Zappos REST API

Upper camel case/Pascal naming system

Yingxi Cao

yingxi.cao@nyu.edu

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1. Introduction

This website is developed based on Laravel Framework 5.5.2, with MAMP (MACOS,Apache,PHP 7.1.8 and MySQL)

Postman is used for testing and send HTTP request.

2. Environment

Set up MAMP environment and drag my project to MAMP/htdocs
Then go to http://localhost:8888/zappos/public to enjoy the website.

Database configuration /.env
MySQL
DB_PORT=8889
DB_DATABASE=api

3. File directory

Router: /routes/api.php

/routes/web.php

Controller: /app/Http/Controllers

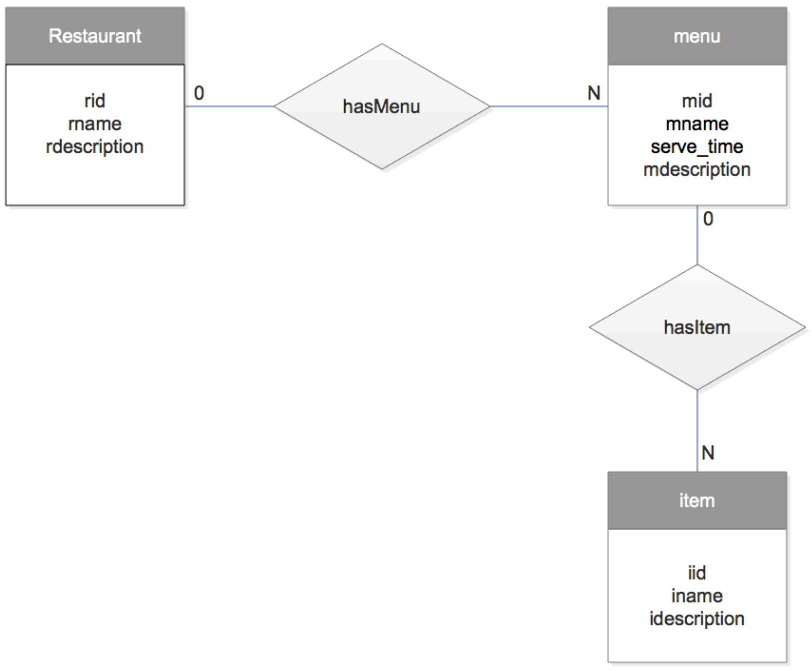
Model: /app

Seed: /database/seeds

Scheme: /database/migration

4. Database & Eloquent ORM

4.1 Initial ER diagram



4.2 Initial Scheme

Restaurant (rid, rname, rdescription)

Menu (mid, mname, serve_time, mdescription)

Item (iid, iname, idescription)

hasMenu (rid, mid)

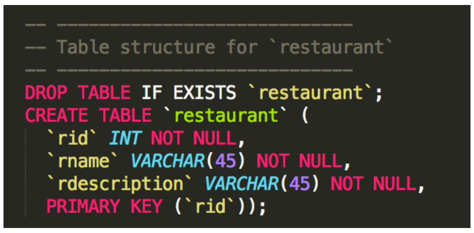
(Foreign key rid reference restaurant rid, mid reference menu mid.)

hasItem (mid, iid)

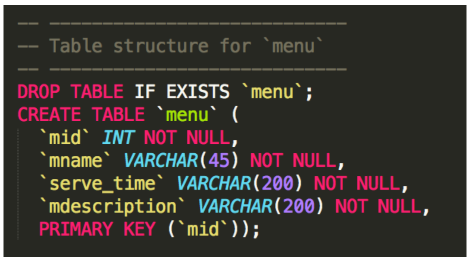
(Foreign key mid reference menu mid, iid reference item iid.)
Primary key with underscore.

