Lab Exercise 8

Dr. Sarvar Abdullaev
`s.abdullaev@inha.uz`

March 25, 2020

The purpose of this lab is to write a simple blog application using Laravel framework by using Views, Routes, Controllers and some Facade Classes such as Store.

1 Clone Project and Install Dependencies

Follow below steps in order to ensure that your computer is set up to develop using Laravel framework:

1. Set `PATH='...;C:\xampp\php'` and in terminal type `php -v`. If it shows the version number, then your PHP pre-processor is accessible.
2. Download and install Composer here: `https://getcomposer.org/Composer-Setup.exe`. After installing, check in your terminal command `composer -v`.
3. Accept following lab assignment in Github Classroom and clone newly created repository in your usual labs folder.
4. Open terminal inside that folder and run following command `composer install` to install all PHP dependencies of cloned project
5. Rename `.env.example` file to `.env` file. In command line run `mv .env.example .env` (Linux or MacOS) or `ren .env.example .env` (Windows)
6. Run following command afterwards: `php artisan key:generate`
7. Once all dependencies are installed, run following command `php artisan serve`. This will start a Laravel's own development web server at `http://localhost:8000`. Open it in your browser. You should be able to see Figure 1 web page:

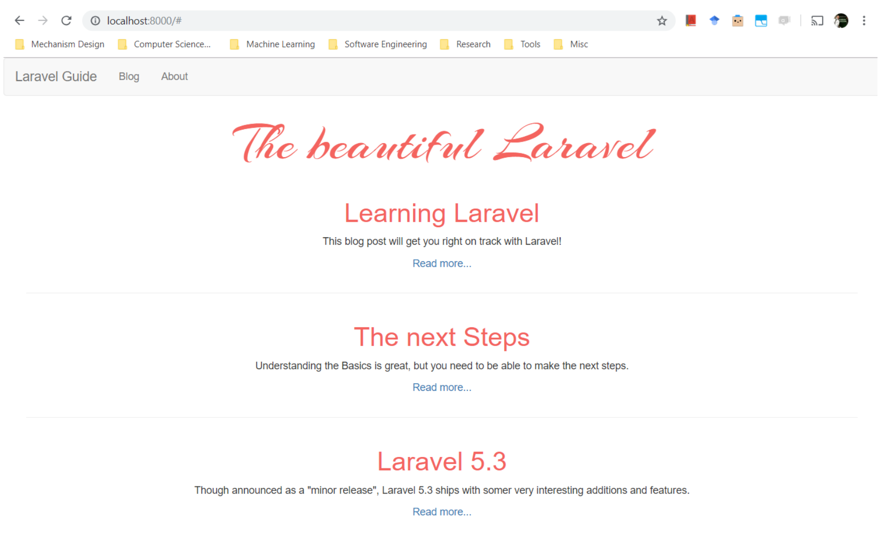
2 Views and Blade Templating

In this exercise, you will create different parts of our blog application.

2.1 Blog Section

Complete following tasks:

1. Create `blog` folder inside `/resources/views/` folder
2. Create 2 files inside `blog` folder: `index.blade.php` and `post.blade.php`
3. Copy the contents of `welcome.blade.php` to `blog\index.blade.php`
4. In `/routes/web.php` change root path from `welcome.blade.php` to `blog\index.blade.php`.
5. In `post.blade.php` extend `/layouts/master.blade.php` and write some static text in `content` section, so it looks as shown in Figure 2.



The beautiful Laravel

Learning Laravel

This blog post will get you right on track with Laravel!

Read more...

The next Steps

Understanding the Basics is great, but you need to be able to make the next steps.

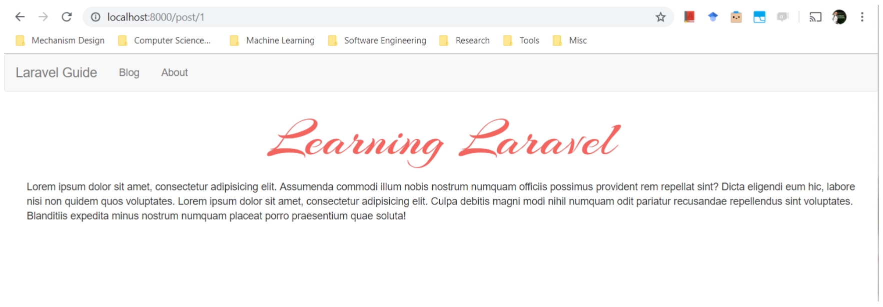
Read more...

