LARAVEL - CONTROLLERS

Basic Controllers

In MVC framework, the letter 'C' stands for Controller. It acts as a directing traffic between Views and Models.

Creating a Controller

Open the command prompt or terminal based on the operating system you are using and type the following command to create controller using the Artisan CLI (Command Line Interface).

```
php artisan make:controller <controller-name> --plain
```

Replace the <controller-name> with the name of your controller. This will create a plain constructor as we are passing the argument — **plain**. If you don't want to create a plain constructor, you can simply ignore the argument. The created constructor can be seen at **app/Http/Controllers**. You will see that some basic coding has already been done for you and you can add your custom coding. The created controller can be called from routes.php by the following syntax.

Syntax

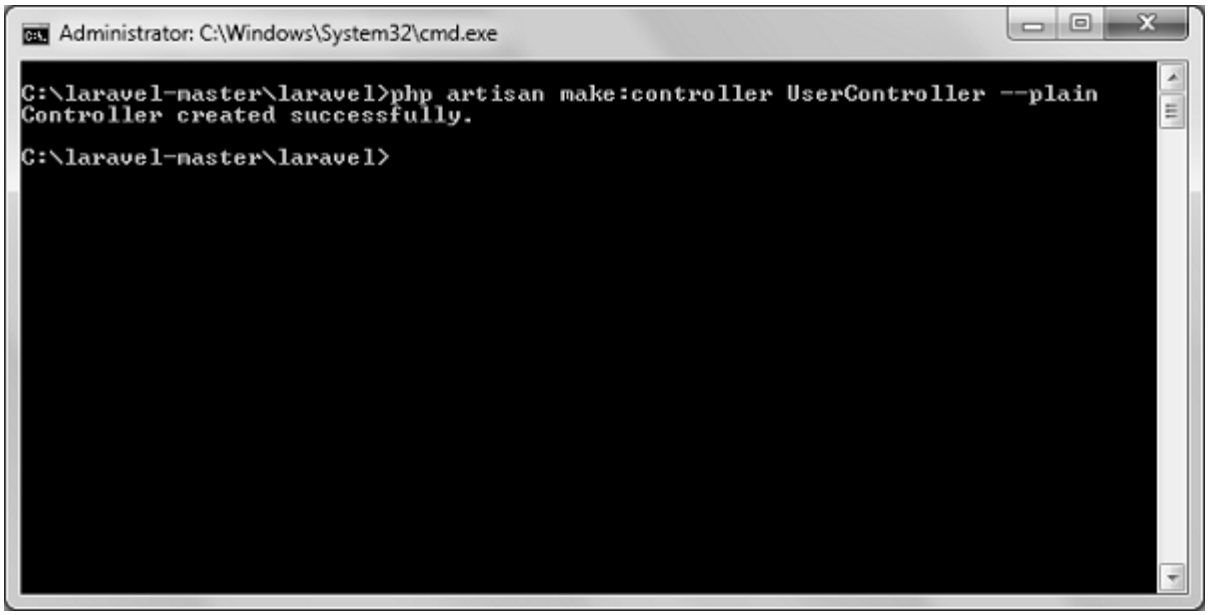
```
Route::get('base URI','controller@method');
```

Example

Step 1 − Execute the following command to create **UserController**.

```
php artisan make:controller UserController --plain
```

Step 2 − After successful execution, you will receive the following output.



Step 3 − You can see the created controller at **app/Http/Controller/UserController.php** with some basic coding already written for you and you can add your own coding based on your need.

```
<?php
namespace App\Http\Controllers;
use Illuminate\Http\Request;
use App\Http\Requests;
use App\Http\Controllers\Controller;

class UserController extends Controller {
   //
}
```

Controller Middleware

We have seen middleware before and it can be used with controller also. Middleware can also be assigned to controller's route or within your controller's constructor. You can use the middleware method to assign middleware to the controller. The registered middleware can also be restricted to certain method of the controller.

Assigning Middleware to Route

```
Route::get('profile', [
   'middleware' => 'auth',
   'uses' => 'UserController@showProfile'
]);
```

Here we are assigning auth middleware to UserController in profile route.

Assigning Middleware within Controller's constructor

```
<?php
namespace App\Http\Controllers;
use Illuminate\Http\Request;
use App\Http\Requests;
use App\Http\Controllers\Controller;

class UserController extends Controller {
   public function __construct(){
      $this->middleware('auth');
   }
}
```

Here we are assigning auth middleware using the middleware method in the UserController's constructor.

