UECS3294 ADVANCED WEB APPLICATION DEVELOPMENT

Practical 1 : Developing A Web Application with a Web Application Framework

In this lab, you will use Laravel Framewrok to start your first web application development. Take note that you have to have WAMPServer (Windows User) or XAMPPServer (iOS user) installed in your system as well as PHP. For scripting, make sure to install Microsoft Visual Studio Code, to access file and folders of a Laravel web applicaiton project.

As Laravel Framework use Composer for dependency management, you will need to first install Composer on your machine.

1. Composer Installation

To do so, go to composer's official website: https://getcomposer.org/ and click on "Download" button as shown in Figure 1.
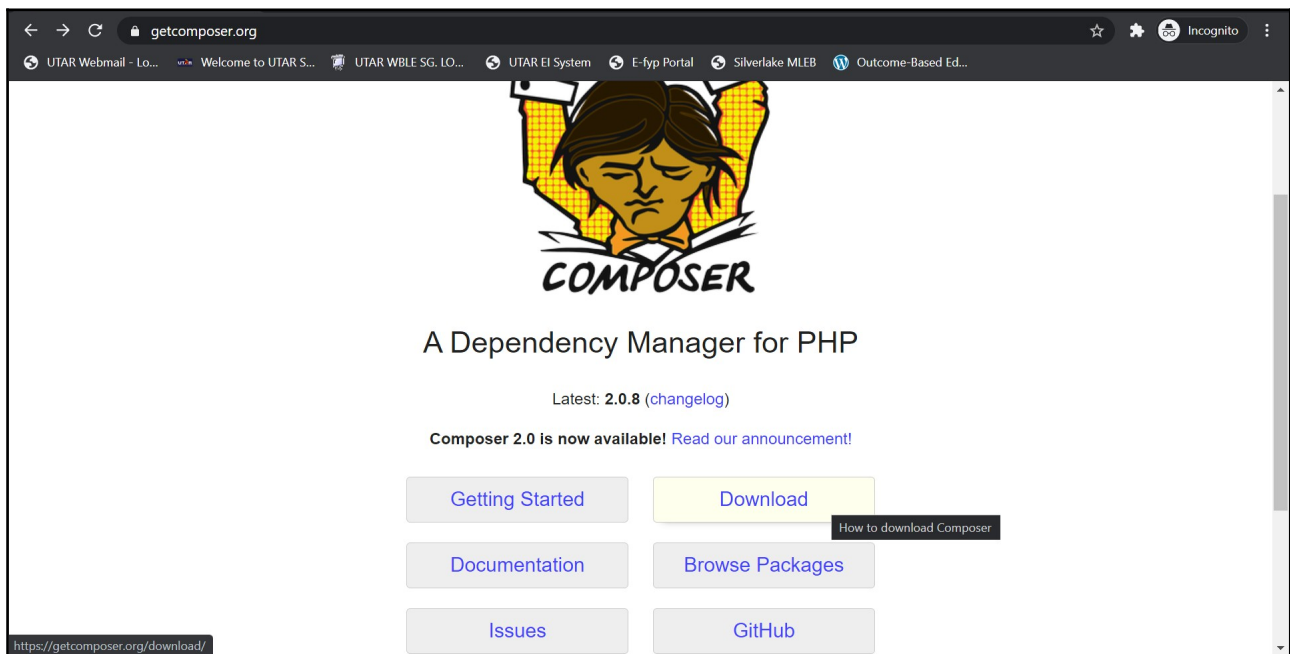

Figure 1: Composer Official Page.

