Lab report no: 05

Name of the report: Model Controllers and Views(MVC)

Objectives: Learning the basics of MVC structure-

- ✓ Model
- ✓ Controller
- ✓ Views

Theory:

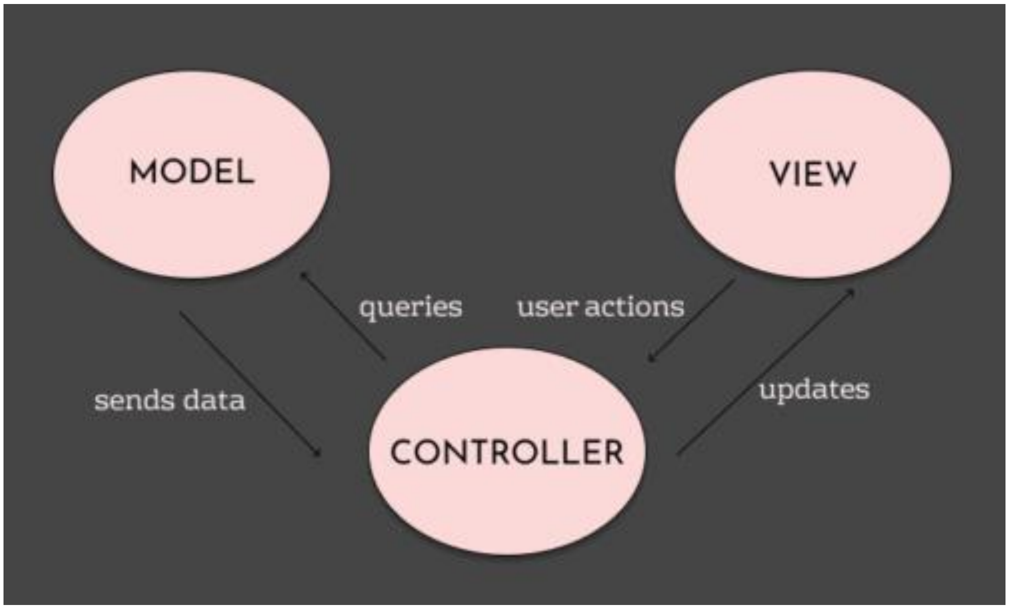
MVC:

MVC is an acronym for 'Model View Controller'. It represents architecture developers adopt when building applications. With the MVC architecture, we look at the application structure with regards to how the data flow of our application works MVC is a software architecture…that separates domain/application/business…logic from the rest of the user interface. It does this by separating the application into three parts: the model, the view, and the controller.

The **model** manages fundamental behaviors and data of the application. It can respond to requests for information, respond to instructions to change the state of its information, and even notify observers in event-driven systems when information changes. This could be a database or any number of data structures or storage systems. In short, it is the data and data-management of the application.

The **view** effectively provides the user interface element of the application. It'll render data from the model into a form that is suitable for the user interface.

The **controller** receives user input and makes calls to model objects and the view to perform appropriate action



