

Laravel: Building APIs Like a Pro

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**[https://github.com/justinyost/
madison-php-2018-laravel-rest-
api](https://github.com/justinyost/madison-php-2018-laravel-rest-api)**

What You Need to Know/Have

- PHP
- Git
- Terminal
- Composer
- Vagrant/Valet/Homestead/Docker??/etc

What is REST?

- REpresentational State Transfer
- We send commands from a client to a server, in a stateless manner with a uniform interface on a resource or a collection of resources
- REST doesn't require:
 - Content Type
 - Content Schema
 - HTTP
 - Programming Language
 - Functionality of the API

What is REST?

- Most APIs you see are REST or RESTful
- In this case we are talking about using
 - HTTP Verbs (GET/POST/PUT/DELETE/OPTIONS/etc)
 - To talk to a resource endpoint /posts && /posts/1234
 - To modify or retrieve the resources
 - We can build more complex endpoints that aren't just crud /posts/1234/analytics

REST Requires

- Uniform Interface
- Stateless
- Cacheable
- Client-Server
- Layered System
- Code on Demand (optional)

Why Build an API?

- One back-end, multiple front-ends
- Services for external teams

Guidelines for APIs

- It shouldn't be just a CRUD API
- It should have good documentation (even if it's internal only)
- It's not just a database connection wrapper
- Pick a versioning system you can live with
- APIs should follow the robustness principle
 - "Be conservative in what you do, be liberal in what you accept from others"

Strip API Playtime

- <https://stripe.com/docs/api>

Building a REST API in Laravel

- Laravel makes this pretty easy, actually
 - `composer create-project --prefer-dist laravel/laravel {my-awesome-project}`
 - I did this already
 - <https://github.com/justinyost/madison-php-2018-laravel-rest-api>

Building a REST API in Laravel

- Edit `.env` for SQLite database file
- `database.sqlite`

Building a REST API in Laravel - Model

- Make Models
 - `php artisan make:model Poll`
 - `php artisan make:model Question`
 - `php artisan make:model Answer`

Building a REST API in Laravel - Seed DB

- `php artisan db:seed`
- `php artisan migrate:refresh --seed`

Building a REST API in Laravel - Controller

- Make Controller
 - `php artisan make:controller Api/PollsController --api --model=Poll`

Building a REST API in Laravel - Routing

- `Route::apiResource('polls',
 'Api\PollsController');`

Building a REST API in Laravel - Index

- `return response()->json(Poll::paginate(), 200);`

Building a REST API in Laravel - Show

- `return response()->json($poll, 200);`

Building a REST API in Laravel - Store

- Add Store
 - `$poll = Poll::create($request->all());`
 - `return response()->json($poll, 201);`
- Add Fillable Fields to Poll Model
 - `protected $fillable = ['title'];`

Building a REST API in Laravel - Update

- `$poll->update($request->all());`
- `return response()->json($poll, 200);`

Building a REST API in Laravel - Destroy

- `$poll->delete();`
- `return response()->json(null, 204);`

Building a REST API in Laravel - Transformation

- Transformers are the ability to transform the output of a Resource without writing view logic.
- We can modify both the collection and a single record.
- `php artisan make:resource Poll`
- `php artisan make:resource PollCollection --collection`
- `return response()->json(new PollCollection(Poll::paginate()), 200);`
- `return response()->json((new PollResource($poll)), 200);`

Transform - Poll

```
public function toArray($request)
{
    return [
        'id' => $this->id,
        'title' => $this->title,
        'created_at' => $this->created_at,
        'updated_at' => $this->updated_at,
    ];
}
```

Transform - PollCollection

```
public function toArray($request)
{
    return [
        'data' => $this->collection,
        'links' => [
            'self' => '/api/polls',
        ],
    ];
}
```

Building a REST API in Laravel - Passport

- Passport provides an OAuth 2 implementation
- Permits you to login to the API via your own OAuth Provider or login with an external OAuth Provider
- Lots of other solutions for authentication and API Security

Building a REST API in Laravel

- Building an API for the most part is mostly the same as building a normal web app
- Instead of returning HTML, just return JSON or XML or whatever you need to return
- There are standards for formatting and returning JSON, JSON API is my personal preference
- This was the quick and dirty build an API but we didn't version, we didn't test, we didn't document, etc

Thanks/Questions?

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