After choosing to download;

1. Windows Users, follow Windows Installer instruction to download Composer-Setup.exe and run the .exe file as shown in Figure 2.
2. Mac iOS users, follow the installation instructions listed in the redirected page as shown in Figure 2.
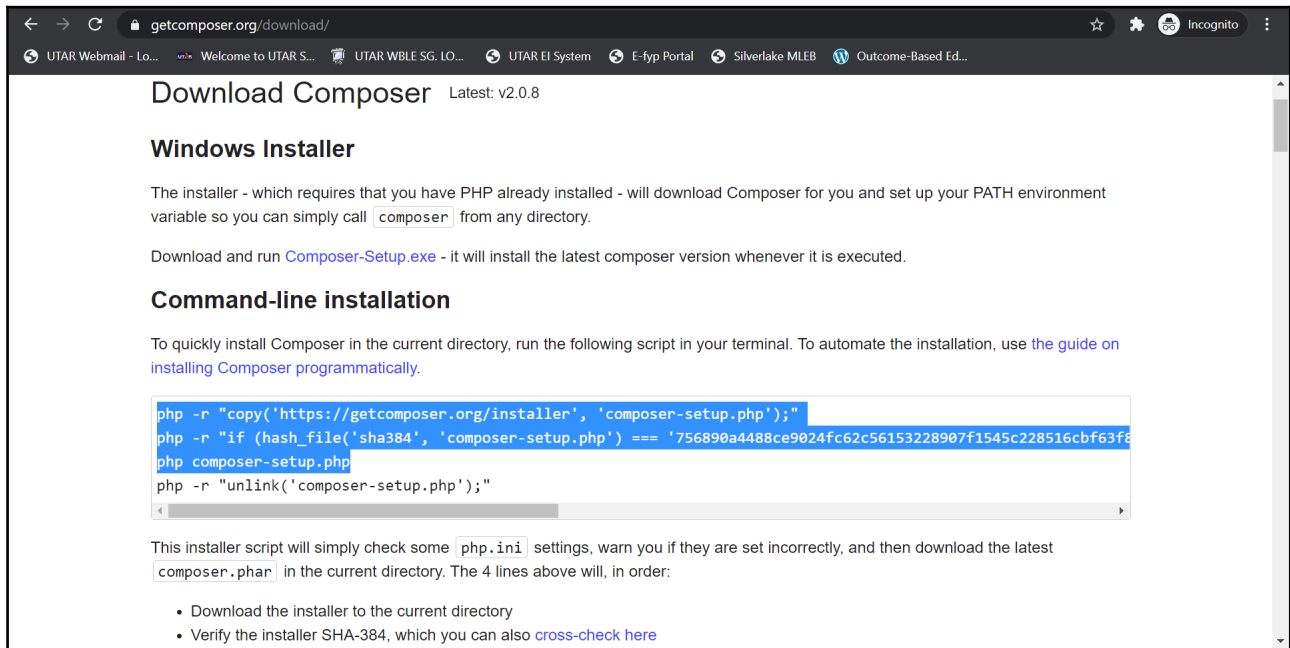
Figure 2: Composer Installation Instruction Page.

For Mac iOS users, take note that you just need to follow the first three lines of installation instruction. The fourth line (non-highlighted in Figure 2) means uninstalling the Composer.

For Windows user, take note that you will need to choose appropriate PHP setting: choose PHP version 7.3.0 and above, as Laravel's minimum requirement for PHP now is 7.3.0.
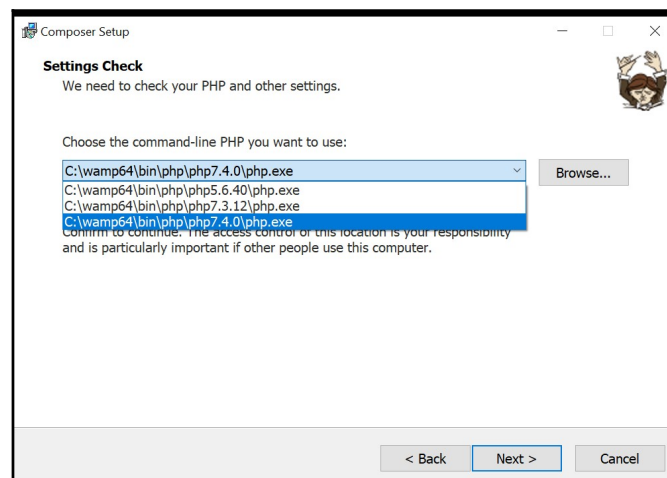

Figure 2.1: Choose PHP 7.3.x.

After execution of Composer installation, on your machine's CLI (both Windows and iOS), execute "composer" command line to ensure that Composer is successfully installed on your machine as shown in Figure 3.