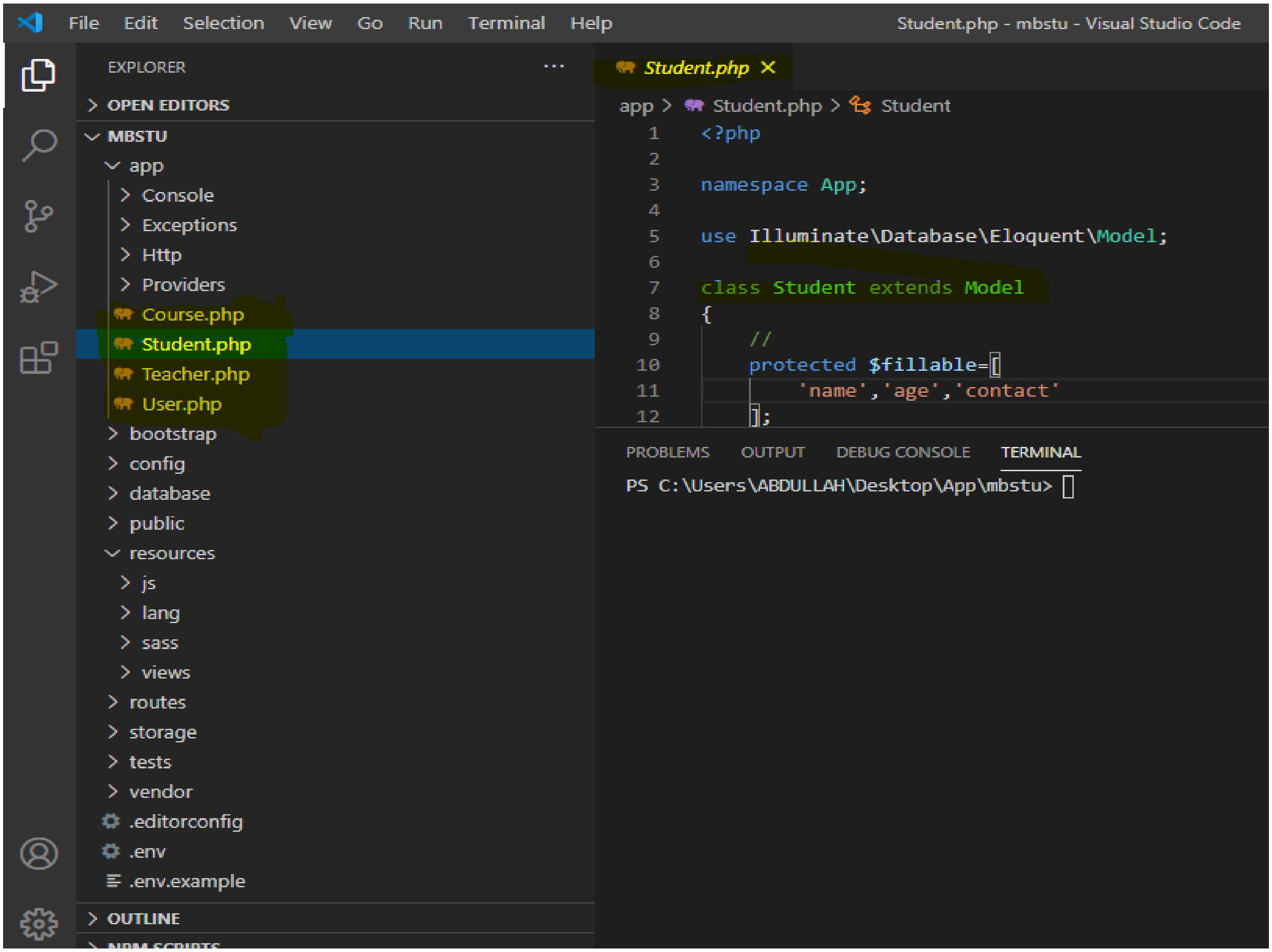
Model:

Model is located within the app folder with .php extension. All the file that we get after expanding the app or application folder with .php extension those are called model.

App > models with .php extension

- ✓ Entire class related work are done here

Here is the example of Models: After expanding the app folder we get a model Course.php, Student.php, Teacher.php, User.php.



```php
<?php

namespace App;

use Illuminate\Database\Eloquent\Model;

class Student extends Model
{
    //
    protected $fillable=[
        'name','age','contact'
    ];
```

