

# Assignment-16

SYED AMIR HAMZA

## Task 1:

Create a new Laravel project named "MigrationAssignment" using the Laravel command-line interface.

```
composer create-project laravel/laravel MigrationAssignment
```

## Task 2:

Within the project, create a new migration file named "create\_products\_table" that will be responsible for creating a table called "products" in the database. The "products" table should have the following columns:

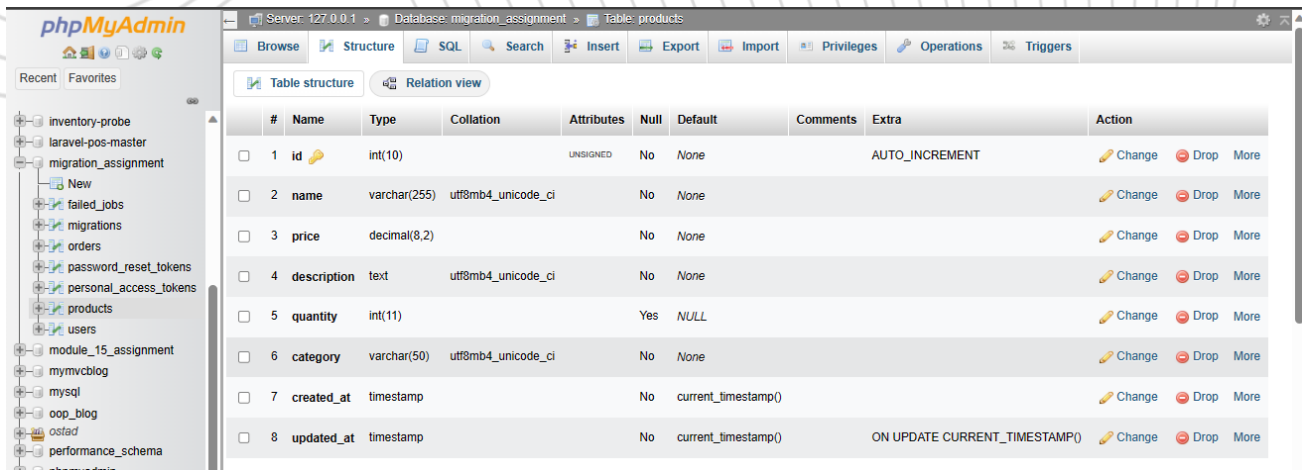
- id: an auto-incrementing integer and primary key.
- name: a string column to store the product name.
- price: a decimal column to store the product price.
- description: a text column to store the product description.
- created\_at: a timestamp column to store the creation date and time.
- updated\_at: a timestamp column to store the last update date and time.

```
7  return new class extends Migration
8  {
9      /**
10       * Run the migrations.
11       */
12      public function up(): void
13      {
14          Schema::create('products', function (Blueprint $table) {
15              $table->increments('id');
16              $table->string('name');
17              $table->decimal('price', 8, 2);
18              $table->text('description');
19              $table->timestamp('created_at')->useCurrent();
20              $table->timestamp('updated_at')->useCurrent()->useCurrentOnUpdate();
21          });
22      }
23
24      /**
25       * Reverse the migrations.
26       */
27      public function down(): void
28      {
29          Schema::dropIfExists('products');
30      }
31  };
32
```

### Task 3:

After creating the migration file, run the migration to create the "products" table in the database.

