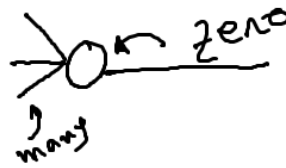
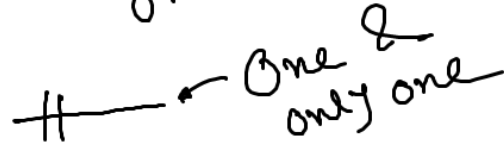
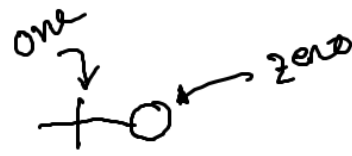







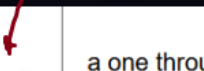
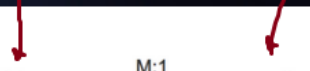
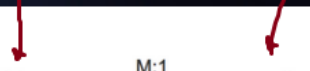
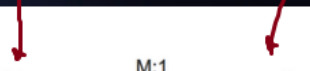
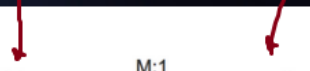

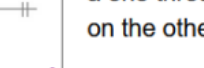
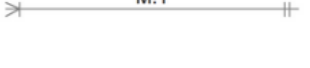
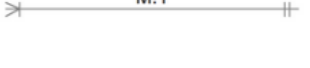
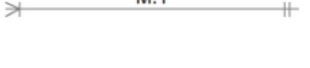
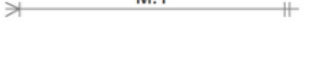







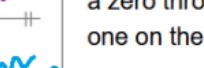
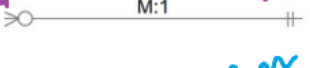
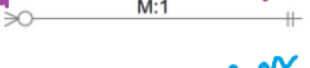
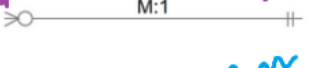
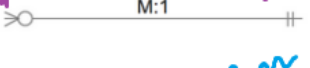

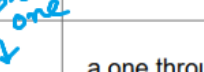





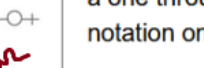
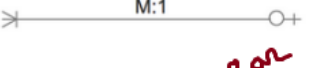
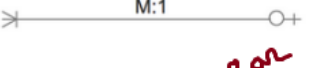
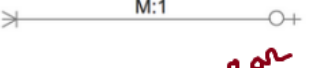
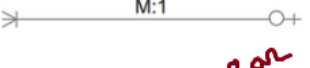

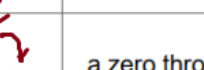





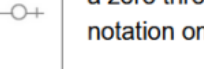
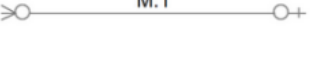
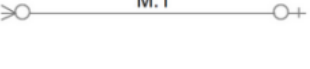
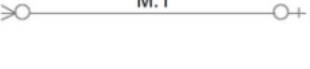
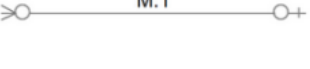







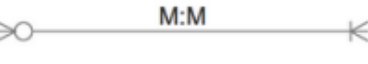
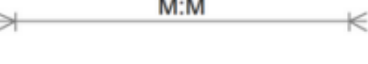




# RELATIONSHIP SIGN

+○	Zero or One
≧	One or More
≡	One and only One
≧○	Zero or More



	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

## Relationship Constraint:

### Foreign Key with Cascade on Delete

```
$table->foreignId('user_id')
    ->constrained('users') // Foreign key reference to the `users` table
    ->cascadeOnDelete(); // Deletes related orders when a user is deleted
```

### Foreign Key with Restrict on Delete

```
$table->foreignId('user_id')
    ->constrained('users')
    ->restrictOnDelete(); // Prevents deletion of user if related orders exist
```

### Foreign Key with Set Null on Delete (must be nullable)

```
$table->foreignId('user_id')
    ->nullable()
    ->constrained('users')
    ->setNullOnDelete(); // Sets user_id to NULL when the user is deleted
```

## Foreign Key with No Action on Delete

```
$table->foreignId('user_id')
    ->constrained('users')
    ->noActionOnDelete(); // No action (manual handling needed)
```

