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MEET MIGRATION

- Allows you to create/update/delete a table in your database.
- Modify and share the application's database schema.
- It's make easier to maintain relationship & foreign key constraint

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NAMING CONVENTION

- Create a new table

php artisan make:migration create_tableName

- Add a new column

php artisan make:migration add_columnName_to_tablename

- Update a column like rename column

php artisan make:migration update_columnName_to_tablename

- Remove a column

php artisan make:migration remove_columnName_from_tablename

- Drop a table

php artisan make:migration drop_tableName

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MIGRATION STRUCTURE

- Up method is used to add new tables, columns, or indexes to your database
- Down method should reverse the operations performed by the up method.

2023_05_02_062343_create_profile_table.php

```php
return new class extends Migration
{
    public function up(): void
    {
        Schema::create('profile', function (Blueprint $table) {
            $table->id();
            $table->string('name');
            $table->string('city');
            $table->string('phone');
            $table->timestamps();
        });
    }
    public function down(): void
    {
        Schema::dropIfExists('profile');
    }
};
```

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AVAILABLE COLUMN TYPES

bigIncrements()	The **bigIncrements** method creates an auto-incrementing **UNSIGNED BIGINT** (primary key) equivalent	$table->bigIncrements('id');
bigInteger()	The **bigInteger** method creates a **BIGINT** equivalent	$table->bigInteger('votes');
binary()	The binary method creates a BLOB equivalent	$table->binary('photo');
boolean()	**boolean** method creates a **BOOLEAN** equivalent column	$table->boolean('confirmed');
char()	The **char** method creates a **CHAR** equivalent column with of a given length	$table->char('name', 100);
dateTime()	The **dateTime** method creates a **DATETIME** equivalent column with an optional precision (total digits)	$table->dateTime('created_at', $precision = 0);
date()	The **date** method creates a **DATE** equivalent	$table->date('created_at');
double()	The **double** method creates a **DOUBLE** equivalent column with the given precision (total digits) and scale (decimal digits)	$table->double('amount', 8, 2);
enum()	The **enum** method creates a **ENUM** equivalent column with the given valid values	$table->enum('difficulty', ['easy', 'hard']);

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AVAILABLE COLUMN TYPES

float()	The **float** method creates a **FLOAT** equivalent column with the given precision (total digits) and scale (decimal digits)	$table->float('amount', 8, 2);
foreignId()	The **foreignId** method creates an **UNSIGNED BIGINT** equivalent	$table->foreignId('user_id')
foreignIdFor()	The **foreignIdFor** method adds a `{column}_id UNSIGNED BIGINT` equivalent column for a given model class	$table->foreignIdFor(User::class);
geometryCollection()	he **geometryCollection** method creates a **GEOMETRYCOLLECTION** equivalent	$table->geometryCollection('positions');
geometry()	The **geometry** method creates a **GEOMETRY** equivalent	$table->geometry('positions');
id()	The `id` method is an alias of the **bigIncrements** method	$table->id();
increments()	The **increments** method creates an auto-incrementing **UNSIGNED INTEGER** equivalent column as a primary key	$table->increments('id');
integer()	The **integer** method creates an **INTEGER** equivalent	$table->integer('votes')
ipAddress()	The **ipAddress** method creates a **VARCHAR** equivalent	$table->ipAddress('visitor');
json()	The **json** method creates a **JSON** equivalent	$table->json('options')
longText()	The **longText** method creates a **LONGTEXT** equivalent	$table->longText('description');

AVAILABLE COLUMN TYPES

mediumIncrements()	The **mediumIncrements** method creates an auto-incrementing **UNSIGNED MEDIUMINT** equivalent column as a primary key	$table->mediumIncrements('id');
mediumInteger()	The **mediumInteger** method creates a **MEDIUMINT** equivalent	$table->mediumInteger('votes');
mediumText()	The **mediumText** method creates a **MEDIUMTEXT** equivalent	$table->mediumText('description');
smallIncrements()	The **smallIncrements** method creates an auto-incrementing **UNSIGNED SMALLINT** equivalent column as a primary key	$table->smallIncrements('id');
smallInteger()	The **smallInteger** method creates a **SMALLINT** equivalent	$table->smallInteger('votes');
string()	The **string** method creates a **VARCHAR** equivalent column of the given length	$table->string('name', 100);
text()	The **text** method creates a **TEXT** equivalent column	$table->text('description');