Laravel 5.3

Though announced as a "minor release", Laravel 5.3 ships with somer very interesting additions and features.

Read more...

Figure 1: First View



Learning Laravel

Lorem ipsum dolor sit amet, consectetur adipisicing elit. Assumenda commodi illum nobis nostrum numquam officiis possimus provident rem repellat sint? Dicta eligendi eum hic, labore nisi non quidem quos voluptates. Lorem ipsum dolor sit amet, consectetur adipisicing elit. Culpa debitis magni modi nihil numquam odit pariatur recusandae repellendus sint voluptates. Blanditiis expedita minus nostrum numquam placeat porro praesentium quae soluta!

Figure 2: Post Detail View

6. As soon as you create a new template, set a route to it in `/routes/web.php` . Following URL can be used to display details of the post: `/post/{id}`

7. Modify `blog\index.blade.php` correspondingly so each 'Read more...' link refers to corresponding URL. For ex, post number 2 should refer to `/post/2`. You should use `route('url_name', ['id'=>$id])` function to generate corresponding URLs for detailed posts.

2.2 Admin Section

Complete following tasks:

1. Create `admin` folder inside `/resources/views/` folder

2. Create 3 files inside `admin` folder: `index.blade.php`, `create.blade.php` and `edit.blade.php` and create corresponding routes in `/routes/web.php` respectively: `admin/`, `admin/create` and `admin/edit/{id}`. Group these routes with prefix `admin`. Name above routes as `admin.index`, `admin.create`, `admin.edit`

3. Create `admin.blade.php` file inside `layouts` folder and copy the contents of `/layouts/master.blade.php` .

4. Create `admin-header.blade.php` inside `partials` folder and copy the contents of `header.blade.php`

5. Modify `partials\admin-header.blade.php`, so it contains link 'Posts' referring to route `admin.index`.

6. Replace reference to `header.blade.php` to `admin-header.blade.php` inside `/layouts/admin.blade.php` .

7. Modify `index.blade.php`, `create.blade.php` and `edit.blade.php`, so they all extend `/layouts/admin.blade.php`
8. Modify `index.blade.php`, so it contains 'New' button and a static post with some 'Edit' link. It should look as shown in Figure 3. Note you can use Bootstrap link button such as `<a class="btn btn-success">New Post</a>` for that. Check `https://getbootstrap.com/docs/4.3/components/buttons/` for more information.

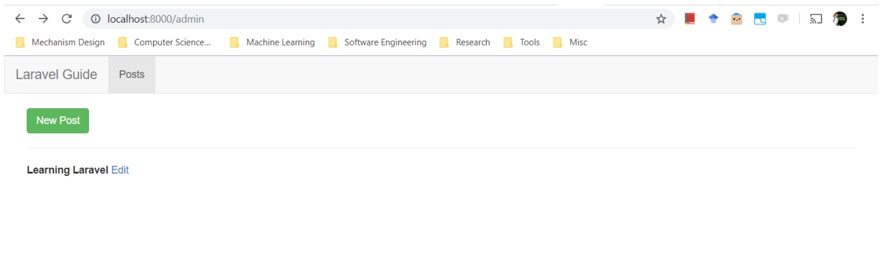


Figure 3: Admin Panel

9. Modify `create.blade.php`, so it contains 2 input fields 'Title' and 'Content' along with submit button. You can use Bootstrap forms here. After creating this form, change `href` of 'New' button `index.blade.php`, so when it is clicked, it refers to route `admin.create`.
10. Copy the contents of `create.blade.php` to `edit.blade.php`. Final form should look as shown in Figure 4.