## Foreign Key with Cascade on Update

```
$table->foreignId('user_id')
    ->constrained('users')
    ->cascadeOnUpdate(); // Updates related orders when a user's ID is updated
```

## Foreign Key with Restrict on Update

```
$table->foreignId('user_id')
    ->constrained('users')
    ->restrictOnUpdate(); // Prevents updating user ID if related orders exist
```

## Foreign Key with Set Null on Update

```
$table->foreignId('user_id')
    ->nullable()
    ->constrained('users')
    ->setNullOnUpdate(); // Sets user_id to NULL when the user ID is updated
```

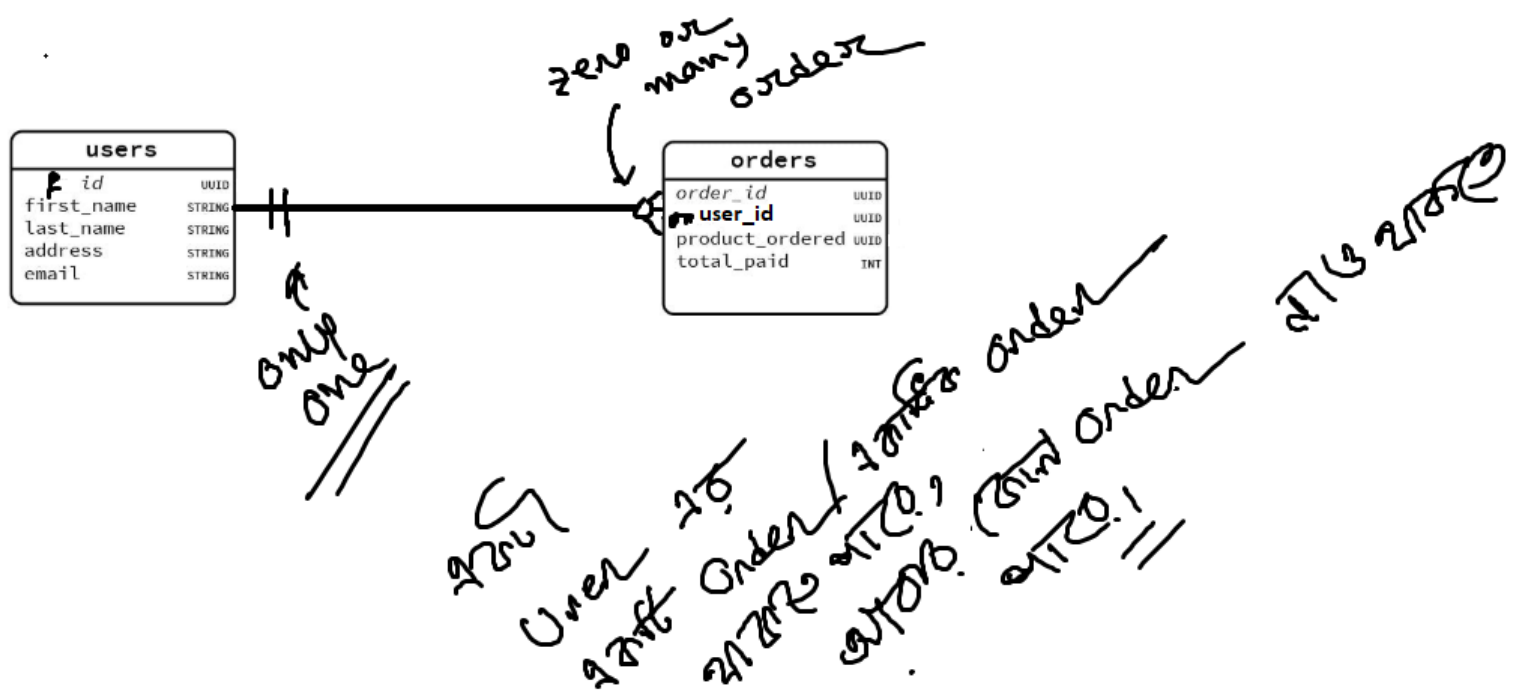
## Foreign Key with No Action on Update

```
$table->foreignId('user_id')
    ->constrained('users')
    ->noActionOnUpdate(); // No action (manual handling needed)
```