AVAILABLE COLUMN TYPES

time()	The **time** method creates a **TIME** equivalent column with an optional precision (total digits)	$table->time('sunrise', $precision = 0);
timestamp()	The **timestamp** method creates a **TIMESTAMP** equivalent column with an optional precision (total digits)	$table->timestamp('added_at', $precision = 0);
timestamps()	The **timestamps** method creates **created_at** and **updated_at** **TIMESTAMP** equivalent columns with an optional precision (total digits)	$table->timestamps($precision = 0);
tinyIncrements()	The **tinyIncrements** method creates an auto-incrementing UNSIGNED **TINYINT** equivalent column as a primary key	$table->tinyIncrements('id');
tinyInteger()	The **tinyInteger** method creates a **TINYINT** equivalent	$table->tinyInteger('votes');
tinyText()	The **tinyText** method creates a **TINYTEXT** equivalent	$table->tinyText('notes')
unsignedBigInteger()	The **unsignedBigInteger** method creates an **UNSIGNED BIGINT** equivalent	$table->unsignedBigInteger('votes');
unsignedInteger()	The **unsignedInteger** method creates an **UNSIGNED INTEGER** equivalent	$table->unsignedInteger('votes');

AVAILABLE COLUMN TYPES

unsignedMediumInteger()	The **unsignedMediumInteger** method creates an UNSIGNED **MEDIUMINT** equivalent	$table->unsignedMediumInteger('votes');
unsignedSmallInteger()	The **unsignedSmallInteger** method creates an **UNSIGNED SMALLINT** equivalent	$table->unsignedSmallInteger('votes');
unsignedTinyInteger()	The **unsignedTinyInteger** method creates an **UNSIGNED TINYINT** equivalent	$table->unsignedTinyInteger('votes');

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AVAILABLE COLUMN ATTRIBUTES

nullable()	Accept null value	$table->string('email')->nullable()
default($value)	Set default value if null	$table->string('email')->default($value)
useCurrent()	Set TIMESTAMP columns to use CURRENT_TIMESTAMP as default value	$table->timestamp('created_at')->useCurrent()
useCurrentOnUpdate()	Set TIMESTAMP columns to use CURRENT_TIMESTAMP when a record is updated	$table->timestamp('updated_at')->useCurrent()->useCurrentOnUpdate();
collation()	Specify a collation for the column	$table->string('email')->collation('utf8mb4_unicode_ci')
charset( )	Specify a character set for the column (MySQL).	$table->string('email')->charset('utf8mb4')
autoIncrement()	Set INTEGER columns as auto-incrementing (primary key).	$table->increments('id')
first()	Place the column "first" in the table (MySQL).	$table->increments('id')->first()
`invisible()`	Make the column "invisible" to SELECT * queries (MySQL).	$table->string('email')->invisible()
`unsigned()`	Set INTEGER columns as UNSIGNED (MySQL)	$table->integer('votes')->unsigned()
unique()	Ensure unique value	$table->string('email')->unique()
change()	Allows you to modify the type and attributes of existing columns.	$table->string('name', 50)->change();

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CREATE RENAME AND DROP TABLES

2023_05_02_110102_drop_profile_table.php

```php
12      public function up(): void
13      {
14          Schema::dropIfExists("user_profile");
15      }
```

2023_05_02_105819_rename_profile_table.php

```php
12      public function up(): void
13      {
14          Schema::rename("profile", "user_profile");
15      }
```

2023_05_02_062343_create_profile_table.php

```php
7   return new class extends Migration
8   {
9       public function up(): void
10      {
11          Schema::create('profile', function (Blueprint $table) {
12              $table->id();
13              $table->string('name');
14              $table->string('city');
15              $table->string('phone');
16              $table->timestamps();
17          });
18      }
19      public function down(): void
20      {
21          Schema::dropIfExists('profile');
22      }
23  };
```