Figure 3: Composer Installed.

Next, you will need Composer to install Laravel Framework and create the first Laravel web application project on your machine.

2. Laravel Framework Installation and Initializing Web Application Project.
There are two ways to install Laravel framework in your machine using Composer;
- via Laravel Installer
  - execute "composer global require laravel/installer" to install Laravel globally to your machine. You need to run this command just once.
- via Composer Create-Project
  - execute "composer create-project –prefer-dist laravel/laravel blog" to install Laravel instance in a project folder.

In this guided practical, we will install Laravel globally, using the first way; Laravel Installer as shown in Figure 4.

Figure 4: Laravel Installed.

After the installer stopped execution, similar to execute Composer, execute "laravel" command in the command line to ensure Laravel is successfully installed in your machine.

Then, go to your prefered directory and execute "laravel new blog" where "blog" is the project name, to initiate your new Laravel application project as shown in Figure 5.1 and 5.2.
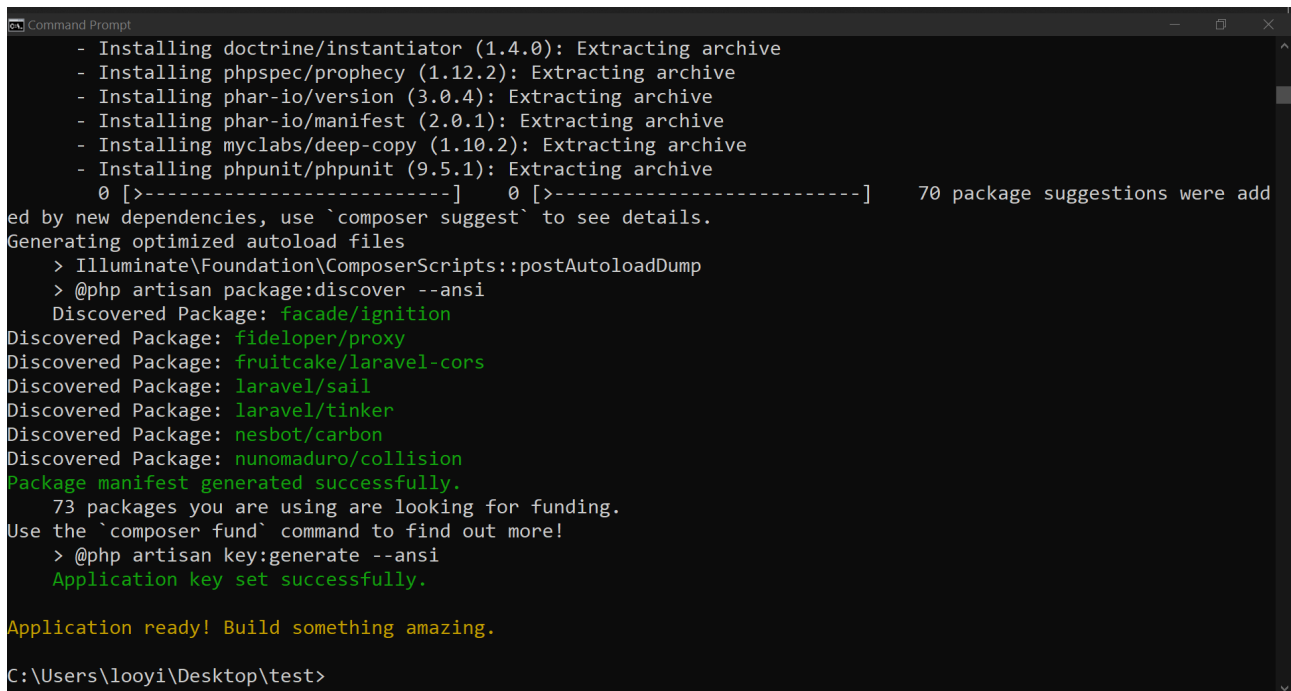