4.3 SQL structure

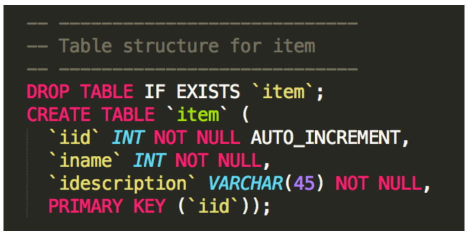
Initial design without model



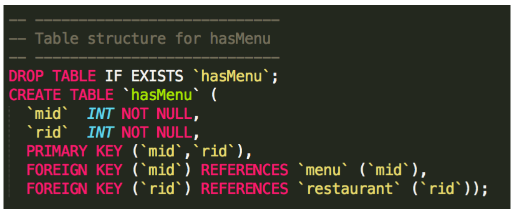
```
-- ----------------------------
-- Table structure for `restaurant`
-- ----------------------------
DROP TABLE IF EXISTS `restaurant`;
CREATE TABLE `restaurant` (
  `rid` INT NOT NULL,
  `rname` VARCHAR(45) NOT NULL,
  `rdescription` VARCHAR(45) NOT NULL,
  PRIMARY KEY (`rid`));
```



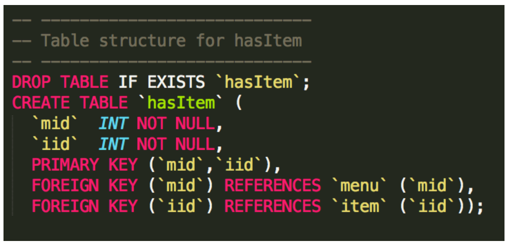
```
-- ----------------------------
-- Table structure for `menu`
-- ----------------------------
DROP TABLE IF EXISTS `menu`;
CREATE TABLE `menu` (
  `mid` INT NOT NULL,
  `mname` VARCHAR(45) NOT NULL,
  `serve_time` VARCHAR(200) NOT NULL,
  `mdescription` VARCHAR(200) NOT NULL,
  PRIMARY KEY (`mid`));
```



```
-- ----------------------------
-- Table structure for item
-- ----------------------------
DROP TABLE IF EXISTS `item`;
CREATE TABLE `item` (
  `iid` INT NOT NULL AUTO_INCREMENT,
  `iname` INT NOT NULL,
  `idescription` VARCHAR(45) NOT NULL,
  PRIMARY KEY (`iid`));
```

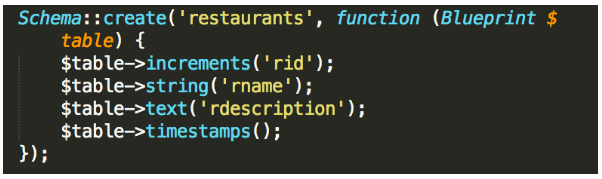


```
-- ----------------------------
-- Table structure for hasMenu
-- ----------------------------
DROP TABLE IF EXISTS `hasMenu`;
CREATE TABLE `hasMenu` (
  `mid`  INT NOT NULL,
  `rid`  INT NOT NULL,
  PRIMARY KEY (`mid`,`rid`),
  FOREIGN KEY (`mid`) REFERENCES `menu` (`mid`),
  FOREIGN KEY (`rid`) REFERENCES `restaurant` (`rid`));
```

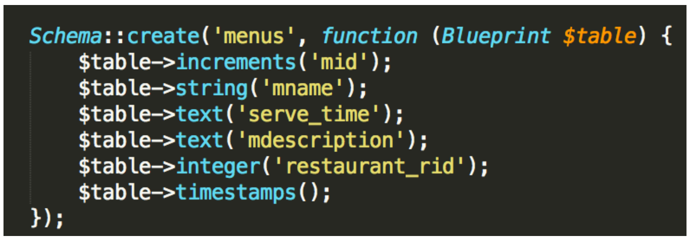


```
-- ----------------------------
-- Table structure for hasItem
-- ----------------------------
DROP TABLE IF EXISTS `hasItem`;
CREATE TABLE `hasItem` (
  `mid`  INT NOT NULL,
  `iid`  INT NOT NULL,
  PRIMARY KEY (`mid`,`iid`),
  FOREIGN KEY (`mid`) REFERENCES `menu` (`mid`),
  FOREIGN KEY (`iid`) REFERENCES `item` (`iid`));
```