php artisan migrate



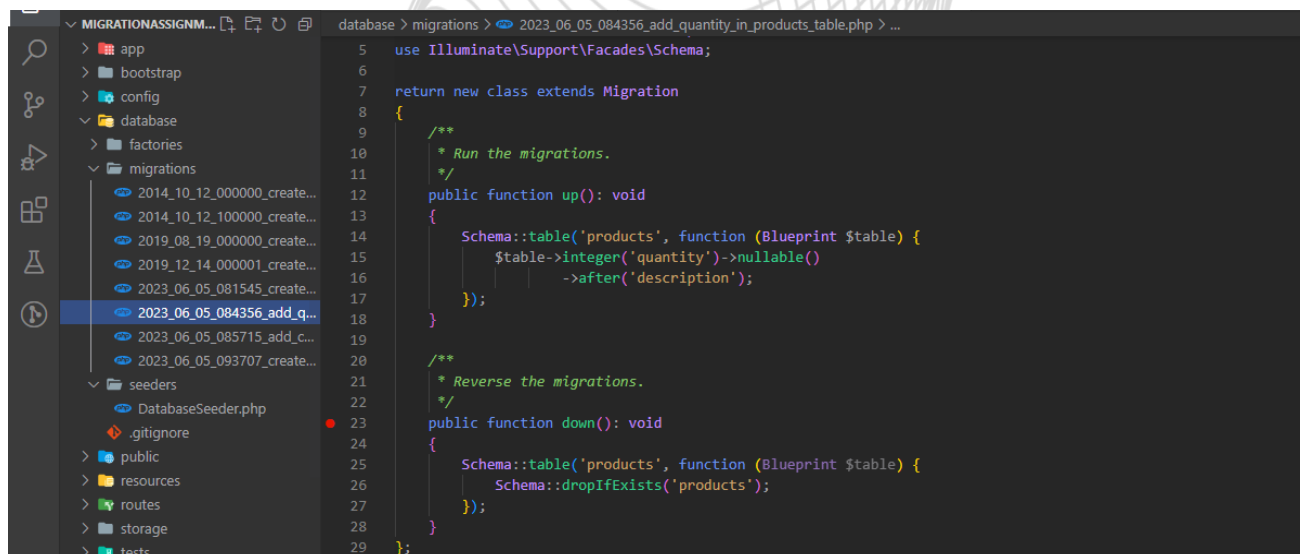
The screenshot shows the phpMyAdmin interface with the 'products' table selected in the 'migration\_assignment' database. The table structure is displayed in 'Table structure' view. The table has 8 columns: id, name, price, description, quantity, category, created\_at, and updated\_at. The 'id' column is an integer with auto-increment. The 'name' column is a varchar(255). The 'price' column is a decimal(8,2). The 'description' column is a text field. The 'quantity' column is an integer(11) that is nullable. The 'category' column is a varchar(50). The 'created\_at' and 'updated\_at' columns are timestamps.

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id	int(10)		UNSIGNED	No	None		AUTO_INCREMENT	Change Drop More
2	name	varchar(255)	utf8mb4_unicode_ci		No	None			Change Drop More
3	price	decimal(8,2)			No	None			Change Drop More
4	description	text	utf8mb4_unicode_ci		No	None			Change Drop More
5	quantity	int(11)			Yes	NULL			Change Drop More
6	category	varchar(50)	utf8mb4_unicode_ci		No	None			Change Drop More
7	created_at	timestamp			No	current_timestamp()			Change Drop More
8	updated_at	timestamp			No	current_timestamp()		ON UPDATE CURRENT_TIMESTAMP()	Change Drop More

### Task 4:

Modify the existing migration file "create\_products\_table" to add a new column called "quantity" to the "products" table. The "quantity" column should be an integer column and allow null values.

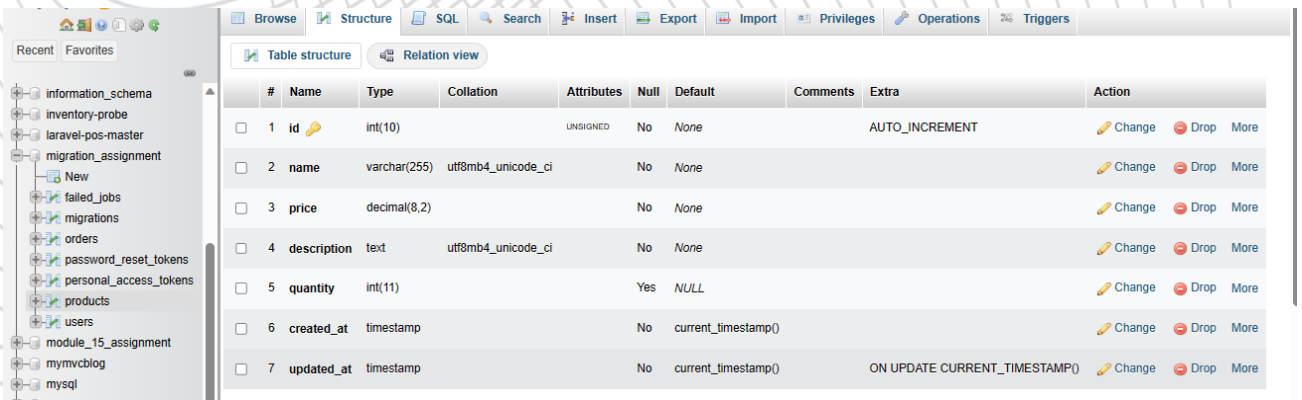
php artisan make:migration add\_quantity\_in\_products\_table --table=products



