



REST API dengan Lumen (CRUD)

Database & Tabel

- Database: json
- Struktur tabel “wisata”

Nama	Jenis ?	Panjang/Nilai ?
id_wisata	INT ▼	2
kota	VARCHAR ▼	10
landmark	VARCHAR ▼	100
tarif	VARCHAR ▼	10

id_wisata = primary_key & Auto Increment

Isi tabel

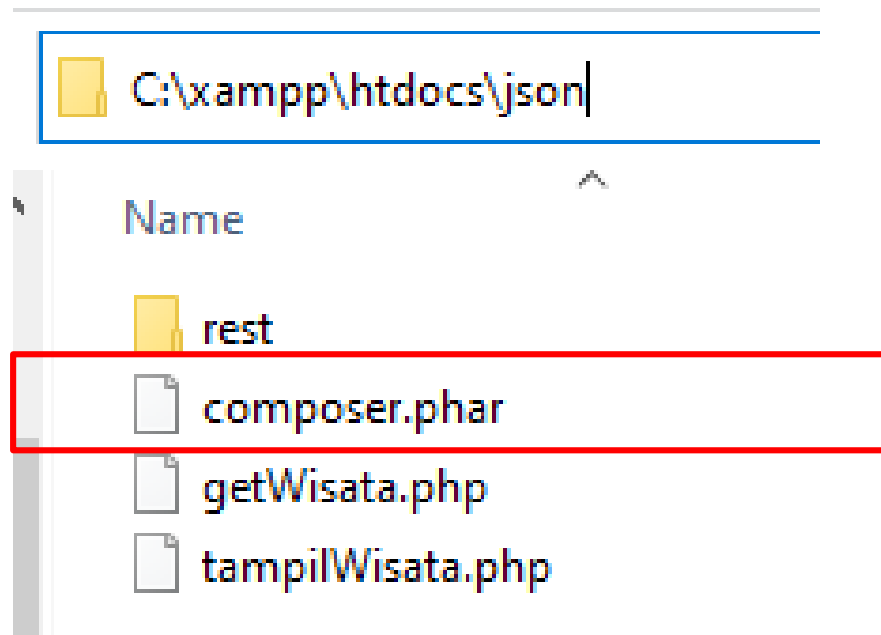
KOTA	LANDMARK	TARIF
SEMARANG	LAWANG SEWU	20000
YOGYAKARTA	PRAMBANAN	35000
MAGELANG	BOROBUDUR	45000
SURAKARTA	PGS	GRATIS

Server Requirements

- PHP \geq 7.3
- OpenSSL PHP Extension
- PDO PHP Extension
- Mbstring PHP Extension
- Composer
 - Download composer
-- atau --
 - Install composer