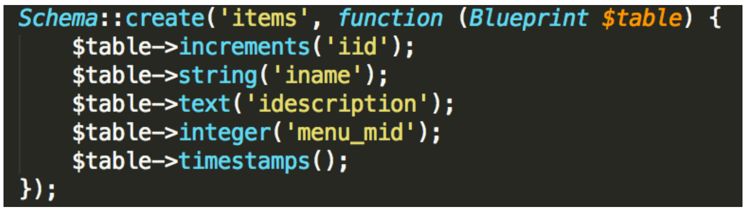
4.4 Final structure



```
Schema::create('restaurants', function (Blueprint $
    table) {
    $table->increments('rid');
    $table->string('rname');
    $table->text('rdescription');
    $table->timestamps();
});
```



```
Schema::create('menus', function (Blueprint $table) {
    $table->increments('mid');
    $table->string('mname');
    $table->text('serve_time');
    $table->text('mdescription');
    $table->integer('restaurant_rid');
    $table->timestamps();
});
```



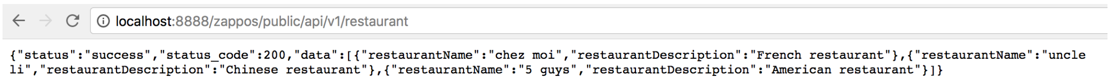
```
Schema::create('items', function (Blueprint $table) {
    $table->increments('iid');
    $table->string('iname');
    $table->text('idescription');
    $table->integer('menu_mid');
    $table->timestamps();
});
```

5. Functions & APIs

5.1 Index: show all details

GET

http://localhost:8888/zappos/public/api/v1/restaurants
http://localhost:8888/zappos/public/api/v1/menus
http://localhost:8888/zappos/public/api/v1/items

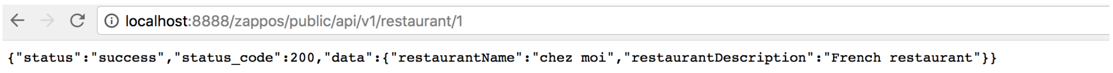


```
{"status":"success","status_code":200,"data":[{"restaurantName":"chez moi","restaurantDescription":"French restaurant"},{"restaurantName":"uncle
li","restaurantDescription":"Chinese restaurant"},{"restaurantName":"5 guys","restaurantDescription":"American restaurant"}]}
```

5.2 Show: show selected object details

GET

http://localhost:8888/zappos/public/api/v1/restaurants/{id}
http://localhost:8888/zappos/public/api/v1/menus/{id}
http://localhost:8888/zappos/public/api/v1/items/{id}