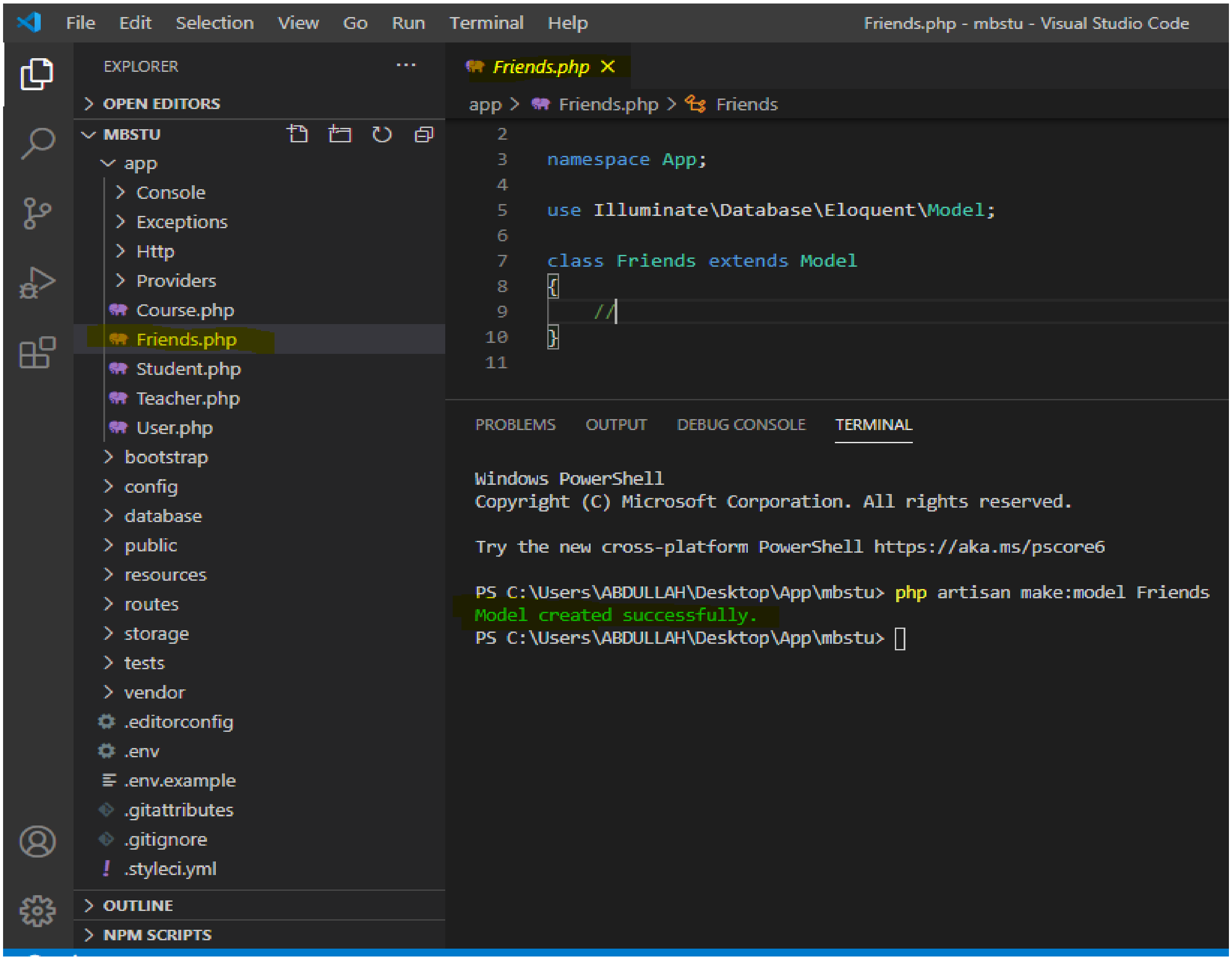
```
PS C:\Users\ABDULLAH\Desktop\App\mbstu>
```

Creating a model:

We can create a new model by running the following command in command line or visual studio shell.

```
php artisan make:model model_name
```

Here I create a model name Friends successfully.



```php

namespace App;

use Illuminate\Database\Eloquent\Model;

class Friends extends Model
{
    //
}