Opsi 1: Download Composer

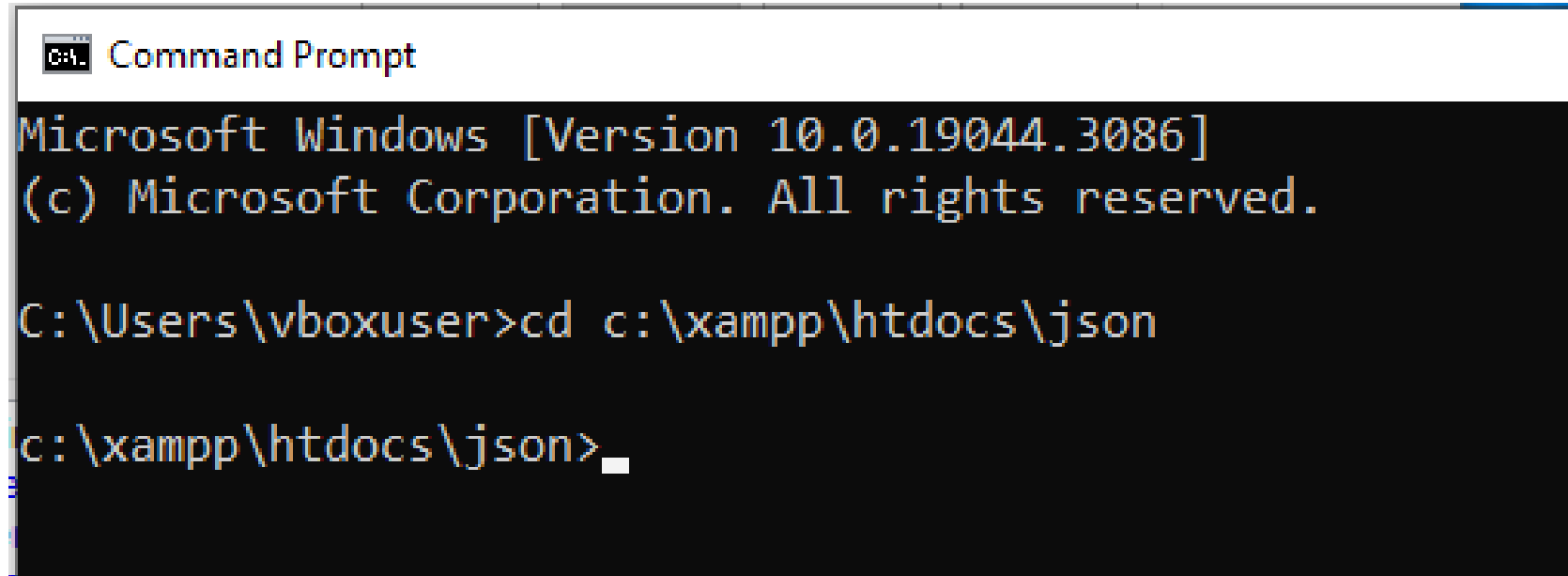
- Download melalui link berikut:
<https://getcomposer.org/composer.phar>
- Simpan ke folder project (c:\xampp\htdocs\json)



Opsi 2:

Install Composer (1)

- Masuk ke direktori project (c:\xampp\htdocs\json) melalui command prompt
 - `cd c:\xampp\htdocs\json`



```
Command Prompt
Microsoft Windows [Version 10.0.19044.3086]
(c) Microsoft Corporation. All rights reserved.

C:\Users\vboxuser>cd c:\xampp\htdocs\json

c:\xampp\htdocs\json>
```

Install Composer (2)

- Install composer melalui command prompt
- Akses web composer - <https://getcomposer.org/download/>
- Jalankan perintah instalasi setiap baris pada command prompt

```
php -r "copy('https://getcomposer.org/installer', 'composer-setup.php');"
php -r "if (hash_file('sha384', 'composer-setup.php') === '55ce33d7678c5a611085589f1f3ddf8b3c52d662cd
php composer-setup.php
php -r "unlink('composer-setup.php');"
```

Install Composer (3)

```
Command Prompt

C:\Users\vboxuser>cd c:\xampp\htdocs\json

c:\xampp\htdocs\json>php -r "copy('https://getcomposer.org/installer', 'composer-setup.php');"

c:\xampp\htdocs\json>php -r "if (hash_file('sha384', 'composer-setup.php') === '55ce33d7678c5a611085589f1f3ddf8b3c52d662cd01d4ba75c0ee0459970c2200a51f492d557530c71c15d8dba01eae') { echo 'Installer verified'; } else { echo 'Installer corrupt'; unlink('composer-setup.php'); } echo PHP_EOL;"
Installer verified

c:\xampp\htdocs\json>php composer-setup.php
All settings correct for using Composer
Downloading...

Composer (version 2.5.8) successfully installed to: C:\xampp\htdocs\json\composer.phar
Use it: php composer.phar

c:\xampp\htdocs\json>php -r "unlink('composer-setup.php');"

c:\xampp\htdocs\json>
```


Instalasi Lumen (1)