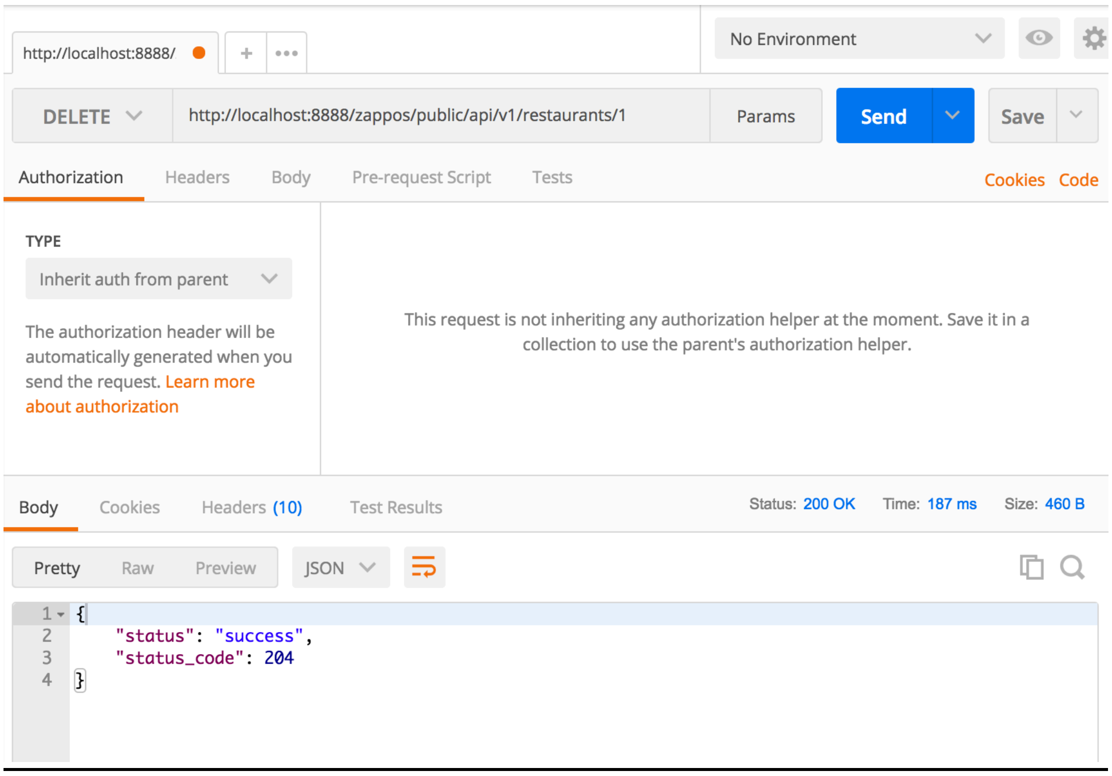


```
{"status":"success","status_code":200,"data":{"restaurantName":"chez moi","restaurantDescription":"French restaurant"}}
```

5.3 Destroy: delete selected object

DELETE

http://localhost:8888/zappos/public/api/v1/restaurants/{id}
http://localhost:8888/zappos/public/api/v1/menus/{id}
http://localhost:8888/zappos/public/api/v1/items/{id}



http://localhost:8888/zappos/public/api/v1/restaurants/1

The authorization header will be automatically generated when you send the request. Learn more about authorization

This request is not inheriting any authorization helper at the moment. Save it in a collection to use the parent's authorization helper.

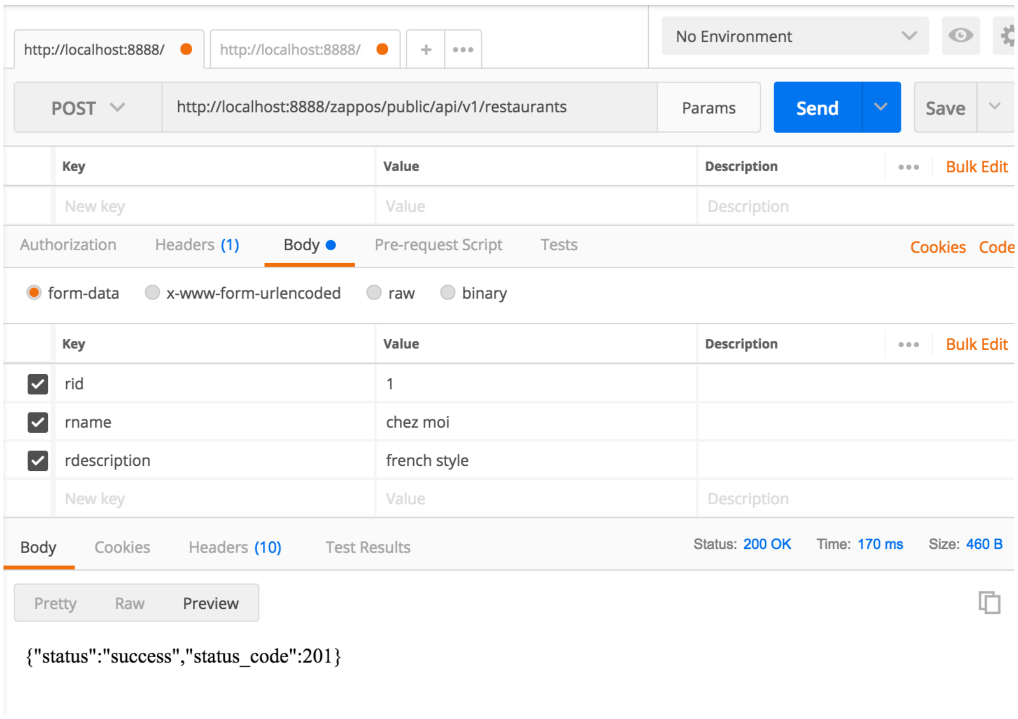
Status: 200 OK Time: 187 ms Size: 460 B

```
{
    "status": "success",
    "status_code": 204
}
```