```

```
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\ABDULLAH\Desktop\App\mbstu> php artisan make:model Friends
Model created successfully.
PS C:\Users\ABDULLAH\Desktop\App\mbstu>
```
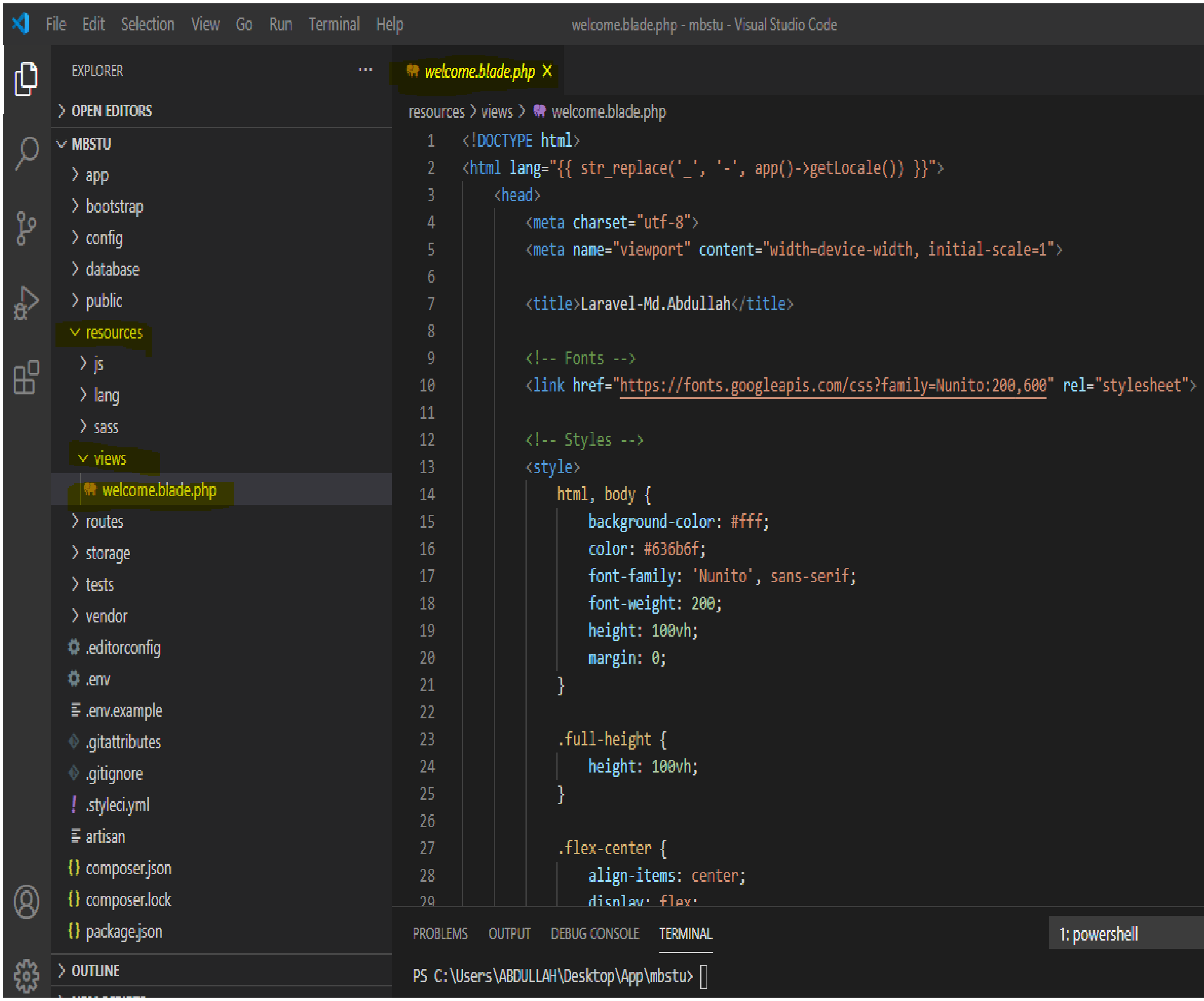

Views:

Views are located in a views folder within the resources directory.

resources > views >views file with .blade.php extension

- ❖ Files that are shown to the user
- ❖ Contains HTML and CSS files
- ❖ Like model and controller views can’t created automatically.
- ❖ It needs to be created manually.

Here is the example of views file of our project.