- Install Lumen via composer melalui command prompt pada folder project (C:\xampp\htdocs\json)
- C:\xampp\htdocs\json>php composer.phar create-project --prefer-dist laravel/lumen=9.* wisata

```
php composer.phar create-project --prefer-dist laravel/lumen=9.* wisata
```

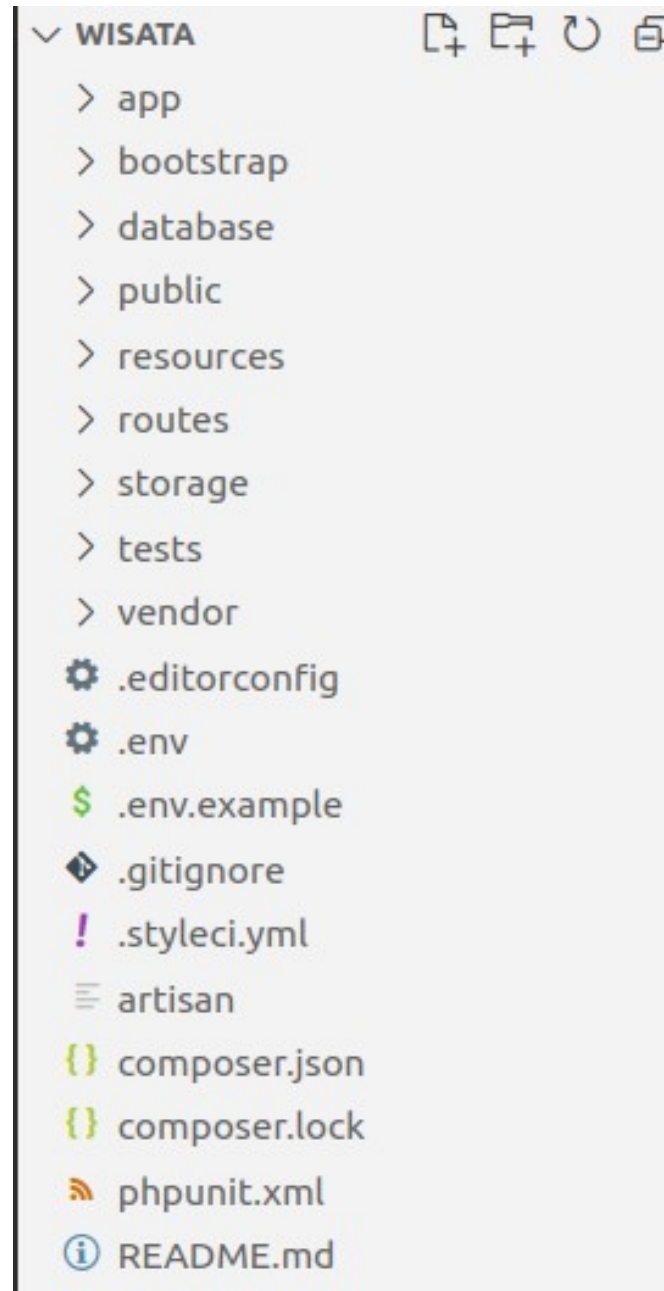
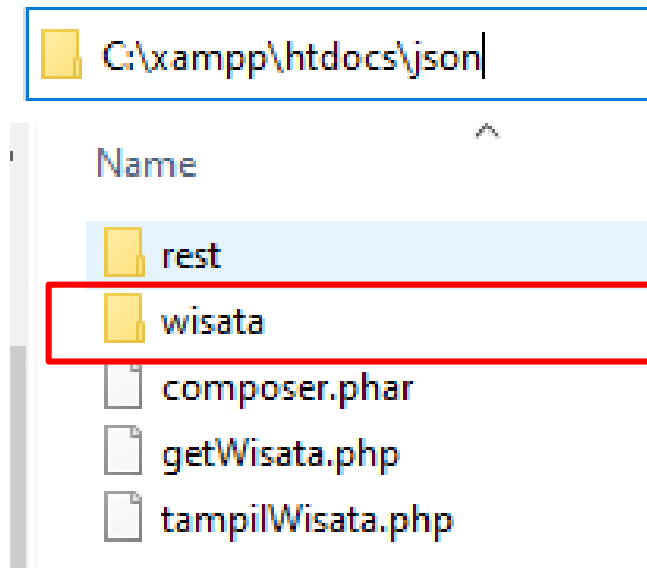
```
c:\xampp\htdocs\json>php composer.phar create-project --prefer-dist laravel/lumen=9.* wisata
Creating a "laravel/lumen=9.*" project at "./wisata"
Info from https://repo.packagist.org: #StandWithUkraine
Installing laravel/lumen (v9.0.0)
  - Downloading laravel/lumen (v9.0.0)
  - Installing laravel/lumen (v9.0.0): Extracting archive
Created project in C:\xampp\htdocs\json\wisata
```