Example

Step 1 − Add the following lines to the **app/Http/routes.php** file and save it.

routes.php

```
<?php
Route::get('/usercontroller/path',[
   'middleware' => 'First',
   'uses' => 'UserController@showPath'
]);
```

Step 2 − Create a middleware called **FirstMiddleware** by executing the following line.

```
php artisan make:middleware FirstMiddleware
```

Step 3 − Add the following code in the handle method of the newly created FirstMiddleware at **app/Http/Middleware**.

FirstMiddleware.php

```
<?php
namespace App\Http\Middleware;
use Closure;

class FirstMiddleware {
   public function handle($request, Closure $next) {
      echo '<br>First Middleware';
      return $next($request);
   }
}
```

Step 4 − Create a middleware called **SecondMiddleware** by executing the following line.

```
php artisan make:middleware SecondMiddleware
```

Step 5 − Add the following code in the handle method of the newly created SecondMiddleware at **app/Http/Middleware**.

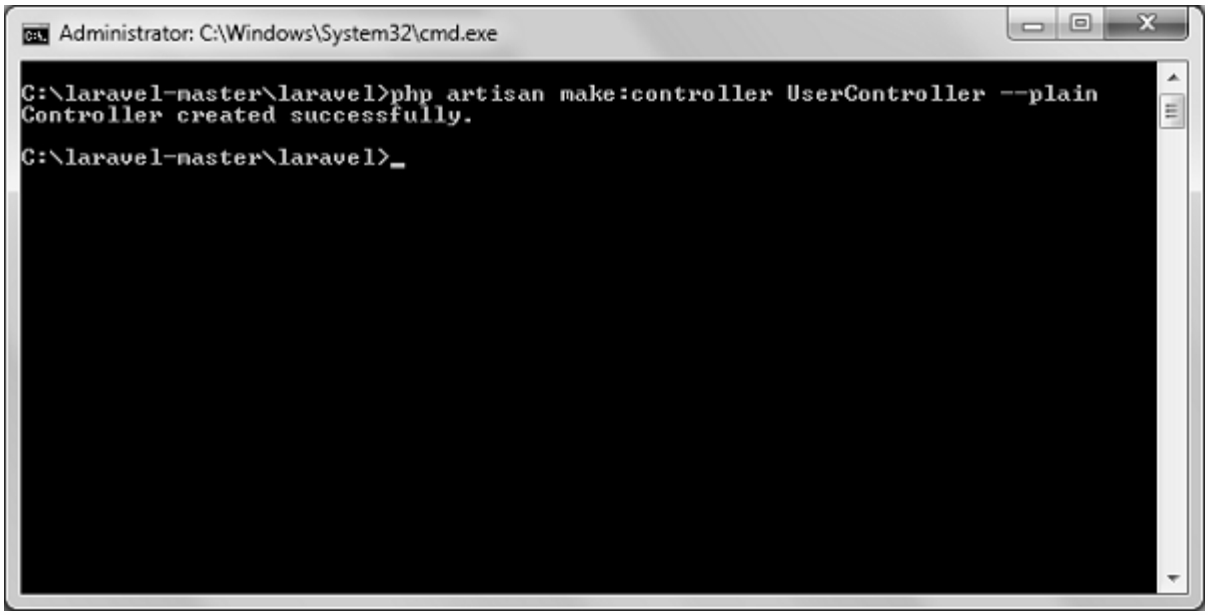
SecondMiddleware.php

```
<?php
namespace App\Http\Middleware;
use Closure;

class SecondMiddleware {
   public function handle($request, Closure $next){
      echo '<br>Second Middleware';
      return $next($request);
   }
}
```

Step 6 − Create a controller called **UserController** by executing the following line.

```
php artisan make:controller UserController --plain
```

Step 7 − After successful execution of the URL, you will receive the following output −



Step 8 − Copy the following code to **app/Http/UserController.php** file.

app/Http/UserController.php

```
<?php
namespace App\Http\Controllers;
use Illuminate\Http\Request;
use App\Http\Requests;
use App\Http\Controllers\Controller;

class UserController extends Controller {
   public function __construct(){
      $this->middleware('Second');
   }
   public function showPath(Request $request){
      $uri = $request->path();
      echo '<br>URI: '.$uri;

      $url = $request->url();
      echo '<br>';

      echo 'URL: '.$url;
      $method = $request->method();
      echo '<br>';

      echo 'Method: '.$method;
   }
}
```

Step 9 − Now launch the php's internal web server by executing the following command, if you haven't executed it yet.

```
php artisan serve
```

Step 10 − Visit the following URL.

http://localhost:8000/usercontroller/path

Step 11 − The output will appear as shown in the following image.