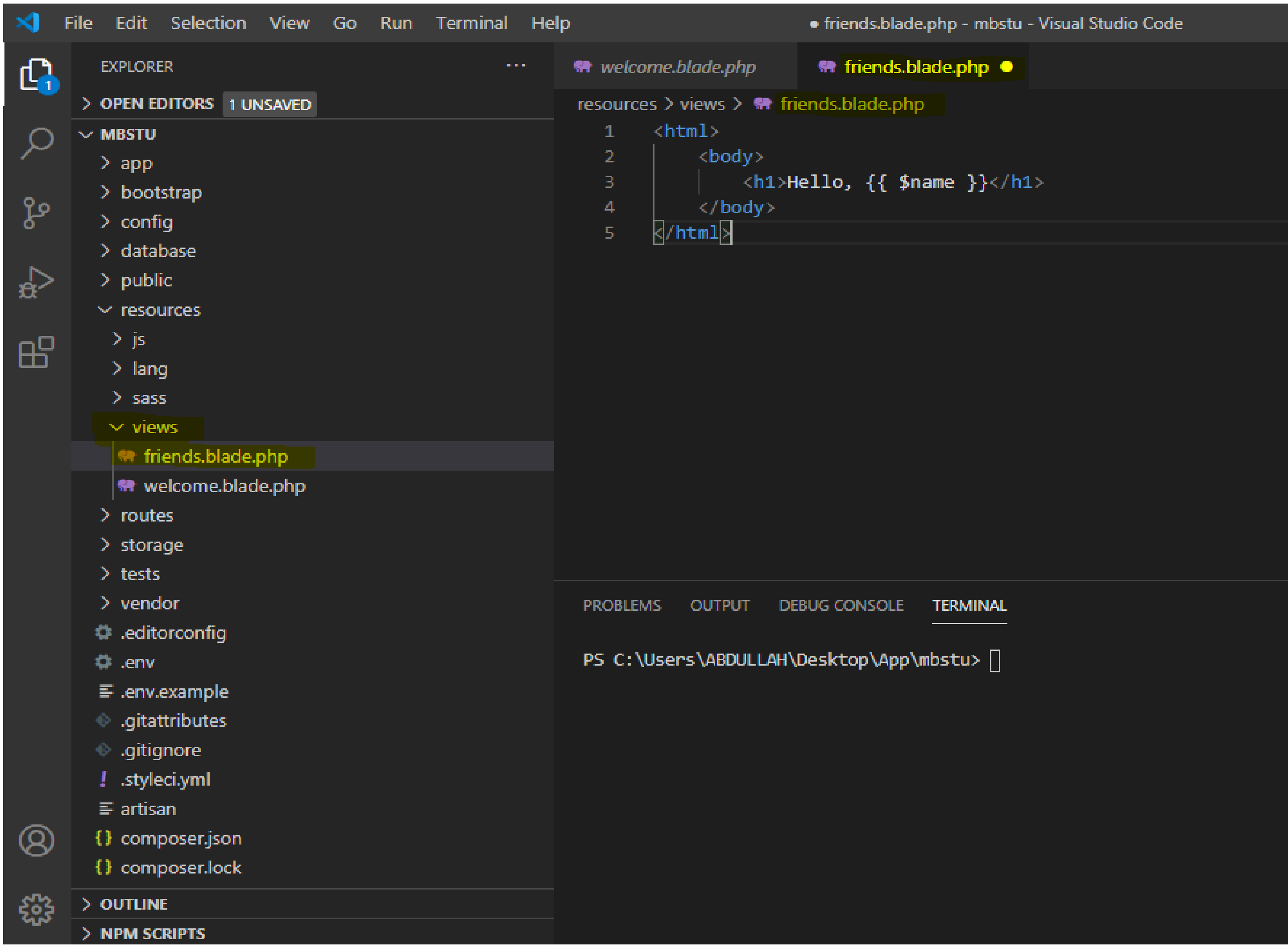


```
<!DOCTYPE html>
<html lang="{{ str_replace('_', '-', app()->getLocale()) }}">
    <head>
        <meta charset="utf-8">
        <meta name="viewport" content="width=device-width, initial-scale=1">

        <title>Laravel-Md.Abdullah</title>

        <!-- Fonts -->
        <link href="https://fonts.googleapis.com/css?family=Nunito:200,600" rel="stylesheet">

        <!-- Styles -->
        <style>
            html, body {
                background-color: #fff;
                color: #636b6f;
                font-family: 'Nunito', sans-serif;
                font-weight: 200;
                height: 100vh;
                margin: 0;
            }

            .full-height {
                height: 100vh;
            }

            .flex-center {
                align-items: center;
                display: flex;
```

```
PS C:\Users\ABDULLAH\Desktop\App\mbstu>
```

Creating a views:

Views are need to created manually. Here I create a views named friend.blade.php



```
<html>
    <body>
        <h1>Hello, {{ $name }}</h1>
    </body>
</html>
```

```
PS C:\Users\ABDULLAH\Desktop\App\mbstu>
```