Instalasi Lumen (2)

```
- Installing sebastian/global-state (5.0.5): Extracting archive
- Installing sebastian/exporter (4.0.5): Extracting archive
- Installing sebastian/environment (5.1.5): Extracting archive
- Installing sebastian/diff (4.0.5): Extracting archive
- Installing sebastian/comparator (4.0.8): Extracting archive
- Installing sebastian/code-unit (1.0.8): Extracting archive
- Installing sebastian/cli-parser (1.0.1): Extracting archive
- Installing phpunit/php-timer (5.0.3): Extracting archive
- Installing phpunit/php-text-template (2.0.4): Extracting archive
- Installing phpunit/php-invoker (3.1.1): Extracting archive
- Installing phpunit/php-file-iterator (3.0.6): Extracting archive
- Installing theseer/tokenizer (1.2.1): Extracting archive
- Installing nikic/php-parser (v4.15.5): Extracting archive
- Installing sebastian/lines-of-code (1.0.3): Extracting archive
- Installing sebastian/complexity (2.0.2): Extracting archive
- Installing sebastian/code-unit-reverse-lookup (2.0.3): Extracting archive
- Installing phpunit/php-code-coverage (9.2.26): Extracting archive
- Installing phar-io/version (3.2.1): Extracting archive
- Installing phar-io/manifest (2.0.3): Extracting archive
- Installing myclabs/deep-copy (1.11.1): Extracting archive
- Installing doctrine/instantiator (1.5.0): Extracting archive
- Installing phpunit/phpunit (9.6.9): Extracting archive
65 package suggestions were added by new dependencies, use `composer suggest` to see details.
Generating optimized autoload files
64 packages you are using are looking for funding.
Use the `composer fund` command to find out more!
No security vulnerability advisories found

c:\xampp\htdocs\json>
```

Folder Project hasil instalasi



Konfigurasi APP_URL dan Database (.env)

- File .env (wisata\.env)

⚙️ .env

```
1 APP_NAME=Lumen
2 APP_ENV=local
3 APP_KEY=
4 APP_DEBUG=true
5 APP_URL=http://localhost:8000
6 APP_TIMEZONE=UTC
7
8 LOG_CHANNEL=stack
9 LOG_SLACK_WEBHOOK_URL=
```

```
11 DB_CONNECTION=mysql
12 DB_HOST=127.0.0.1
13 DB_PORT=3306
14 DB_DATABASE=json
15 DB_USERNAME=root
16 DB_PASSWORD=
17
18 CACHE_DRIVER=file
19 QUEUE_CONNECTION=sync
20
```

Aktivasi fungsi Eloquent dan Facades

- Edit file: wisata\bootstrap\app.php
- Uncomment (hilangkan //) baris berikut

```
bootstrap > app.php
25
26 // $app->withFacades();
27
28 // $app->withEloquent();
29
```

- menjadi

```
bootstrap > app.php
25
26 $app->withFacades();
27
28 $app->withEloquent();
```

Buat model “Wisata”