First Middleware
Second Middleware
URI: usercontroller/path
URL: http://localhost:8000/usercontroller/path
Method: GET

Restful Resource Controllers

Often while making an application we need to perform **CRUD (Create, Read, Update, Delete)** operations. Laravel makes this job easy for us. Just create a controller and Laravel will automatically provide all the methods for the CRUD operations. You can also register a single route for all the methods in routes.php file.

Example

Step 1 − Create a controller called **MyController** by executing the following command.

```
php artisan make:controller MyController
```

Step 2 − Add the following code in **app/Http/Controllers/MyController.php** file.

app/Http/Controllers/MyController.php

```
<?php
namespace App\Http\Controllers;
use Illuminate\Http\Request;
use App\Http\Requests;
use App\Http\Controllers\Controller;

class MyController extends Controller {
   public function index(){
      echo 'index';
   }
   public function create(){
      echo 'create';
   }
   public function store(Request $request){
      echo 'store';
   }
   public function show($id){
      echo 'show';
   }
   public function edit($id){
      echo 'edit';
   }
   public function update(Request $request, $id){
      echo 'update';
   }
   public function destroy($id){
      echo 'destroy';
   }
}
```

Step 3 − Add the following line of code in **app/Http/routes.php** file.

app/Http/routes.php

```
Route::resource('my','MyController');
```

Step 4 − We are now registering all the methods of MyController by registering a controller with resource. Below is the table of actions handled by resource controller.

Verb	Path	Action	Route Name
GET	/my	index	my.index
GET	/my/create	create	my.create
POST	/my	store	my.store
GET	/my/{my}	show	my.show
GET	/my/{my}/edit	edit	my.edit
PUT/PATCH	/my/{my}	update	my.update
DELETE	/my/{my}	destroy	my.destroy

Step 5 − Try executing the URLs shown in the following table.

URL	Description	Output Image
http://localhost:8000/my	Executes index method of MyController.php	index
http://localhost:8000/my/create	Executes create method of MyController.php	create
http://localhost:8000/my/1	Executes show method of MyController.php	show
http://localhost:8000/my/1/edit	Executes edit method of MyController.php	edit

Implicit Controllers

Implicit Controllers allow you to define a single route to handle every action in the controller. You can define it in route.php file with **Route:controller** method as shown below.

```
Route::controller('base URI','<class-name-of-the-controller>');
```

Replace the <class-name-of-the-controller> with the class name that you have given to your controller.

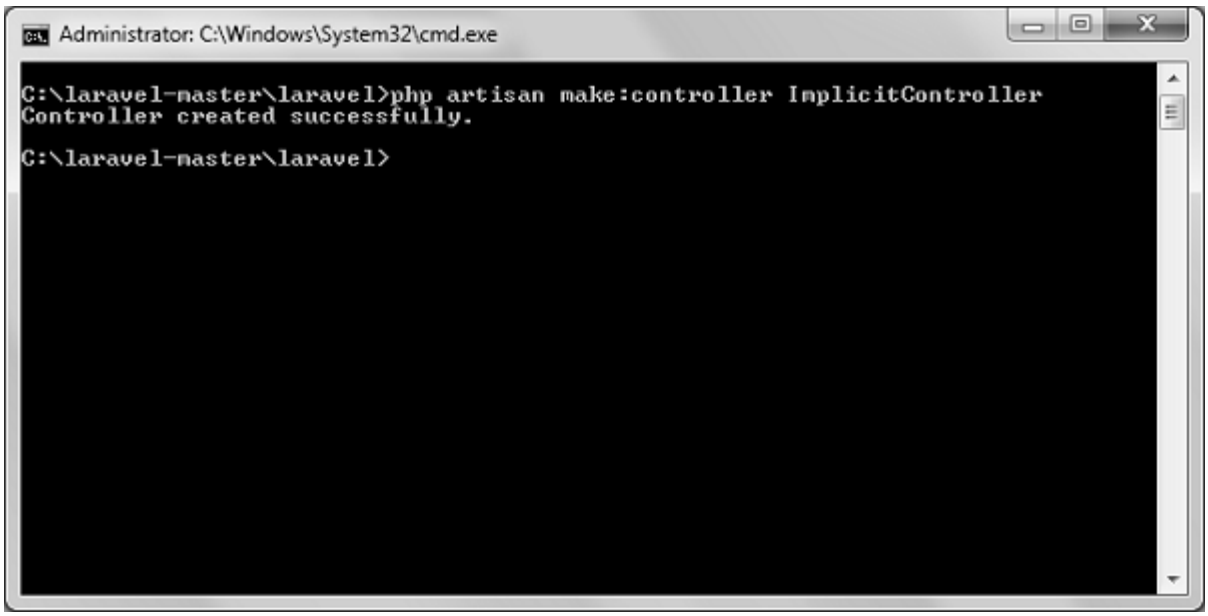
The method name of the controller should start with HTTP verb like get or post. If you start it with get, it will handle only get request and if it starts with post then it will handle the post request. After the HTTP verb you can, you can give any name to the method but it should follow the title case version of the URI.

