024-10-03 13:54:38] GET http://localhost:8000/welcome
[2024-10-03 13:55:27] local.INFO: [2024-10-03 13:55:27] GET http://localhost:8000
[2024-10-03 14:00:40] local.INFO: [2024-10-03 14:00:40] GET http://localhost:8000/restricted-area
[2024-10-03 14:06:52] local.INFO: [2024-10-03 14:06:52] GET http://localhost:8000
```

This is our rendered log.txt file. Here, all log details, including the page URL, timestamp, HTTP method, and any other relevant information, are appended with each request made to the website. This file serves as a record of all incoming traffic, helping us track user activity, request types, and when each action occurred.

OVERALL SUMMARY:

We implemented two custom middleware—CheckAge and LogRequests—in our Laravel project. The CheckAge middleware controls access based on user age, redirecting underage users, granting access to 18-year-olds, and providing additional privileges to users 21 and older. LogRequests middleware logs details of every HTTP request, such as URLs and timestamps.

To enable logging, we configured a custom log channel in logging.php, directing logs to log.txt. We registered CheckAge as route-specific for age-restricted routes and LogRequests as global middleware for consistent logging across all routes. Together, these middleware manage user access and track activity while maintaining a detailed log for accountability.