- Buat file: wisata\app\Models\Wisata.php

```
<?php
namespace App\Models;
use Illuminate\Database\Eloquent\Model;

class Wisata extends Model
{
    protected $table = 'wisata';
    protected $primaryKey = 'id_wisata';
    public $timestamps = false;

    /**
     * The attributes that are mass assignable.
     *
     * @var array
     */
    protected $fillable = [
        'kota', 'landmark', 'tarif'
    ];

    /**
     * The attributes excluded from the model's JSON form.
     *
     * @var array
     */
    protected $hidden = [];
}
```

Buat controller “WisataController”

- Buat file: wisata\app\Http\Controllers\WisataController.php

```
<?php
```

```
namespace App\Http\Controllers;
```

```
use Illuminate\Http\Request;
```

```
use App\Models\Wisata;
```

```
class WisataController extends Controller  
{
```

```
    public function showAll()  
    {
```

```
        return response()->json(Wisata::all());  
    }
```

```
    public function showOne($id)  
    {
```

```
        return response()->json(Wisata::find($id));  
    }
```

Buat controller “WisataController”

- Lanjutan....

```
public function create(Request $request)
{
    $Wisata = Wisata::create($request->all());

    return response()->json($Wisata, 201);
}

public function update($id, Request $request)
{
    $Wisata = Wisata::findOrFail($id);
    $Wisata->update($request->all());

    return response()->json($Wisata, 200);
}

public function delete($id)
{
    Wisata::findOrFail($id)->delete();
    return response('Deleted Successfully', 200);
}

}
```


Konfigurasi Routing

- Edit file: wisata\routes\web.php
- Tambahkan routing berikut

```
$router->group(['prefix' => 'api'], function () use ($router) {  
    $router->get('wisata', ['uses' => 'WisataController@showAll']);  
    $router->get('wisata/{id}', ['uses' => 'WisataController@showOne']);  
    $router->post('wisata', ['uses' => 'WisataController@create']);  
    $router->delete('wisata/{id}', ['uses' => 'WisataController@delete']);  
    $router->put('wisata/{id}', ['uses' => 'WisataController@update']);  
});
```

routes >  web.php

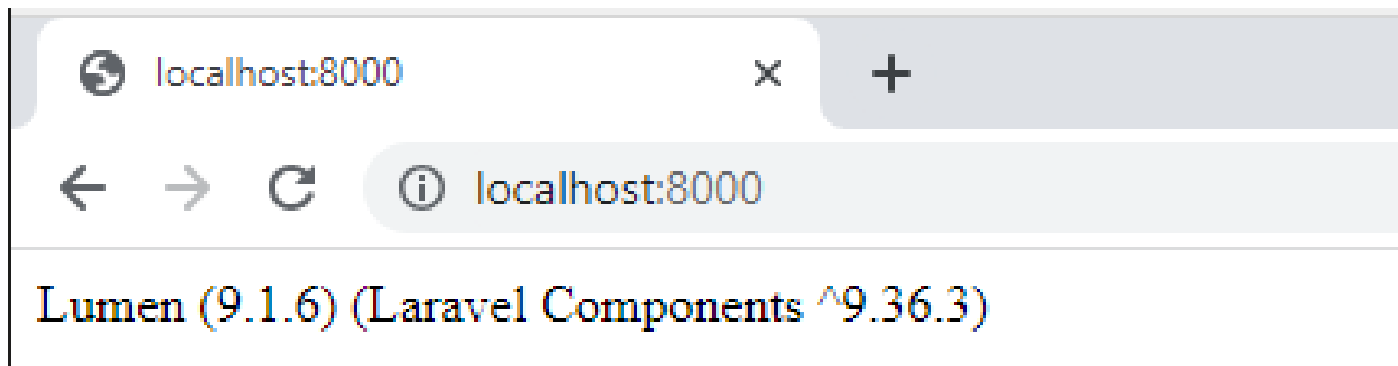
```
19  
20 $router->group(['prefix' => 'api'], function () use ($router) {  
21     $router->get('wisata', ['uses' => 'WisataController@showAll']);  
22     $router->get('wisata/{id}', ['uses' => 'WisataController@showOne']);  
23     $router->post('wisata', ['uses' => 'WisataController@create']);  
24     $router->delete('wisata/{id}', ['uses' => 'WisataController@delete']);  
25     $router->put('wisata/{id}', ['uses' => 'WisataController@update']);  
26 });
```