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ADD RENAME AND DROP COLUMN

2023_05_02_112754_modify_profile_table.php

```php
12      public function up(): void
13      {
14          Schema::table('profile', function (Blueprint $table) {
15              $table->after('city', function ($table) {
16                  $table->string('address_line1');
17                  $table->string('address_line2');
18              });
19          });
20      }
```

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ADD RENAME AND DROP COLUMN

```php
Schema::table('users', function (Blueprint $table) {
    $table->dropColumn('votes');
});
```

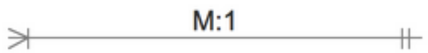
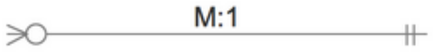
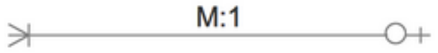
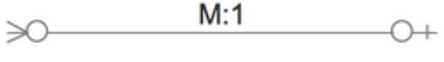
```php
Schema::table('users', function (Blueprint $table) {
    $table->renameColumn('from', 'to');
});
```

```php
Schema::table('users', function (Blueprint $table) {
    $table->dropColumn(['votes', 'avatar', 'location']);
});
```

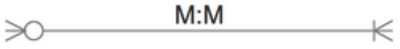
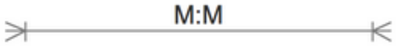
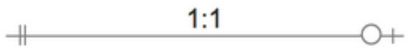
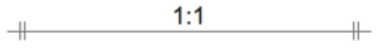
RELATIONSHIP SIGN

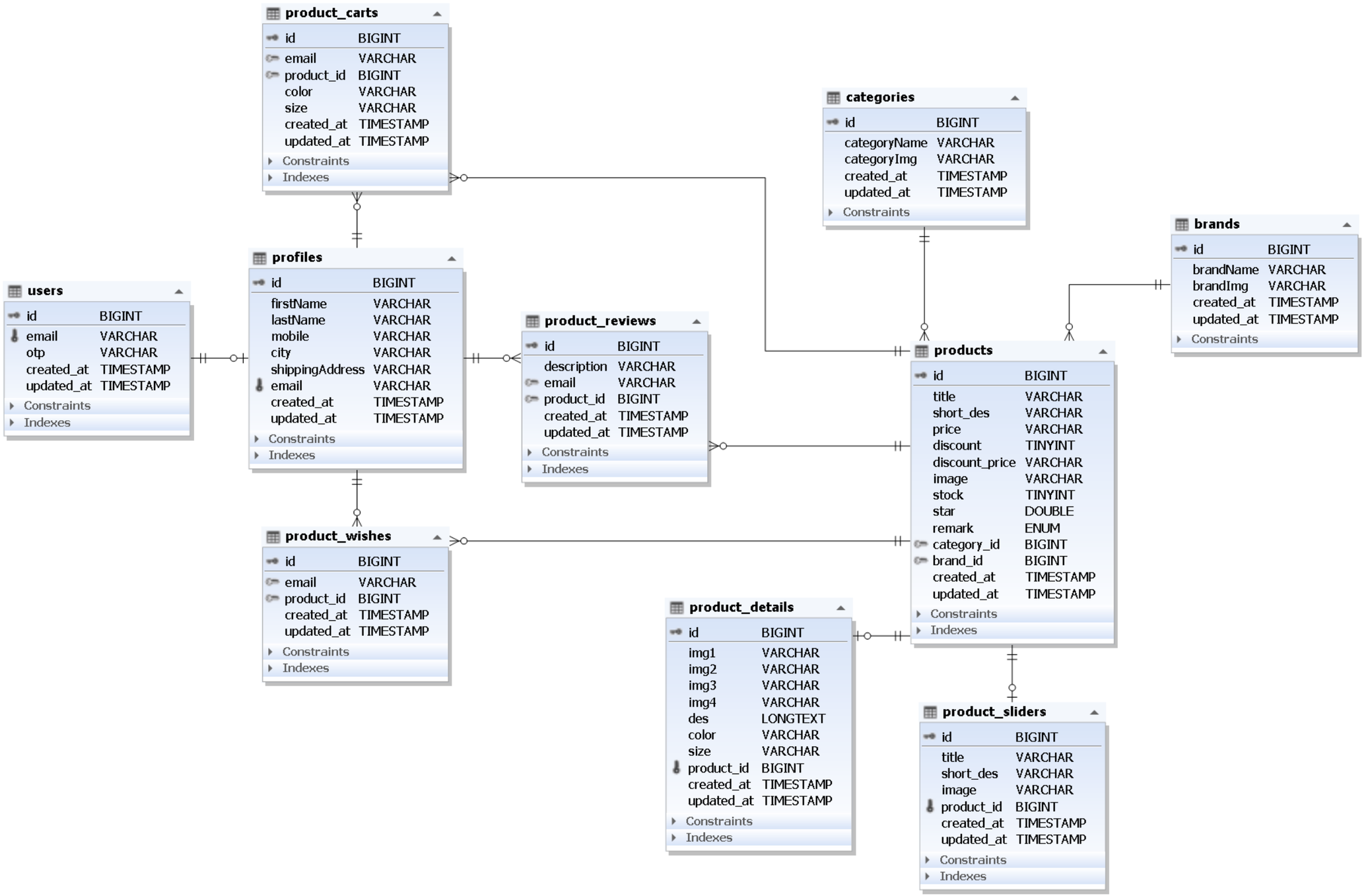
	Zero or One
	One or More
	One and only One
	Zero or More