The screenshot shows a code editor with a file explorer on the left. The file explorer shows a directory structure with folders like 'app', 'bootstrap', 'config', 'database', 'factories', 'migrations', 'seeders', and 'tests'. The 'migrations' folder is expanded, showing several migration files. The file '2023\_06\_05\_084356\_add\_quantity\_in\_products\_table.php' is selected. The code in the editor is as follows:

```
database > migrations > 2023_06_05_084356_add_quantity_in_products_table.php > ...
5 use Illuminate\Support\Facades\Schema;
6
7 return new class extends Migration
8 {
9     /**
10      * Run the migrations.
11      */
12     public function up(): void
13     {
14         Schema::table('products', function (Blueprint $table) {
15             $table->integer('quantity')->nullable()
16                 ->after('description');
17         });
18     }
19
20     /**
21      * Reverse the migrations.
22      */
23     public function down(): void
24     {
25         Schema::table('products', function (Blueprint $table) {
26             Schema::dropIfExists('products');
27         });
28     }
29 };
```

## php artisan migrate



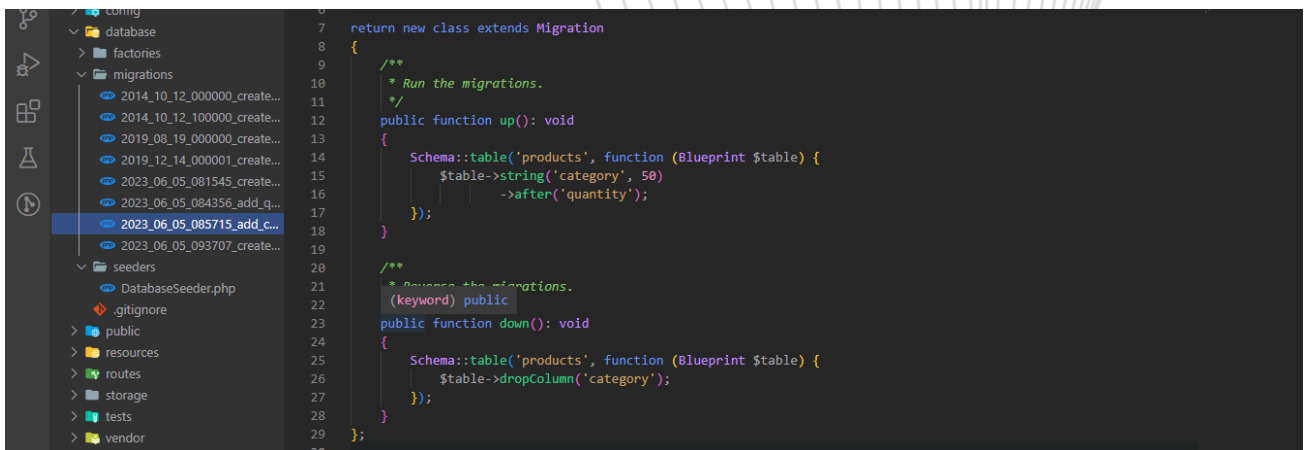
The screenshot shows the output of the 'php artisan migrate' command in a terminal window. The output displays the table structure for the 'products' table, including columns, data types, and constraints.

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id	int(10)		UNSIGNED	No	None		AUTO_INCREMENT	<a href="#">Change</a> <a href="#">Drop</a> <a href="#">More</a>
2	name	varchar(255)	utf8mb4_unicode_ci		No	None			<a href="#">Change</a> <a href="#">Drop</a> <a href="#">More</a>
3	price	decimal(8,2)			No	None			<a href="#">Change</a> <a href="#">Drop</a> <a href="#">More</a>
4	description	text	utf8mb4_unicode_ci		No	None			<a href="#">Change</a> <a href="#">Drop</a> <a href="#">More</a>
5	quantity	int(11)			Yes	NULL			<a href="#">Change</a> <a href="#">Drop</a> <a href="#">More</a>
6	created_at	timestamp			No	current_timestamp()			<a href="#">Change</a> <a href="#">Drop</a> <a href="#">More</a>
7	updated_at	timestamp			No	current_timestamp()		ON UPDATE CURRENT_TIMESTAMP()	<a href="#">Change</a> <a href="#">Drop</a> <a href="#">More</a>

### Task 5:

Create a new migration file named "add\_category\_to\_products\_table" that will be responsible for adding a new column called "category" to the "products" table. The "category" column should be a string column with a maximum length of 50 characters.