# Relation এর জন্য Foreign Key কিভাবে সেট করব:

১. যদি একটা টেবিল Id column(Undsigned Big Integer Primary Key) অন্য টেবিল এর Foreign Key হিসেবে ব্যবহৃত হয় সেক্ষেত্রে তার Syntax:

`$table->foreignId('user_id') ->constrained('users_infos') ->restrictOnDelete()->cascadeOnUpdate()` এটা ব্যবহার করব



এখানে users table এর id column(primary key) orders table এ foreign key হিসেবে ব্যবহৃত হচ্ছে এখানে কিভাবে টেবিল দুটি বানাব।

১. প্রথমে Migration বানাব:

```
User@DESKTOP-TSJIMAQ MINGW64 /c/xampp/htdocs/module_17_migration
$ php artisan make:migration create_users_infos_table
php] created successfully.

User@DESKTOP-TSJIMAQ MINGW64 /c/xampp/htdocs/module_17_migration
$ php artisan make:migration create_users_infos_table
```

২. Migration Code বানালাম:

Users\_infos

```
1  <?php
2
3  use Illuminate\Database\Migrations\Migration;
4  use Illuminate\Database\Schema\Blueprint;
5  use Illuminate\Support\Facades\Schema;
6
7  return new class extends Migration {
8      /**
9       * Run the migrations.
10      */
11     public function up(): void
12     {
13         Schema::create('users_infos', function (Blueprint $table) {
14             $table->id();
15             $table->string('first_name', 50);
16             $table->string('last_name', 50);
17             $table->string('email')->unique(); // Unique constraint
18             $table->string('address', 255);
19             $table->timestamp('created_at')->useCurrent(); // Default to CURRENT_TIMESTAMP
20             $table->timestamp('updated_at')->useCurrent()->useCurrentOnUpdate(); // Updates to CURRENT_TIMESTAMP on update
21         });
22     }
23
24     /**
25      * Reverse the migrations.
26      */
27     public function down(): void
28     {
29         Schema::dropIfExists('users_infos');
30     }
31 };
32
```

Stores Table(Foreign Key) foreignId('column name') এটা ব্যবহার করব

// Foreign key referencing the users\_infos table

\$table

- >foreignId('user\_id')
- >constrained('users\_infos') // Reference to the users\_infos table
- >restrictOnDelete() // Prevent deletion of the parent while child rows exist
- >cascadeOnUpdate(); // Update child rows when the parent row is updated

```

1  <?php
2
3  use Illuminate\Database\Migrations\Migration;
4  use Illuminate\Database\Schema\Blueprint;
5  use Illuminate\Support\Facades\Schema;
6
7  return new class extends Migration {
8      /**
9       * Run the migrations.
10      */
11     public function up(): void
12     {
13         Schema::create('orders', function (Blueprint $table) {
14             $table->id(); // Primary key for the orders table
15
16             // Foreign key referencing the users_infos table
17             $table
18                 ->foreignId('user_id')
19                 ->constrained('users_infos') // Reference to the users_infos table
20                 ->restrictOnDelete() // Prevent deletion of the parent while child rows exist
21                 ->cascadeOnUpdate(); // Update child rows when the parent row is updated
22
23             $table->string('product_order', 255); // Name of the product
24             $table->decimal('total_paid', 10, 2); // Decimal field for monetary values
25             $table->timestamp('created_at')->useCurrent(); // Default to CURRENT_TIMESTAMP
26             $table->timestamp('updated_at')->useCurrent()->useCurrentOnUpdate(); // Updates to CURRENT_TIMESTAMP
27         });
28     }
29
30     /**
31      * Reverse the migrations.
32      */
33     public function down(): void
34     {
35         Schema::dropIfExists('orders');
36     }
37
38 };
39

```

৩. ডাটাবেসে Store করলাম:

```

User@DESKTOP-TSJJMAQ MINGW64 /c/xampp/htdocs/module_17_migration
$ php artisan migrate

```

**INFO** Running migrations.

```

2024_12_14_065431_create_users_infos_table ..... 44.08ms DONE
2024_12_14_065432_create_orders_table ..... 95.88ms DONE

```

**INFO** Running migrations.

```

2024_12_14_065431_create_users_infos_table ..... 44.08ms DONE
2024_12_14_065432_create_orders_table ..... 95.88ms DONE