5.4 Store: create a new object

POST

http://localhost:8888/zappos/public/api/v1/restaurants/
http://localhost:8888/zappos/public/api/v1/menus/
http://localhost:8888/zappos/public/api/v1/items/



POST http://localhost:8888/zappos/public/api/v1/restaurants

form-data

Key	Value	Description
✓ rid	1	
✓ rname	chez moi	
✓ rdescription	french style	

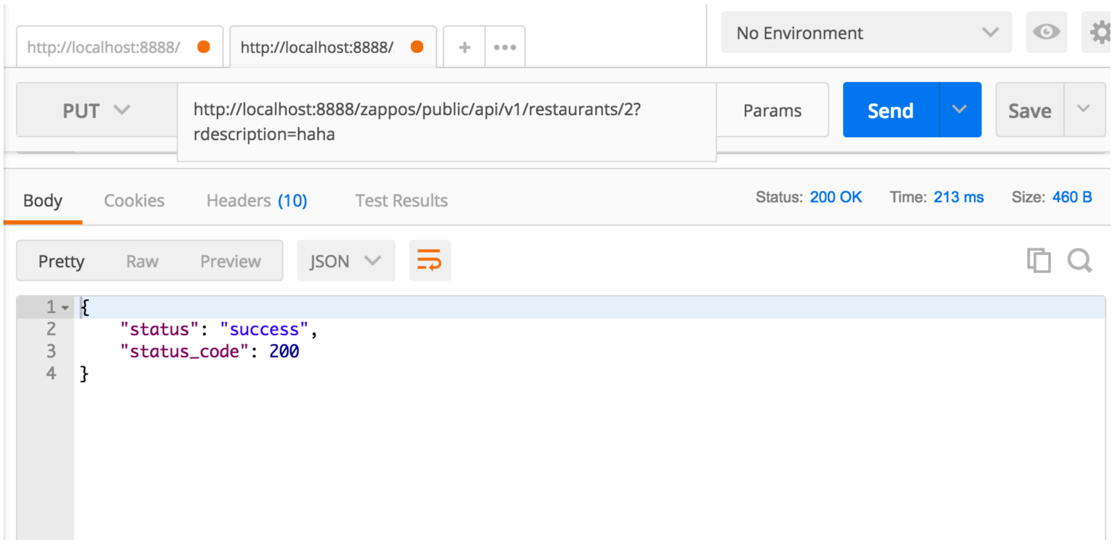
Status: 200 OK Time: 170 ms Size: 460 B

```
{"status":"success","status_code":201}
```

5.5 Update: update an object

PUT

http://localhost:8888/zappos/public/api/v1/restaurants/{id}
http://localhost:8888/zappos/public/api/v1/menus/{id}
http://localhost:8888/zappos/public/api/v1/items/{id}