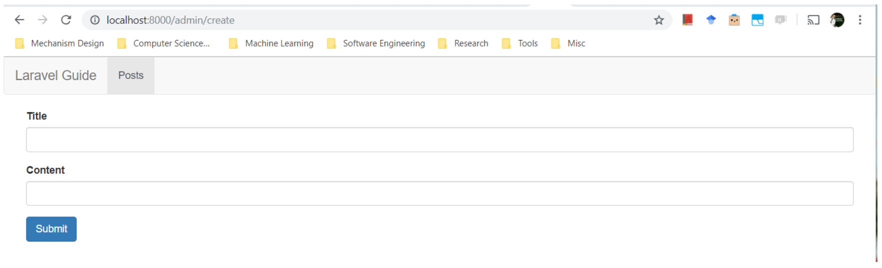
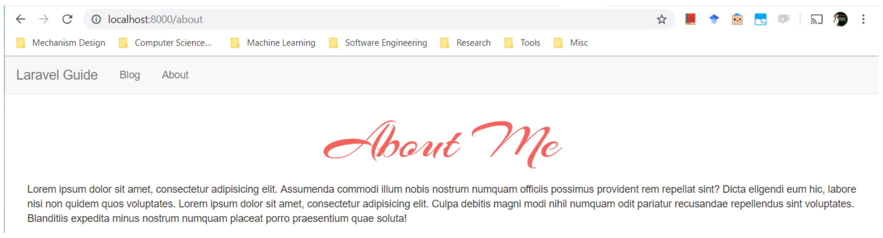


Figure 4: New Post Form

2.3 About Page

1. Create `/resources/views/other` folder and then create `about.blade.php` inside it. Create corresponding route `/about` inside `/routes/web.php` .
2. Modify `about.blade.php`, so it looks as shown in Figure 5



Lorem ipsum dolor sit amet, consectetur adipisicing elit. Assumenda commodi illum nobis nostrum numquam officiis possimus provident rem repellat sint? Dicta eligendi eum hic, labore nisi non quidem quos voluptates. Lorem ipsum dolor sit amet, consectetur adipisicing elit. Culpa debitis magni modi nihil numquam odit pariatur recusandae repellendus sint voluptates. Blanditiis expedita minus nostrum numquam placeat porro praesentium quae soluta!

Figure 5: About Page

3. Modify `header.blade.php` so it refers correctly to `/about` route.

3 Working with Requests

In this section, you work with Requests and Validators and use Dependency Injection to obtain instances of corresponding request and validator objects.

1. Create `partials/errors.blade.php` reusable template which is going to display errors of validation. Write following snippet inside it:

```
@if(count($errors->all()))
    <div class="row">
        <div class="col-md-12">
            <div class="alert alert-danger">
                <ul>
                    @foreach($errors->all() as $error)
                        <li>{{ $error }}</li>
                    @endforeach
                </ul>
            </div>
        </div>
    </div>
@endif
```

   As you can see it lists all errors passed to the template.

2. Go to `admin/index.blade.php` and make following modifications, so the final version look as shown below:

```
@extends('layouts.admin')

@section('content')
    @if(Session::has('info'))
        <div class="row">
            <div class="col-md-12">
                <p class="alert alert-info">{{ Session::get('info') }}</p>
            </div>
        </div>
    @endif

    <div class="row">
        <div class="col-md-12">
            <a href="{{ route('admin.create') }}" class="btn btn-success">New Post</a>
        </div>
    </div>
    <hr>
    <div class="row">
        <div class="col-md-12">
            <p><strong>Learning Laravel</strong>
            <a href="{{ route('admin.edit', ['id' => 1]) }}">Edit</a></p>
        </div>
    </div>
@endsection
```

   Pay attention to how template engine check if there is a `info` variable stored in user session, and if yes, it shows that `info` as an alert.

