Custom PHP MVC Framework Documentation

**1. System Requirements**

Before installing the custom PHP MVC framework, ensure that your system meets the following requirements:

* **PHP** version 7.4 or higher.
* **Composer** installed for dependency management.
* **XAMPP/WAMP** or any local web server setup with Apache.
* **MySQL** (optional, if using database features).

### 2. Installation Instructions

#### **a. Download & Setup**

1. **Download the repository**:
   * Download the MVC framework from the provided source or clone it from your version control system (e.g., GitHub).

Example: git clone https://github.com/arifurrahmansw/mvc.git

1. **Install dependencies** using Composer:

composer install

This will install the necessary PHP packages, such as **PHPMailer**, into the vendor/ directory.

#### **b. Directory Setup**

1. Make sure your project is stored in the **htdocs** directory of XAMPP (or equivalent for WAMP). Example: mvc-app
2. In your .htaccess file located in the public directory, set the RewriteBase to your project's path: RewriteBase /mvc-app/
3. Set the correct permissions for the storage folder to allow logging:

chmod -R 775 storage/

### 3. Configuration

#### **a. Environment Configuration**

To configure the environment settings, edit the config/env.php file. This file defines several environment variables required by the application.

**Sample env.php file**:

define('ENV', [

'DEVELOPMENT' => true,

'BASE\_PATH' => '/mvc-app/',

]);

* **DEVELOPMENT**: Set this to true to show detailed error messages during development.
* **BASE\_PATH**: The base URL of the application.
* **MAIL Configuration**: SMTP settings for sending emails via PHPMailer.

#### **b. Email Configuration**

To send emails, ensure you have the correct SMTP settings in the environment file. If you are using **Mailtrap** or any SMTP service, configure the following:

'SMTP\_HOST' => 'smtp.mailtrap.io',

'SMTP\_USERNAME' => 'your-username',

'SMTP\_PASSWORD' => 'your-password',

'SMTP\_PORT' => 2525,

'MAIL\_ENCRYPTION' => PHPMailer::ENCRYPTION\_STARTTLS,

'MAIL\_FROM\_ADDRESS' => 'no-reply@gmail.com',

'MAIL\_FROM\_NAME' => 'Custom MVC',

'MAIL\_TO\_ADDRESS' => 'support@example.com',

### 4. MVC Structure

The Custom PHP MVC Framework follows the MVC architectural pattern:

* **Model**: Represents the data structure and business logic. Models are responsible for managing the application's data, including database interactions.
* **View**: The presentation layer that displays the data to the user. Views are responsible for rendering the user interface and presenting data to the user.
* **Controller**: Acts as an intermediary between the Model and View. Controllers handle user input, manipulate the Model, and determine which View to display.

### Folder Structure

* Below is an overview of the directory structure of the project:

mvc-app/

├── app/

│ ├── Controllers/

│ ├── Exceptions/

│ ├── Models/

│ └── Helpers/ Helpers.php

├── config/

│ └── env.php

├── core/

│ ├── Controller.php

│ ├── Model.php

│ └── DD.php

├── public/

│ ├── css/

│ ├── images/

│ ├── js/

├── resources/

│ ├── view/

├── routes/

│ └── web.php

├── storage/

│ └── logs/

├── vendor/

├── index.php

├──. htaccess

├──bootstrap.php

└── composer.json

### 5. API Integration Steps

To integrate an API, follow these steps:

**1. Define the API Endpoint**

Identify the URL of the API you wish to integrate. For example, in this case, we will use the following API endpoint to fetch posts: <https://jsonplaceholder.typicode.com/posts>

**2. Create a Model for API Interaction**

Create a dedicated model that will handle API requests and responses. This model should extend the base Model class.

**3. Fetch Data in the Controller**

In your controller, instantiate the ApiModel and call the method to fetch the data.

**4. Display Data in the View**

Create a view file where the fetched data will be displayed.

**5. Error Handling**

Implement error handling throughout your API calls. Log errors and provide user-friendly messages in the views where necessary.