Ujicoba REST API Lumen menggunakan POSTMAN

- Jalankan server Database MySQL
- Jalankan server web dengan perintah berikut:
 - `php -S localhost:8000 -t public`

```
c:\xampp\htdocs\json\wisata>php -S localhost:8000 -t public  
[Fri Jun 16 21:18:07 2023] PHP 8.0.28 Development Server (http://localhost:8000) started
```

Akses alamat localhost:8000 melalui browser



Tampilan request GET: api/wisata

GET

http://localhost:8000/api/wisata

ParamsAuthorizationHeaders (6)BodyPre-request ScriptTestsSettings

BodyCookiesHeaders (7)Test Results

200 OK

PrettyRawPreviewVisualizeJSON

```
1 [
2   {
3     "id_wisata": 1,
4     "kota": "SEMARANG",
5     "landmark": "LAWANG SEWU",
6     "tarif": "200000000"
7   },
8   {
9     "id_wisata": 2,
10    "kota": "YOGYAKARTA",
11    "landmark": "PRAMBANAN",
12    "tarif": "35000"
13  },
14 ]
```

Tampilan request GET: api/wisata/{id}

GET



http://localhost:8000/api/wisata/1

Params

Authorization

Headers (6)

Body

Pre-request Script

Tests

Settings

Body

Cookies

Headers (7)

Test Results



200 OK



Pretty

Raw

Preview

Visualize

JSON



```
1 {  
2   "id_wisata": 1,  
3   "kota": "SEMARANG",  
4   "landmark": "LAWANG SEWU",  
5   "tarif": "200000000"  
6 }
```

Tampilan request POST: api/wisata/

POST

http://localhost:8000/api/wisata/

Params

Authorization

Headers (8)

Body ●

Pre-request Script

Tests

Settings

☐ none ☒ form-data ☐ x-www-form-urlencoded ☐ raw ☐ binary ☐ GraphQL

<input checked="" type="checkbox"/>	kota	semarang	
<input checked="" type="checkbox"/>	landmark	pagoda	
<input checked="" type="checkbox"/>	tarif	25000	

Body

Cookies

Headers (7)

Test Results



201 Created

Pretty

Raw

Preview

Visualize

JSON



```
1  {
2    "kota": "semarang",
3    "landmark": "pagoda",
4    "tarif": "25000",
5    "id_wisata": 45
6  }
```

Tampilan request PUT: api/wisata/{id}

PUT

http://localhost:8000/api/wisata/45

Params

Authorization

Headers (8)

Body

Pre-request Script

Tests

Settings

☐ none ☐ form-data ☒ x-www-form-urlencoded ☐ raw ☐ binary ☐ GraphQL

<input checked="" type="checkbox"/>	kota	semarang	
<input checked="" type="checkbox"/>	landmark	pagoda Avalokitesvara	
<input checked="" type="checkbox"/>	tarif	35000	

Body

Cookies

Headers (7)

Test Results

 200 OK

Pretty

Raw

Preview

Visualize

JSON



```
1 {  
2   "id_wisata": 45,  
3   "kota": "semarang",  
4   "landmark": "pagoda Avalokitesvara",  
5   "tarif": "35000"  
6 }
```

Tampilan request DELETE: api/wisata/{id}

DELETE

▼

http://localhost:8000/api/wisata/45

Params

Authorization

Headers (6)

Body

Pre-request Script

Tests

Settings

☒ none

☐ form-data

☐ x-www-form-urlencoded

☐ raw

☐ binary

☐ GraphQL

This request does not have a body

Body

Cookies

Headers (7)

Test Results

200 OK

Pretty

Raw

Preview

Visualize

HTML ▼

1

Deleted Successfully