Figure 5.1: Initializing new Laravel Project named Practical1.
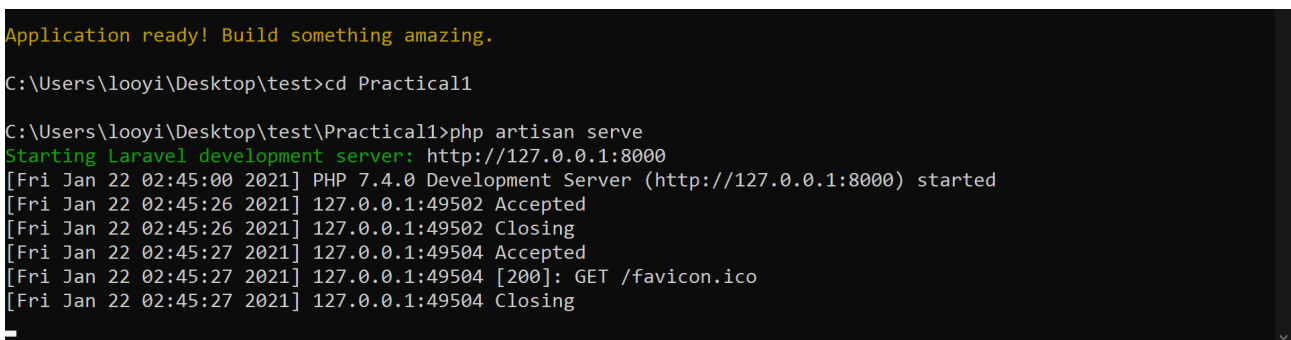
Figure 5.2: Successfully Initialize new Project (it will take a while to complete initializing the project).

In order to look into the Laravel web application that you have just initialized or created, make sure to execture WAMPServer and ensure all services of WAMPServer are running (green 'W' icon on your taskbar).

Then, go to CLI and change the working directory to your Laravel project. Subsequently, execute "php artisan serve" to host the web application on localhost.
For the example in this practical brief, it is as shown in Figure 6.

Figure 6: Hosting web application on localhost using Artisan CLI.

Following the server address provided by Artisan CLI, invoke the address in web browser to take a look at your first Laravel web application as shown in Figure 7.
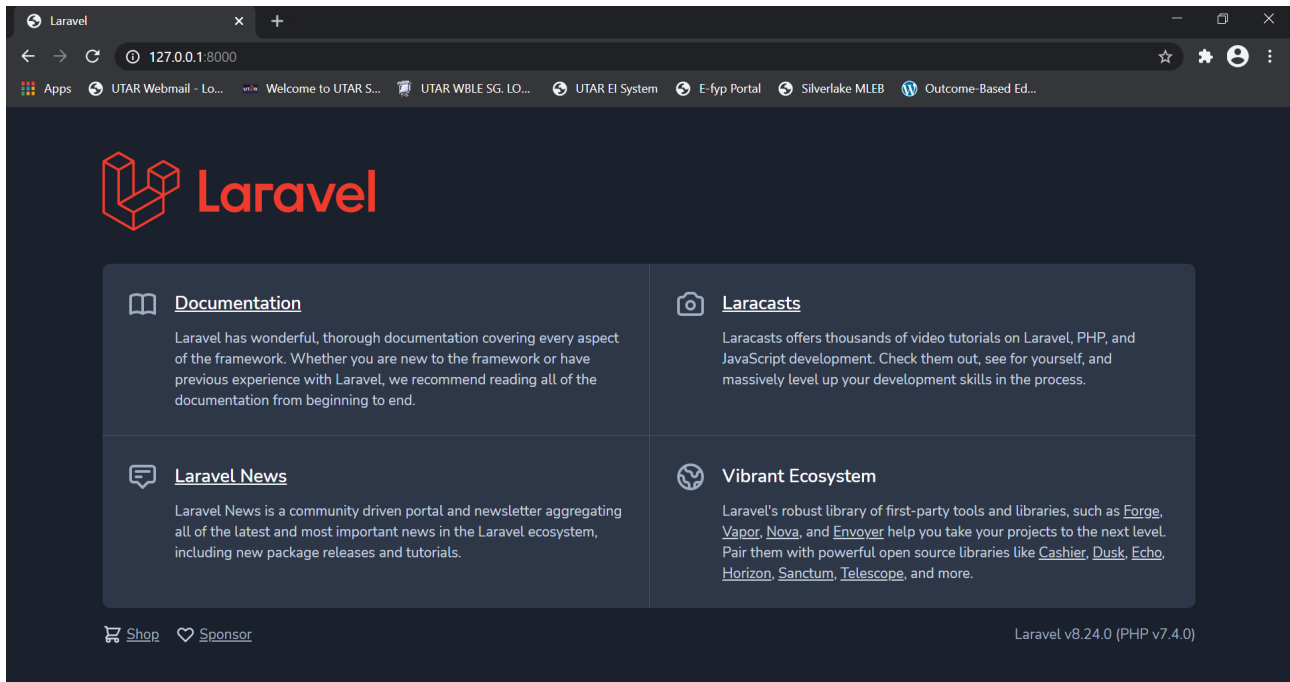
Figure 7: First Laravel Web Application.