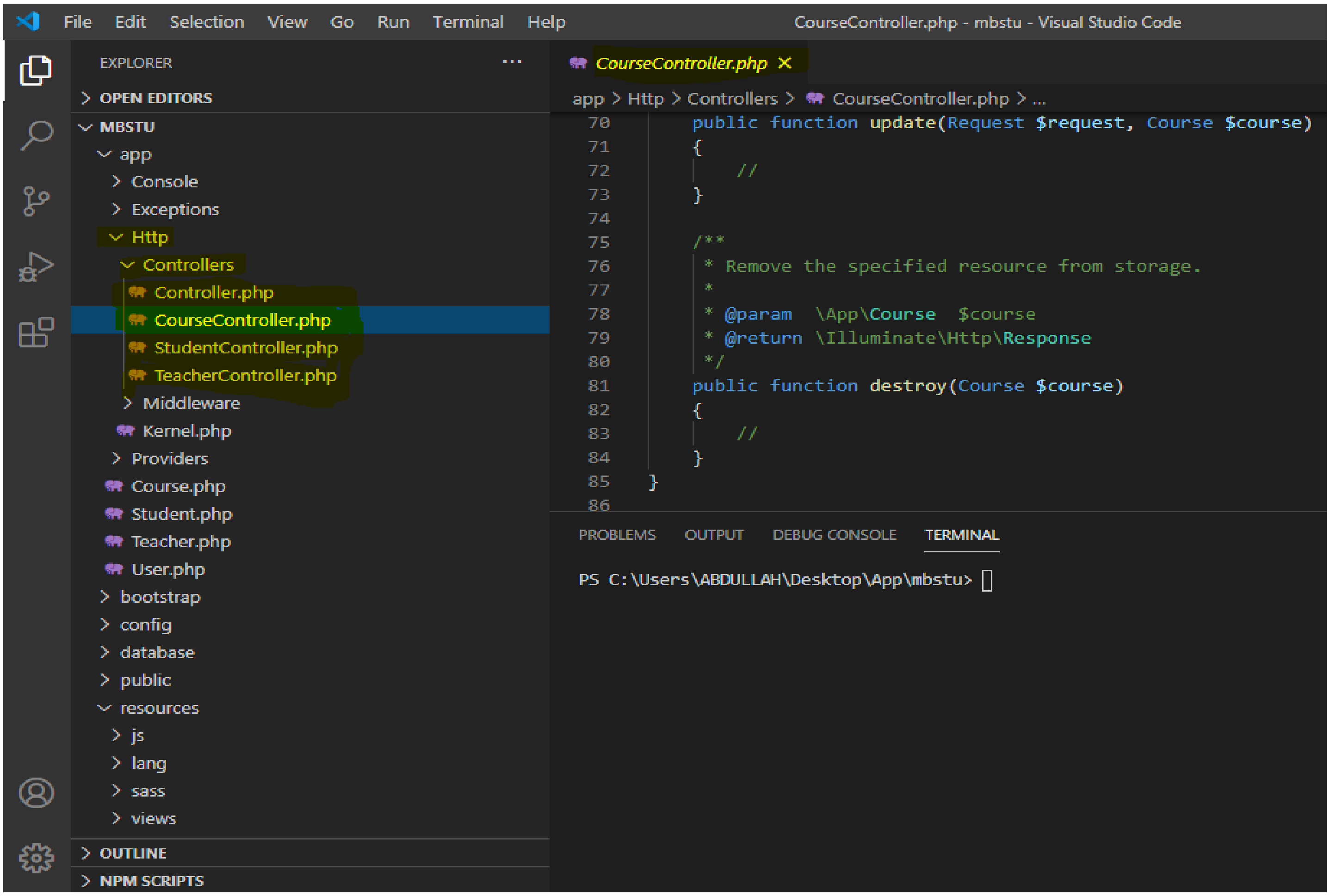
Controllers:

Controllers is a file with .php extension which located in the Controllers folder. The Controllers folder is under the HTTP folder. The HTTP folder is under the app folder. All the file that we get after expanding the Controllers folder with .php extension those are called Controllers.

app > HTTP >Controllers> Controllers file

- Controllers concatenate the model and views.
- It handle when a model or views will load.
- It also handle how to data will be send
- It handle how variable will work etc.

Here is the examples of our project controllers.Here Controllers.php, CourseController.php, StudentController.php, TeacherControllerphp all of the are controllers.



```
    public function update(Request $request, Course $course)
    {
        //
    }

    /**
     * Remove the specified resource from storage.
     *
     * @param  \App\Course  $course
     * @return \Illuminate\Http\Response
     */
    public function destroy(Course $course)
    {
        //
    }
}
```