PUT http://localhost:8888/zappos/public/api/v1/restaurants/2?rdescription=haha

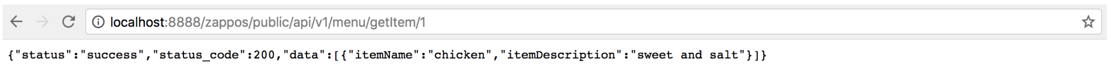
Status: 200 OK Time: 213 ms Size: 460 B

```
{
    "status": "success",
    "status_code": 200
}
```

5.6 Query: get menus by restaurant, get items by menu

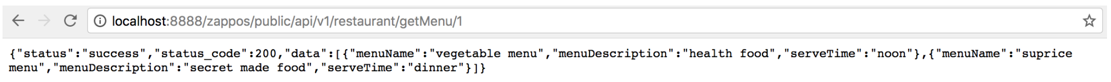
GET

http://localhost:8888/zappos/public/api/v1/restaurant/getMenu/{id}
http://localhost:8888/zappos/public/api/v1/menu/getItem/{id}



localhost:8888/zappos/public/api/v1/menu/getItem/1

```
{"status":"success","status_code":200,"data":[{"itemName":"chicken","itemDescription":"sweet and salt"}]}
```

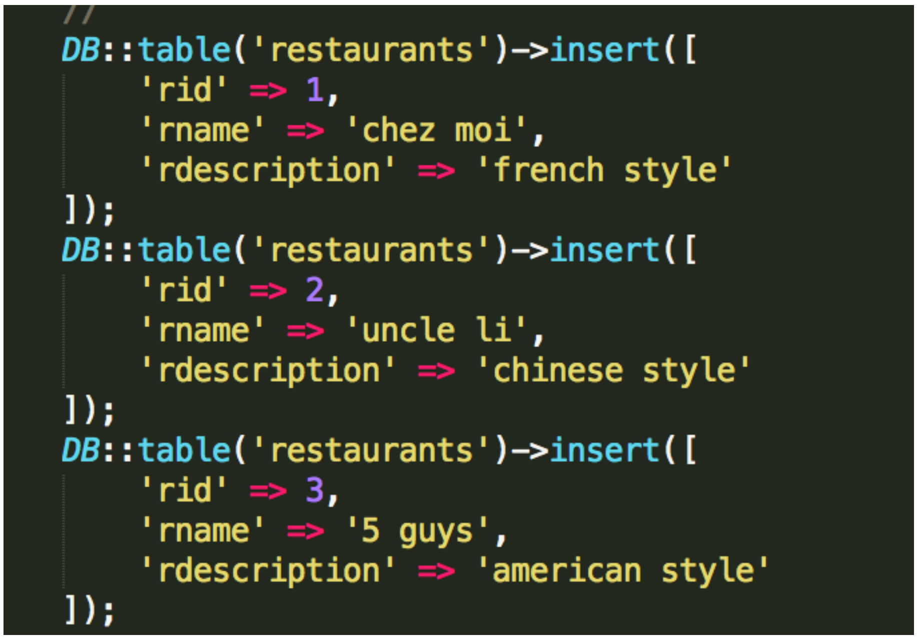


localhost:8888/zappos/public/api/v1/restaurant/getMenu/1

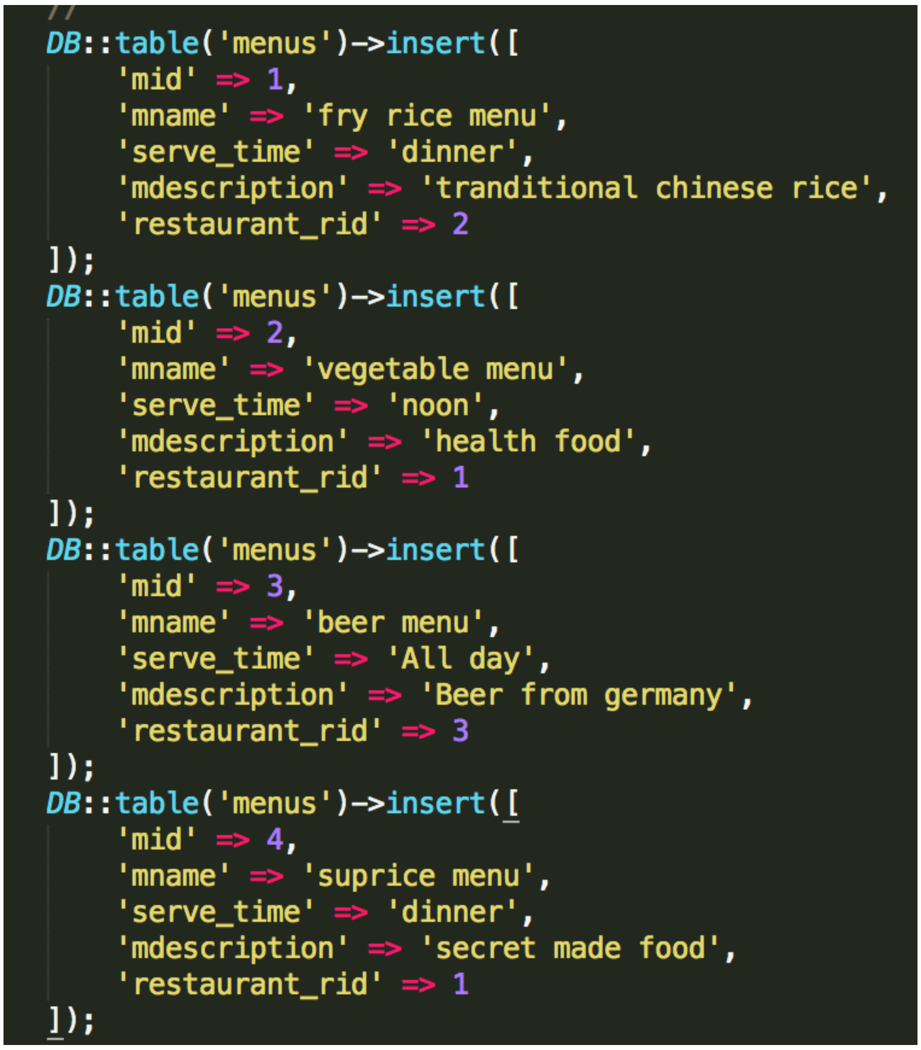
```
{"status":"success","status_code":200,"data":[{"menuName":"vegetable menu","menuDescription":"health food","serveTime":"noon"},{"menuName":"suprice
menu","menuDescription":"secret made food","serveTime":"dinner"}]}
```

6. Test & seed files

Created seed files for 3 models in order to do test and add more dummy date to database the first time.



```
    //