```

```

2024_12_14_065431_create_users_infos_table ..... 44.08ms DONE
2024_12_14_065432_create_orders_table ..... 95.88ms DONE

```

User\_infos

Recent

Favorites

New

duetbd\_ugr

information\_schema

migration\_test

- New
- migrations
- orders
- users\_infos

Table structure

Relation view

	#	Name	Type	Collation	Attributes	Null	Default
<input type="checkbox"/>	1	id	bigint(20)		UNSIGNED	No	None
<input type="checkbox"/>	2	first_name	varchar(50)	utf8mb4_unicode_ci		No	None
<input type="checkbox"/>	3	last_name	varchar(50)	utf8mb4_unicode_ci		No	None
<input type="checkbox"/>	4	email	varchar(255)	utf8mb4_unicode_ci		No	None
<input type="checkbox"/>	5	address	varchar(255)	utf8mb4_unicode_ci		No	None
<input type="checkbox"/>	6	created_at	timestamp			No	current_timestamp()
<input type="checkbox"/>	7	updated_at	timestamp			No	current_timestamp()

Orders

phpMyAdmin

Recent

Favorites

New

duetbd\_ugr

information\_schema

migration\_test

- New
- migrations
- orders
- users\_infos

mysql

performance\_schema

phpmyadmin

test

Server: 127.0.0.1 » Database: migration\_test » Table: orders

Browse

Structure

SQL

Search

Insert

Table structure

Relation view

	#	Name	Type	Collation	Attributes
<input type="checkbox"/>	1	id	bigint(20)		UNSIGNED
<input type="checkbox"/>	2	user_id	bigint(20)		UNSIGNED
<input type="checkbox"/>	3	product_order	varchar(255)	utf8mb4_unicode_ci	
<input type="checkbox"/>	4	total_paid	decimal(10,2)		
<input type="checkbox"/>	5	created_at	timestamp		
<input type="checkbox"/>	6	updated_at	timestamp		

Check all

With selected:

Browse

Change

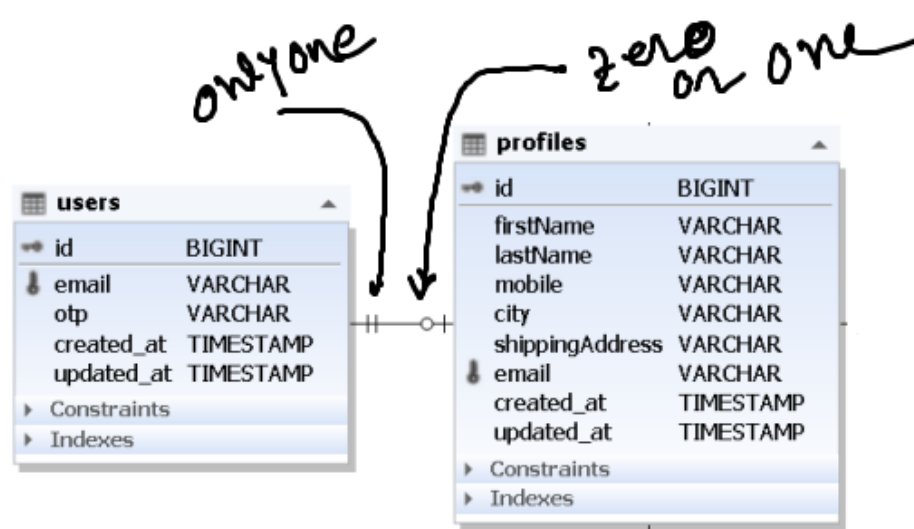
Fulltext

Add to central columns

Remove from central columns

# Relation এর জন্য Foreign Key কিভাবে সেট করব:

২. যদি একটা টেবিল Id column Unsigned Big Integer/Numeric না হয়ে অন্য কিছু যেমন String(Email) অন্য টেবিল এর Foreign Key হিসেবে ব্যবহৃত হয় সেক্ষেত্রে তার Syntax:



One to One Relationship  
একটা User এর একটা একটা profile থাকবে।

//same as parent table

```
$table->string('email',50)->unique();
```

```
foreign(child_table_column)->references('parent_table_column')->on(parent_table)
```

```
$table->foreign('email')->references('email')->on('users')
```

```
->restrictOnDelete()
```

```
->cascadeOnUpdate();
```