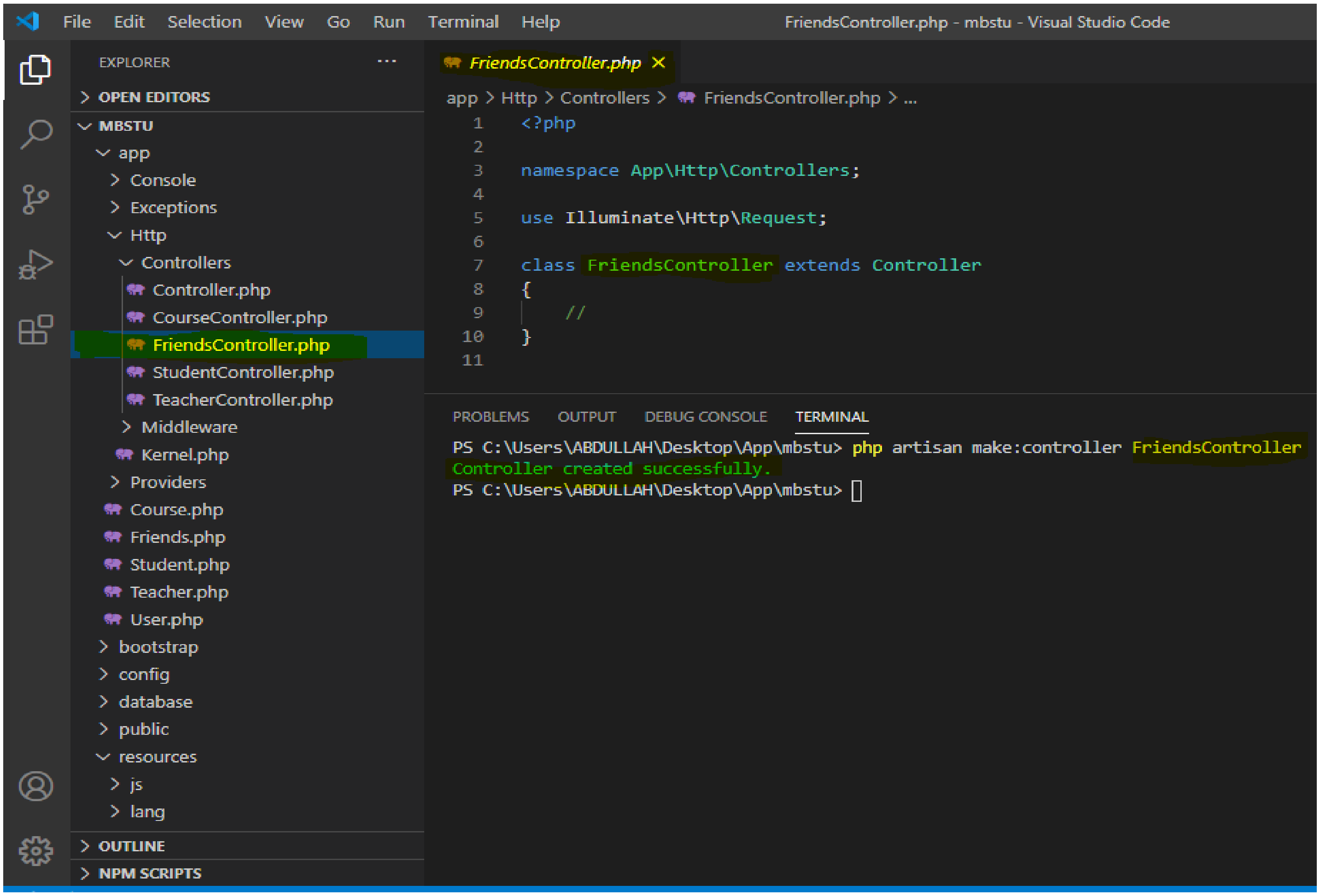
```
PS C:\Users\ABDULLAH\Desktop\App\mbstu>
```

Creating a Controllers:

We can create a new model by running the following command in command line or visual studio cell.

php artisan make: controller controller_name

Here I create a controller name FriendsController successfully.



```
<?php

namespace App\Http\Controllers;

use Illuminate\Http\Request;

class FriendsController extends Controller
{
    //
}
```

```
PS C:\Users\ABDULLAH\Desktop\App\mbstu> php artisan make:controller FriendsController
Controller created successfully.
PS C:\Users\ABDULLAH\Desktop\App\mbstu>
```

Conclusion:

After finishing this lab now I understand about the MVC structure model, views and controllers. Now I know how to create, show model, views and controllers. I can be able to create and show my model, views and controller.