Documentation of API in Laravel

# Overview

Build a Laravel REST API to manage products in an e-commerce system. This includes CRUD operations, image uploads, caching, and auto-generated Swagger documentation.

## Technologies Used:

* - Laravel 12  
  - MySQL  
  - Laravel Cache  
  - Swagger (L5 Swagger)  
  - PHP 8.2

# Folder Structure

• app/Http/Controllers/ProductController.php  
• database/migrations/file\_name.php  
• routes/api.php  
• app/Models/Product.php  
• app/Providers/AppServiceProvider.php

# Step 1: Project Setup

* Install Laravel
* composer create-project laravel/laravel ecommerce-task  
  cd ecommerce-task
* Connect Database in .env file
* DB\_CONNECTION=mysql  
  DB\_HOST=127.0.0.1  
  DB\_PORT=3306  
  DB\_DATABASE=ecommerce\_db  
  DB\_USERNAME=root  
  DB\_PASSWORD=
* Create the database ecommerce\_db in MySQL.
* php artisan migrate

# Step 2: Product Model, Migration & Factory

* Generate Model, Migration & Controller:
* php artisan make:model Product -mc
* Edit Migration:
* Schema::create('products', ...)
* Run Migration:
* php artisan migrate

# Step 3: Setup API Routes (routes/api.php)

* use App\Http\Controllers\ProductController;
* Route::get('/all-products', [ProductController::class, 'index']);
* Route::post('/store', [ProductController::class, 'store']);
* Route::get('/show/{id}', [ProductController::class, 'show']);
* Route::post('/edit', [ProductController::class, 'edit']);
* Route::delete('/destroy/{id}', [ProductController::class, 'destroy']);

# Step 4: Controller Logic (ProductController.php)

* Ensure each method handles validation, image uploads, exception handling, and appropriate JSON responses.

# Step 5: Setup Swagger (L5 Swagger)

* Install:
* composer require "darkaonline/l5-swagger"
* Publish Config:
* php artisan vendor:publish --provider "L5Swagger\L5SwaggerServiceProvider"
* Update AppServiceProvider.php:
* Use forceRootUrl if needed.
* Annotate Controller with Swagger Tags
* @OA\Info(title="Product API", version="1.0")  
  @OA\Tag(name="Products", description="Product Management APIs")
* Generate Docs:
* php artisan l5-swagger:generate
* Visit: http://127.0.0.1:8000/docs

# Step 6: Test with Postman

* GET /api/all-products
* POST /api/store
* GET /api/show/{id}
* POST /api/edit
* DELETE /api/destroy/{id}