RELATIONSHIP SIGN

	a one through many notation on one side of a relationship and a one and only one on the other
	a zero through many notation on one side of a relationship and a one and only one on the other
	a one through many notation on one side of a relationship and a zero or one notation on the other
	a zero through many notation on one side of a relationship and a zero or one notation on the other

RELATIONSHIP SIGN

	a zero through many on both sides of a relationship
	a zero through many on one side and a one through many on the other
	a one through many on both sides of a relationship
	a one and only one notation on one side of a relationship and a zero or one on the other
	a one and only one notation on both sides


product_carts
id BIGINT
email VARCHAR
product_id BIGINT
color VARCHAR
size VARCHAR
created_at TIMESTAMP
updated_at TIMESTAMP
Constraints
Indexes
categories
id BIGINT
categoryName VARCHAR
categoryImg VARCHAR
created_at TIMESTAMP
updated_at TIMESTAMP
Constraints
brands
id BIGINT
brandName VARCHAR
brandImg VARCHAR
created_at TIMESTAMP
updated_at TIMESTAMP
Constraints
profiles
id BIGINT
firstName VARCHAR
lastName VARCHAR
mobile VARCHAR
city VARCHAR
shippingAddress VARCHAR
email VARCHAR
created_at TIMESTAMP
updated_at TIMESTAMP
Constraints
Indexes
users
id BIGINT
email VARCHAR
otp VARCHAR
created_at TIMESTAMP
updated_at TIMESTAMP
Constraints
Indexes
product_reviews
id BIGINT
description VARCHAR
email VARCHAR
product_id BIGINT
created_at TIMESTAMP
updated_at TIMESTAMP
Constraints
Indexes
products
id BIGINT
title VARCHAR
short_des VARCHAR
price VARCHAR
discount TINYINT
discount_price VARCHAR
image VARCHAR
stock TINYINT
star DOUBLE
remark ENUM
category_id BIGINT
brand_id BIGINT
created_at TIMESTAMP
updated_at TIMESTAMP
Constraints
Indexes
product_wishes
id BIGINT
email VARCHAR
product_id BIGINT
created_at TIMESTAMP
updated_at TIMESTAMP
Constraints
Indexes
product_details
id BIGINT
img1 VARCHAR
img2 VARCHAR
img3 VARCHAR
img4 VARCHAR
des LONGTEXT
color VARCHAR
size VARCHAR
product_id BIGINT
created_at TIMESTAMP
updated_at TIMESTAMP
Constraints
Indexes
product_sliders
id BIGINT
title VARCHAR
short_des VARCHAR
image VARCHAR
product_id BIGINT
created_at TIMESTAMP
updated_at TIMESTAMP
Constraints
Indexes

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RELATIONSHIP CONSTRAINT

Method	Description
`$table->cascadeOnUpdate();`	Updates should cascade.
`$table->restrictOnUpdate();`	Updates should be restricted.
`$table->cascadeOnDelete();`	Deletes should cascade.
`$table->restrictOnDelete();`	Deletes should be restricted.
`$table->nullOnDelete();`	Deletes should set the foreign key value to null.