3. Go to `admin/create.blade.php` and make following modifications, so the final version look as shown below:

```
@extends('layouts.admin')

@section('content')
    @include('partials.errors')
    <div class="row">
        <div class="col-md-12">
            <form action="{{ route('admin.create') }}" method="post">
                <div class="form-group">
                    <label for="title">Title</label>
                    <input type="text" class="form-control" id="title" name="title">
                </div>
                <div class="form-group">
                    <label for="content">Content</label>
                    <input type="text" class="form-control" id="content" name="content">
                </div>
                @csrf
                <button type="submit" class="btn btn-primary">Submit</button>
            </form>
        </div>
    </div>
@endsection
```

Don't forget to include CSRF field inside the form.

4. Go to `/routes/web.php` , and create a new route to process POST request coming from above form.

```
Route::post('create', function( \Illuminate\Http\Request $request,
                                 \Illuminate\Validation\Factory $validator) {
        $validation = $validator->make($request->all(), [
            'title' => 'required|min:5',
            'content' => 'required|min:10'
        ]);
        if ($validation->fails()) {
            return redirect()->back()->withErrors($validation);
        }
        return redirect()
            ->route('admin.index')
            ->with('info', 'Post created, Title: ' . $request->input('title'));
    })->name('admin.create');
```

In above code snippet, route handler is accepting `$request` and `$validator` objects from Dependency Injector. They are registered inside `config\app.php` file under ServiceProviders. Handler validates the user input, and if everything is valid, it routes user to `admin.index` page with corresponding one-off Session variable `info` which is populated with user input. If user input contains a validation error it goes back to `admin.create` form with validation errors. You can learn about validation in Laravel here: `https://laravel.com/docs/5.8/validation`

5. Go to `admin/edit.blade.php` and make following modifications, so the final version look as shown below:

```
@extends('layouts.admin')

@section('content')
    @include('partials.errors')
    <div class="row">
        <div class="col-md-12">
            <form action="{{ route('admin.update') }}" method="post">
                <div class="form-group">
                    <label for="title">Title</label>
                    <input
                            type="text"
                            class="form-control"
                            id="title"
                            name="title"
                            value="{{ $post['title'] }}">
                </div>
                <div class="form-group">
                    <label for="content">Content</label>
                    <input
                            type="text"
                            class="form-control"
                            id="content"
                            name="content"
                            value="{{ $post['content'] }}">
                </div>
                @csrf
                <button type="submit" class="btn btn-primary">Submit</button>
            </form>
        </div>
    </div>
@endsection
```

6. Go to `/routes/web.php` , and create a new route to process POST request coming from above form.

```
Route::post('edit', function(\Illuminate\Http\Request $request,
                        \Illuminate\Validation\Factory $validator) {
    $validation = $validator->make($request->all(), [
        'title' => 'required|min:5',
        'content' => 'required|min:10'
    ]);
    if ($validation->fails()) {
        return redirect()->back()->withErrors($validation);
    }
    return redirect()
        ->route('admin.index')
        ->with('info', 'Post edited, new Title: ' . $request->input('title'));
})->name('admin.update');
```

4 Using Controller

In this section, you will move all your implemented functionality from `/routes/web.php` to controllers and write some additional functionality. Complete following steps:

1. Create `app/Post.php` file and define a `Post` class there. It should look as shown below:

```
<?php

namespace App;

use Illuminate\Session\Store;

class Post
{
    private $session;

        //asking session variable from Dep Inj.
    public function __construct(Store $session){
        $this->session=$session;
        $this->createDummyData();
    }

    public function getPosts()
    {
        return $this->session->get('posts');
    }

    public function getPost($id)
    {

        return $this->session->get('posts')[$id];
    }

    public function addPost($title, $content)
    {
        $posts = $this->session->get('posts');
        array_push($posts, ['title' => $title, 'content' => $content]);
        $this->session->put('posts', $posts);
    }

    public function editPost($id, $title, $content)
    {
        $posts = $this->session->get('posts');
        $posts[$id] = ['title' => $title, 'content' => $content];
        $this->session->put('posts', $posts);
    }
    private function createDummyData()
    {
        $posts = [
            [
                'title' => 'Learning Laravel',
                'content' => 'This blog post will get you right on track with Laravel!'
            ],
            [
                'title' => 'Something else',
                'content' => 'Some other content'
            ]
        ];
        $this->session->put('posts', $posts);
    }
}
```