## php artisan make:migration add\_category\_in\_products\_table --table=products



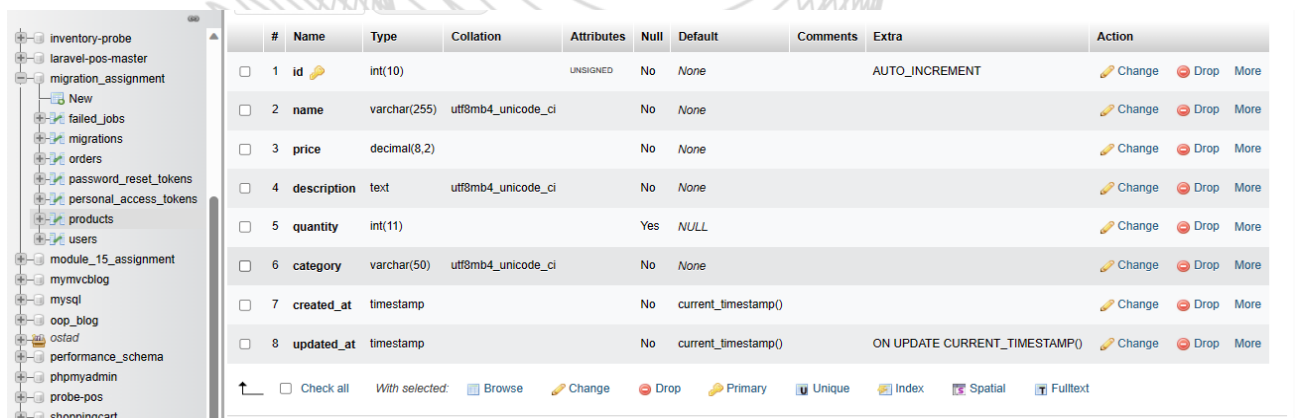
```
return new class extends Migration
{
    /**
     * Run the migrations.
     */
    public function up(): void
    {
        Schema::table('products', function (Blueprint $table) {
            $table->string('category', 50)
                ->after('quantity');
        });
    }

    /**
     * Reverse the migrations.
     */
    public function down(): void
    {
        Schema::table('products', function (Blueprint $table) {
            $table->dropColumn('category');
        });
    }
};
```

### Task 6:

After creating the new migration file, run the migration to add the "category" column to the "products" table.

## php artisan migrate



The screenshot shows the output of the 'php artisan migrate' command in a terminal window. The output displays the updated table structure for the 'products' table, including the newly added 'category' column.

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id	int(10)		UNSIGNED	No	None		AUTO_INCREMENT	<a href="#">Change</a> <a href="#">Drop</a> <a href="#">More</a>
2	name	varchar(255)	utf8mb4_unicode_ci		No	None			<a href="#">Change</a> <a href="#">Drop</a> <a href="#">More</a>
3	price	decimal(8,2)			No	None			<a href="#">Change</a> <a href="#">Drop</a> <a href="#">More</a>
4	description	text	utf8mb4_unicode_ci		No	None			<a href="#">Change</a> <a href="#">Drop</a> <a href="#">More</a>
5	quantity	int(11)			Yes	NULL			<a href="#">Change</a> <a href="#">Drop</a> <a href="#">More</a>
6	category	varchar(50)	utf8mb4_unicode_ci		No	None			<a href="#">Change</a> <a href="#">Drop</a> <a href="#">More</a>
7	created_at	timestamp			No	current_timestamp()			<a href="#">Change</a> <a href="#">Drop</a> <a href="#">More</a>
8	updated_at	timestamp			No	current_timestamp()		ON UPDATE CURRENT_TIMESTAMP()	<a href="#">Change</a> <a href="#">Drop</a> <a href="#">More</a>

## Task 7:

Create a new migration file named "create\_orders\_table" that will be responsible for creating a table called "orders" in the database. The "orders" table should have the following columns:

id: an auto-incrementing integer and primary key.

product\_id: an unsigned integer column to establish a foreign key relationship with the "id" column of the "products" table.

quantity: an integer column to store the quantity of products ordered.

created\_at: a timestamp column to store the creation date and time.

updated\_at: a timestamp column to store the last update date and time.