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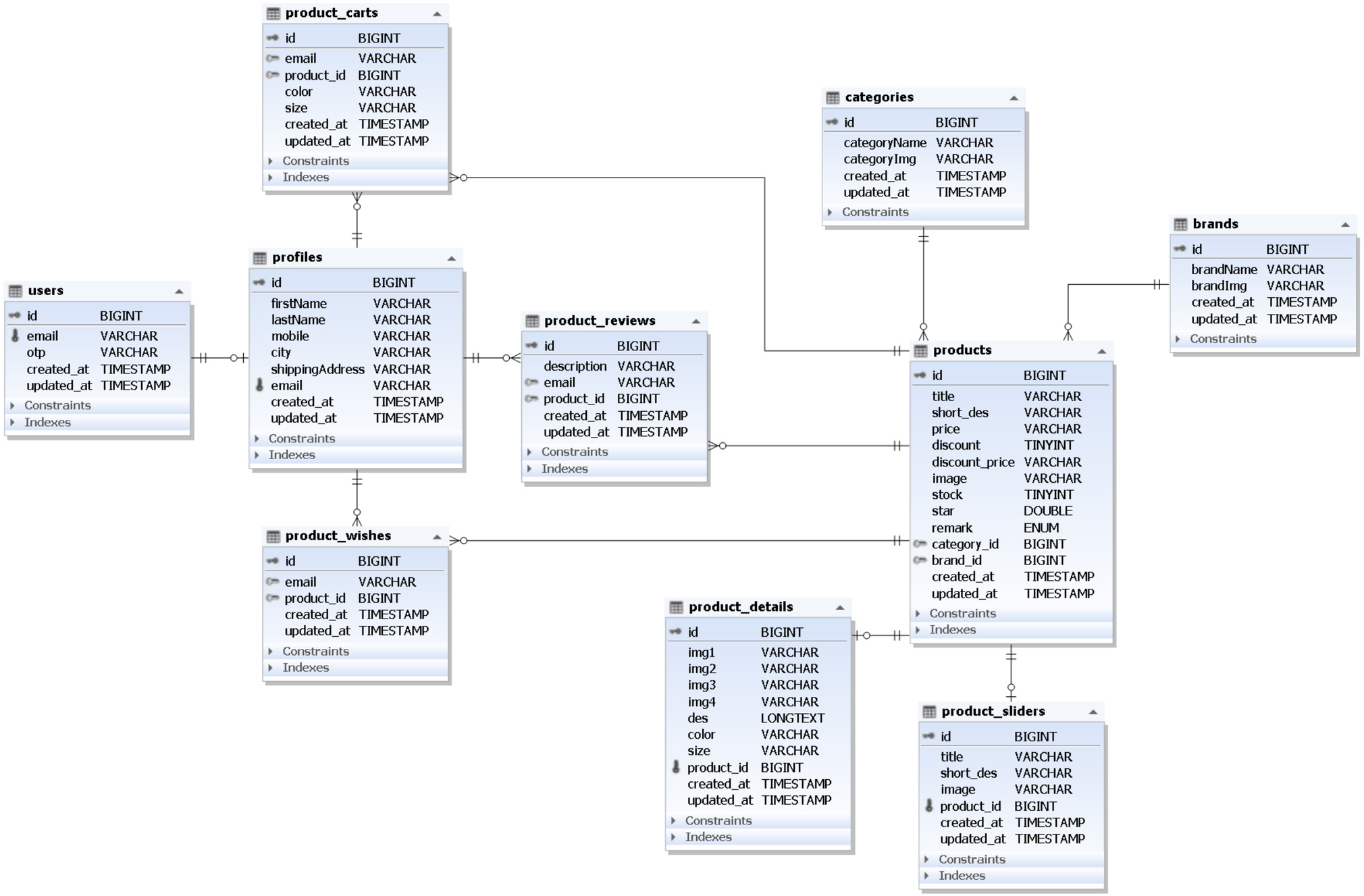
LETS DO A DATABASE PROEJCT