2. Go to terminal and run command `php artisan make:controller PostController`. This will create and register a new controller in `app\Http\Controllers`. Ensure that it contains all user actions implemented as follows:

```
<?php

namespace App\Http\Controllers;

use App\Post;
use Illuminate\Http\Request;

use App\Http\Requests;
use Illuminate\Session\Store;

class PostController extends Controller
{
    public function getIndex()
    {
        //explicitly asking Dependency Injector
        //to give new instance of Post
        $post = resolve('App\Post');
        $posts = $post->getPosts();
        return view('blog.index', ['posts' => $posts]);
    }

    public function getAdminIndex()
    {
        $post = resolve('App\Post');
        $posts = $post->getPosts();
        return view('admin.index', ['posts' => $posts]);
    }

    public function getPost($id)
    {
        $post = resolve('App\Post');
        $post = $post->getPost($id);
        return view('blog.post', ['post' => $post]);
    }

    public function getAdminCreate()
    {
        return view('admin.create');
    }

    public function getAdminEdit($id)
    {
        $post = resolve('App\Post');
        $post = $post->getPost($id);
        return view('admin.edit', ['post' => $post, 'postId' => $id]);
    }
    public function postAdminCreate(Request $request)
    {
        $this->validate($request, [
            'title' => 'required|min:5',
            'content' => 'required|min:10'
        ]);
        $post = resolve('App\Post');
        $post->addPost($request->input('title'),
                            $request->input('content'));
        return redirect()
                ->route('admin.index')
                ->with('info', 'Post created, Title is: ' . $request->input('title'));
    }

    public function postAdminUpdate(Request $request)
    {
        $this->validate($request, [
            'title' => 'required|min:5',
            'content' => 'required|min:10'
        ]);
        $post = resolve('App\Post');
        $post->editPost($request->input('id'),
                            $request->input('title'),
                            $request->input('content'));
        return redirect()
                ->route('admin.index')
                ->with('info', 'Post edited, new Title is: ' . $request->input('title'));
    }
}
```

3. Go to `/routes/web.php` , and map all `admin` related routes to controller actions as shown below:

```
Route::group(['prefix' => 'admin'], function() {
    Route::get('', [
        'uses' => 'PostController@getAdminIndex',
        'as' => 'admin.index'
    ]);

    Route::get('create', [
        'uses' => 'PostController@getAdminCreate',
        'as' => 'admin.create'
    ]);

    Route::post('create', [
        'uses' => 'PostController@postAdminCreate',
        'as' => 'admin.create'
    ]);

    Route::get('edit/{id}', [
        'uses' => 'PostController@getAdminEdit',
        'as' => 'admin.edit'
    ]);

    Route::post('edit', [
        'uses' => 'PostController@postAdminUpdate',
        'as' => 'admin.update'
    ]);
});
```

4. Go to `blog\index.blade.php` and ensure that all posts are taken from `$posts` variable.

```
@extends('layouts.master')

@section('content')
    <div class="row">
        <div class="col-md-12">
            <p class="quote">The beautiful Laravel</p>
        </div>
    </div>
```

```
        @foreach($posts as $post)
        <div class="row">
            <div class="col-md-12 text-center">
                <h1 class="post-title">{{ $post['title'] }}</h1>
                <p>{{ $post['content'] }}!</p>
                <p><a href="{{ route('blog.post', ['id' => array_search($post, $posts)]) }}">Read more...
            </div>
        </div>
        <hr>
        @endforeach
    @endsection
```

5. Go to `/routes/web.php` , and modify routes related to `blog` views as follows:

```
Route::get('/', [
    'uses' => 'PostController@getIndex',
    'as' => 'blog.index'
]);

Route::get('post/{id}', [
    'uses' => 'PostController@getPost',
    'as' => 'blog.post'
]);
```

6. Go to `admin/edit.blade.php` and add `<input type="hidden" name="id" value="{{ $postId }}">` field to the form, so it also passes the ID of the posted blog.

5 Final Solution

You can compare your solution with the final solution here: `https://github.com/iuthub/ip2019-lab-9/tree/solution`