১. Migration Create

```
User@DESKTOP-TSJIMAQ MINGW64 /c/xampp/htdocs/module_17_migration
$ php artisan make:migration create_profiles_table

[INFO] Migration [C:\xampp\htdocs\module_17_migration\database\Migrations\2024_12_14_083532_create_profiles_table.php] created successfully.

User@DESKTOP-TSJIMAQ MINGW64 /c/xampp/htdocs/module_17_migration
$ php artisan make:migration create_profiles_table

[INFO] Migration [C:\xampp\htdocs\module_17_migration\database\Migrations\2024_12_14_083532_create_profiles_table.php] created successfully.

[INFO] Migration [C:\xampp\htdocs\module_17_migration\database\Migrations\2024_12_14_083532_create_profiles_table.php] created successfully.
```



2. code create

Users table

```
1  <?php
2
3  use Illuminate\Database\Migrations\Migration;
4  use Illuminate\Database\Schema\Blueprint;
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::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     }
22
23     /**
24      * Reverse the migrations.
25      */
26     public function down(): void
27     {
28         Schema::dropIfExists('users');
29     }
30 };
31
```

Profiles table(Email is unique কারণ email একবার ব্যবহার করা যাবে পুরো টেবিল এ তাই Child Table এ unique রাখতে হবে।)

```
1  <?php
2
3  use Illuminate\Database\Migrations\Migration;
4  use Illuminate\Database\Schema\Blueprint;
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::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             //same as parent table
22             //here unique means one unique email can hold in full table
23             $table->string('email',50)->unique();
24
25             // Relationship
26             //foreign(child_table_column)->references('parent_table_column')->on(parent_table)
27             $table->foreign('email')->references('email')->on('users')
28                 ->restrictOnDelete()
29                 ->cascadeOnUpdate();
30
31             $table->timestamp('created_at')->useCurrent();
32             $table->timestamp('updated_at')->useCurrent()->useCurrentOnUpdate();
33         });
34     }
35
36     /**
37      * Reverse the migrations.
38      */
39     public function down(): void
40     {
41         Schema::dropIfExists('profiles');
42     }
43 };
44
```

```
User@DESKTOP-TSJJMAQ MINGW64 /c/xampp/htdocs/module_17_migration
$ php artisan migrate

INFO Running migrations.

2024_12_14_082911_create_users_table ..... 362.86ms DONE
2024_12_14_083532_create_profiles_table ..... 139.48ms DONE
```

আউটপুট:

Users

Table structure

Relation view

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1 id 🔑	bigint(20)		UNSIGNED	No	None		AUTO_INCREMENT	Change
<input type="checkbox"/>	2 email 🔑	varchar(50)	utf8mb4_unicode_ci		No	None			Change
<input type="checkbox"/>	3 otp	varchar(10)	utf8mb4_unicode_ci		No	None			Change
<input type="checkbox"/>	4 created_at	timestamp			No	current_timestamp()			Change
<input type="checkbox"/>	5 updated_at	timestamp			No	current_timestamp()		ON UPDATE CURRENT_TIMESTAMP()	Change

Profiles

#	Name	Type	Collation	Attributes	Null	Default	
<input type="checkbox"/>	1 id 🔑	bigint(20)		UNSIGNED	No	None	
<input type="checkbox"/>	2 firstName	varchar(50)	utf8mb4_unicode_ci		No	None	
<input type="checkbox"/>	3 lastName	varchar(50)	utf8mb4_unicode_ci		No	None	
<input type="checkbox"/>	4 mobile	varchar(50)	utf8mb4_unicode_ci		No	None	
<input type="checkbox"/>	5 city	varchar(50)	utf8mb4_unicode_ci		No	None	
<input type="checkbox"/>	6 shippingAddress	varchar(1000)	utf8mb4_unicode_ci		No	None	
<input type="checkbox"/>	7 email 🔑	varchar(50)	utf8mb4_unicode_ci		No	None	
<input type="checkbox"/>	8 created_at	timestamp			No	current_timestamp()	
<input type="checkbox"/>	9 updated_at	timestamp			No	current_timestamp()	