For Better Understanding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created_at TIMESTAMP
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Indexes
categories
id BIGINT
categoryName VARCHAR
categoryImg VARCHAR
created_at TIMESTAMP
updated_at TIMESTAMP
Constraints
brands
id BIGINT
brandName VARCHAR
brandImg VARCHAR
created_at TIMESTAMP
updated_at TIMESTAMP
Constraints
profiles
id BIGINT
firstName VARCHAR
lastName VARCHAR
mobile VARCHAR
city VARCHAR
shippingAddress VARCHAR
email VARCHAR
created_at TIMESTAMP
updated_at TIMESTAMP
Constraints
Indexes
users
id BIGINT
email VARCHAR
otp VARCHAR
created_at TIMESTAMP
updated_at TIMESTAMP
Constraints
Indexes
product_reviews
id BIGINT
description VARCHAR
email VARCHAR
product_id BIGINT
created_at TIMESTAMP
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title VARCHAR
short_des VARCHAR
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discount TINYINT
discount_price VARCHAR
image VARCHAR
stock TINYINT
star DOUBLE
remark ENUM
category_id BIGINT
brand_id BIGINT
created_at TIMESTAMP
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updated_at TIMESTAMP
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img1 VARCHAR
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img3 VARCHAR
img4 VARCHAR
des LONGTEXT
color VARCHAR
size VARCHAR
product_id BIGINT
created_at TIMESTAMP
updated_at TIMESTAMP
Constraints
Indexes
product_sliders
id BIGINT
title VARCHAR
short_des VARCHAR
image VARCHAR
product_id BIGINT
created_at TIMESTAMP
updated_at TIMESTAMP
Constraints
Indexes

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LETS DO A DATABASE PROEJCT

user migration

2023_02_16_065502_create_users.php

```php
12      public function up(): void
13      {
14          Schema::create('users', function (Blueprint $table) {
15              $table->id();
16              $table->string('email',50)->unique();
17              $table->string('otp',10);
18              $table->timestamp('created_at')->useCurrent();
19              $table->timestamp('updated_at')->useCurrent()->useCurrentOnUpdate();
20          });
21      }
```

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LETS DO A DATABASE PROEJCT

profiles migration

2023_02_16_065520_create_profiles.php

```php
12      public function up(): void
13      {
14          Schema::create('profiles', function (Blueprint $table) {
15              $table->id();
16              $table->string('firstName',50);
17              $table->string('lastName',50);
18              $table->string('mobile',50);
19              $table->string('city',50);
20              $table->string('shippingAddress',1000);
21              $table->string('email',50)->unique();
22              $table->foreign('email')->references('email')->on('users')
23              ->restrictOnDelete()
24              ->cascadeOnUpdate();
25              $table->timestamp('created_at')->useCurrent();
26              $table->timestamp('updated_at')->useCurrent()->useCurrentOnUpdate();
27          });
28      }
```

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LETS DO A DATABASE PROEJCT

categories migration

2023_02_16_065529_create_categories.php

```php
    public function up(): void
    {
        Schema::create('categories', function (Blueprint $table) {
            $table->id();
            $table->string('categoryName',50);
            $table->string('categoryImg',300);
            $table->timestamp('created_at')->useCurrent();
            $table->timestamp('updated_at')->useCurrent()->useCurrentOnUpdate();
        });
    }
```

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LETS DO A DATABASE PROEJCT

brands migration

2023_02_16_065654_create_brands.php

```php
12      public function up(): void
13      {
14          Schema::create('brands', function (Blueprint $table) {
15              $table->id();
16              $table->string('brandName',50);
17              $table->string('brandImg',300);
18              $table->timestamp('created_at')->useCurrent();
19              $table->timestamp('updated_at')->useCurrent()->useCurrentOnUpdate();
20          });
21      }
```