Example

Step 1 − Execute the below command to create a controller. We have kept the class name **ImplicitController**. You can give any name of your choice to the class.

```
php artisan make:controller ImplicitController --plain
```

Step 2 − After successful execution, you will receive the following output −



Step 3 − Copy the following code to **app/Http/Controllers/ImplicitController.php** file.

app/Http/Controllers/ImplicitController.php

```
<?php
namespace App\Http\Controllers;
use Illuminate\Http\Request;
use App\Http\Requests;
use App\Http\Controllers\Controller;

class ImplicitController extends Controller {
   /**
   * Responds to requests to GET /test
   */
   public function getIndex(){
      echo 'index method';
   }

   /**
   * Responds to requests to GET /test/show/1
   */
   public function getShow($id){
      echo 'show method';
   }

   /**
   * Responds to requests to GET /test/admin-profile
   */
   public function getAdminProfile(){
      echo 'admin profile method';
```

```
    }

    /**
    * Responds to requests to POST /test/profile
    */
    public function postProfile(){
        echo 'profile method';
    }
}
```

Step 4 − Add the following line to **app/Http/routes.php** file to route the requests to specified controller.

app/Http/routes.php

```
Route::controller('test','ImplicitController');
```

Constructor Injection

The Laravel service container is used to resolve all Laravel controllers. As a result, you are able to type-hint any dependencies your controller may need in its constructor. The dependencies will automatically be resolved and injected into the controller instance.

Example

Step 1 − Add the following code to **app/Http/routes.php** file.

app/Http/routes.php

```
class MyClass{
    public $foo = 'bar';
}
Route::get('/myclass','ImplicitController@index');
```

Step 2 − Add the following code to **app/Http/Controllers/ImplicitController.php** file.

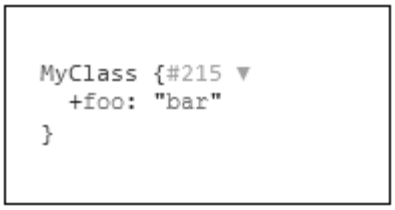
app/Http/Controllers/ImplicitController.php

```
<?php
namespace App\Http\Controllers;
use Illuminate\Http\Request;
use App\Http\Requests;
use App\Http\Controllers\Controller;

class ImplicitController extends Controller {
    private $myclass;

    public function __construct(\MyClass $myclass){
        $this->myclass = $myclass;
    }
    public function index(){
        dd($this->myclass);
    }
}
```

Step 3 − Visit the following URL to test the constructor injection.

http://localhost:8000/myclass

Step 4 − The output will appear as shown in the following image.



Method Injection

In addition to constructor injection, you may also type — hint dependencies on your controller's action methods.

Example

Step 1 − Add the following code to **app/Http/routes.php** file.

app/Http/routes.php

```
class MyClass{
   public $foo = 'bar';
}
Route::get('/myclass','ImplicitController@index');
```

Step 2 − Add the following code to **app/Http/Controllers/ImplicitController.php** file.

app/Http/Controllers/ImplicitController.php

```
<?php
namespace App\Http\Controllers;
use Illuminate\Http\Request;
use App\Http\Requests;
use App\Http\Controllers\Controller;

class ImplicitController extends Controller {
   public function index(\MyClass $myclass){
      dd($myclass);
   }
}
```

Step 3 − Visit the following URL to test the constructor injection.

http://localhost:8000/myclass

It will produce the following output −