    DB::table('restaurants')->insert([
        'rid' => 1,
        'rname' => 'chez moi',
        'rdescription' => 'french style'
    ]);
    DB::table('restaurants')->insert([
        'rid' => 2,
        'rname' => 'uncle li',
        'rdescription' => 'chinese style'
    ]);
    DB::table('restaurants')->insert([
        'rid' => 3,
        'rname' => '5 guys',
        'rdescription' => 'american style'
    ]);
```



```
DB::table('menus')->insert([
    'mid' => 1,
    'mname' => 'fry rice menu',
    'serve_time' => 'dinner',
    'mdescription' => 'tranditional chinese rice',
    'restaurant_rid' => 2
]);
DB::table('menus')->insert([
    'mid' => 2,
    'mname' => 'vegetable menu',
    'serve_time' => 'noon',
    'mdescription' => 'health food',
    'restaurant_rid' => 1
]);
DB::table('menus')->insert([
    'mid' => 3,
    'mname' => 'beer menu',
    'serve_time' => 'All day',
    'mdescription' => 'Beer from germany',
    'restaurant_rid' => 3
]);
DB::table('menus')->insert([
    'mid' => 4,
    'mname' => 'suprice menu',
    'serve_time' => 'dinner',
    'mdescription' => 'secret made food',
    'restaurant_rid' => 1
]);
```