Now, let's explore the files and folders of the newly created web application using Microsoft Visual Studio Code.

3. Files and Folders.

Prior to opening the web application in Microsoft Visual Studio Code, the structure of the application looks as shown in Figure 8.
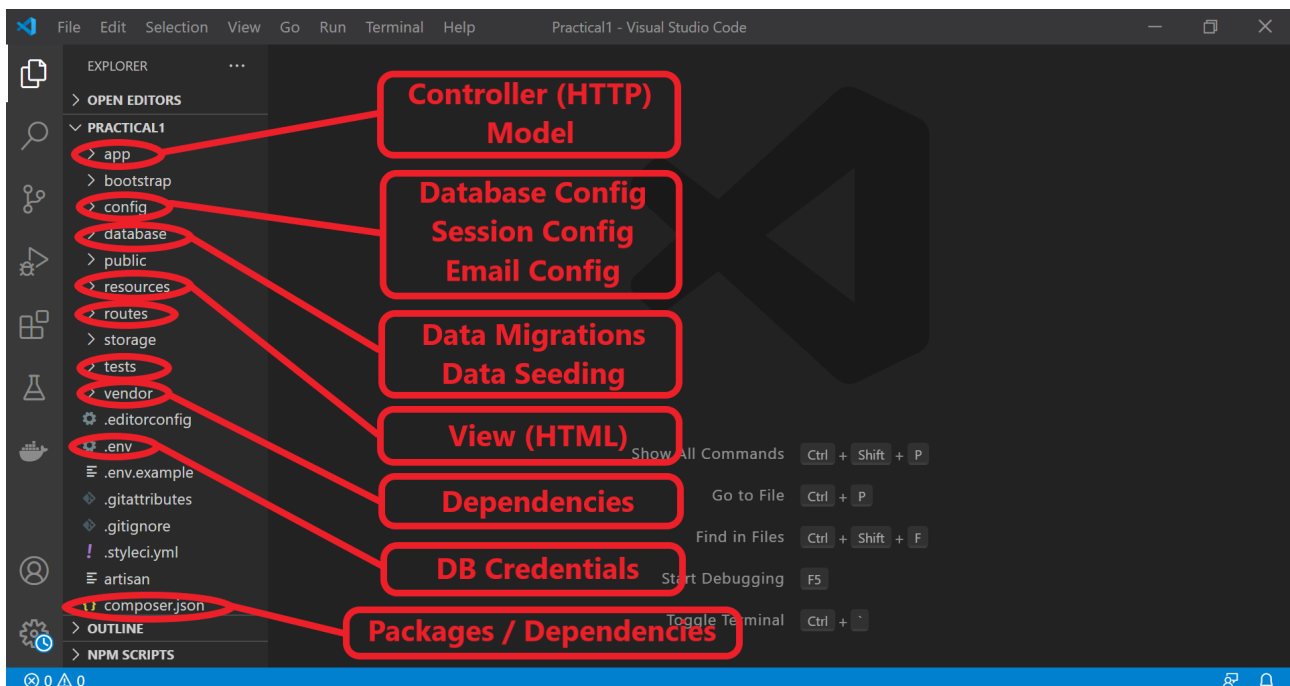

Figure 8: Practical1 Web Application Folder Structure.

Question:
Where is the file for loading page when the application is first opened in the server?