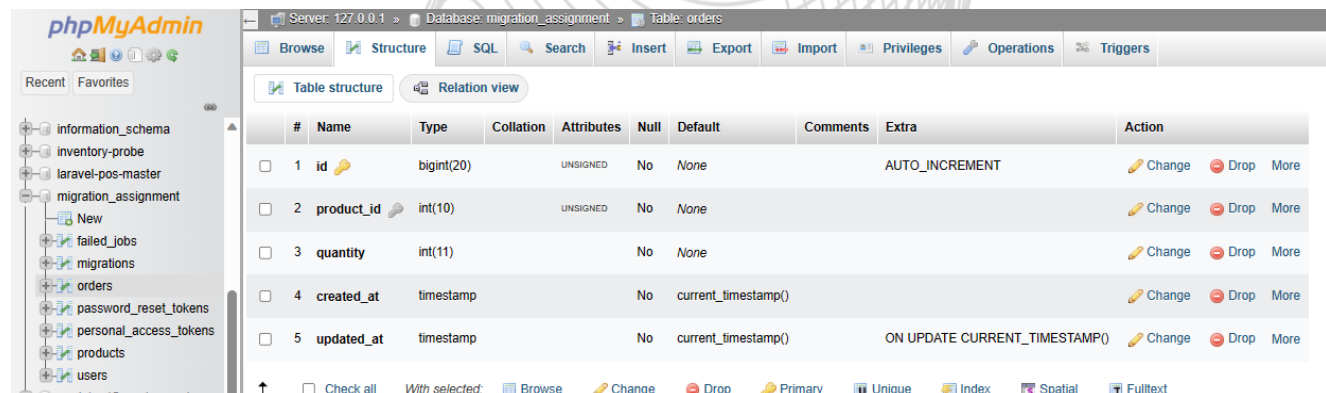
### php artisan make:migration create\_orders\_table

```
10  * Run the migrations.
11  */
12  public function up(): void
13  {
14      Schema::create('orders', function (Blueprint $table) {
15          // $table->increments('id');
16          $table->id();
17          $table->unsignedInteger('product_id');
18
19          // relation between orders and products tables
20          $table->foreign('product_id')->references('id')->on('products')
21              ->restrictOnDelete()
22              ->cascadeOnUpdate()
23              ;
24
25          $table->integer('quantity');
26          // $table->timestamps();
27          $table->timestamp('created_at')->useCurrent();
28          // $table->timestamp('updated_at')->useCurrent();
29          $table->timestamp('updated_at')->useCurrent()->useCurrentOnUpdate();
30      });
31  }
```

## Task 8:

After creating the migration file for the "orders" table, run the migration to create the "orders" table in the database.

### php artisan migrate



The screenshot shows the phpMyAdmin interface with the 'orders' table selected. The table structure is displayed in 'Table structure' view. The table has 5 columns: id (bigint(20), UNSIGNED, No, None, AUTO\_INCREMENT), product\_id (int(10), UNSIGNED, No, None), quantity (int(11), No, None), created\_at (timestamp, No, current\_timestamp()), and updated\_at (timestamp, No, current\_timestamp(), ON UPDATE CURRENT\_TIMESTAMP()).

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id	bigint(20)		UNSIGNED	No	None		AUTO_INCREMENT	<a href="#">Change</a> <a href="#">Drop</a> <a href="#">More</a>
2	product_id	int(10)		UNSIGNED	No	None			<a href="#">Change</a> <a href="#">Drop</a> <a href="#">More</a>
3	quantity	int(11)			No	None			<a href="#">Change</a> <a href="#">Drop</a> <a href="#">More</a>
4	created_at	timestamp			No	current_timestamp()			<a href="#">Change</a> <a href="#">Drop</a> <a href="#">More</a>
5	updated_at	timestamp			No	current_timestamp()		ON UPDATE CURRENT_TIMESTAMP()	<a href="#">Change</a> <a href="#">Drop</a> <a href="#">More</a>