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LETS DO A DATABASE PROEJCT

products migration

2023_02_17_114815_create_products.php

```php
    public function up(): void
    {
        Schema::create('products', function (Blueprint $table) {
            $table->id();
            $table->string('title',200);
            $table->string('short_des',500);
            $table->string('price',50);
            $table->boolean('discount');
            $table->string('discount_price',50);
            $table->string('image',200);
            $table->boolean('stock');
            $table->float('star');
            $table->enum('remark',['popular','new','top','special','trending','regular']);

            $table->unsignedBigInteger('category_id');
            $table->unsignedBigInteger('brand_id');

            $table->foreign('category_id')->references('id')->on('categories')
                ->restrictOnDelete()
                ->cascadeOnUpdate();

            $table->foreign('brand_id')->references('id')->on('brands')
                ->restrictOnDelete()
                ->cascadeOnUpdate();

            $table->timestamp('created_at')->useCurrent();
            $table->timestamp('updated_at')->useCurrent()->useCurrentOnUpdate();
        });
    }
```

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LETS DO A DATABASE PROEJCT

product_reviews

2023_02_17_144756_create_product_reviews.php

```php
public function up(): void
{
    Schema::create('product_reviews', function (Blueprint $table) {
        $table->id();
        $table->string('description',1000);

        $table->string('email',50);
        $table->foreign('email')->references('email')->on('profiles')
            ->restrictOnDelete()
            ->restrictOnUpdate();

        $table->unsignedBigInteger('product_id');
        $table->foreign('product_id')->references('id')->on('products')
            ->restrictOnDelete()
            ->restrictOnUpdate();

        $table->timestamp('created_at')->useCurrent();
        $table->timestamp('updated_at')->useCurrent()->useCurrentOnUpdate();
    });
}
```

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LETS DO A DATABASE PROEJCT

product_details

2023_02_17_164424_create_product_details.php

```php
    public function up(): void
    {
        Schema::create('product_details', function (Blueprint $table) {
            $table->id();
            $table->string('img1',200);
            $table->string('img2',200);
            $table->string('img3',200);
            $table->string('img4',200);
            $table->longText('des');
            $table->string('color',200);
            $table->string('size',200);

            $table->unsignedBigInteger('product_id')->unique();
            $table->foreign('product_id')->references('id')->on('products')
                ->restrictOnDelete()
                ->restrictOnUpdate();


            $table->timestamp('created_at')->useCurrent();
            $table->timestamp('updated_at')->useCurrent()->useCurrentOnUpdate();
        });
    }
```

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LETS DO A DATABASE PROEJCT

product_sliders

2023_02_17_184723_create_product_sliders.php

```php
public function up(): void
{
    Schema::create('product_sliders', function (Blueprint $table) {
        $table->id();
        $table->string('title',200);
        $table->string('short_des',500);
        $table->string('image',200);
        $table->unsignedBigInteger('product_id')->unique();
        $table->foreign('product_id')->references('id')->on('products')
            ->restrictOnDelete()
            ->restrictOnUpdate();
        $table->timestamp('created_at')->useCurrent();
        $table->timestamp('updated_at')->useCurrent()->useCurrentOnUpdate();
    });
}
```

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LETS DO A DATABASE PROEJCT

product_wishes

```php
public function up(): void
{
    Schema::create('product_wishes', function (Blueprint $table) {
        $table->id();
        $table->string('email',50);
        $table->unsignedBigInteger('product_id');

        $table->foreign('product_id')->references('id')->on('products')
            ->restrictOnDelete()
            ->restrictOnUpdate();


        $table->foreign('email')->references('email')->on('profiles')
            ->restrictOnDelete()
            ->restrictOnUpdate();


        $table->timestamp('created_at')->useCurrent();
        $table->timestamp('updated_at')->useCurrent()->useCurrentOnUpdate();
    });
}
```

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LETS DO A DATABASE PROEJCT

product_carts

```php
public function up(): void
{
    Schema::create('product_carts', function (Blueprint $table) {
        $table->id();

        $table->string('email',50);
        $table->unsignedBigInteger('product_id');

        $table->string('color',200);
        $table->string('size',200);

        $table->foreign('product_id')->references('id')->on('products')
            ->restrictOnDelete()
            ->restrictOnUpdate();

        $table->foreign('email')->references('email')->on('profiles')
            ->restrictOnDelete()
            ->restrictOnUpdate();

        $table->timestamp('created_at')->useCurrent();
        $table->timestamp('updated_at')->useCurrent()->useCurrentOnUpdate();
    });
}
```