

Assignment Module-16: Laravel Migration Concepts

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Task 1:

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

Command for create project

```
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.

Create migration file command:

```
php artisan make:migration create_products_table
```

Products migration file columns:

```
public function up(): void{
    Schema::create( 'products', function ( Blueprint $table ) {
        $table->id();
        $table->string( 'name', 50 );
        $table->decimal( 'price' );
        $table->text( 'description' );
        $table->timestamp( 'created_at' )->useCurrent();
        $table->timestamp( 'updated_at' )->useCurrent()->useCurrentOnUpdate();
    } );
}
```

Task 3:

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

migration run command:

```
php artisan migrate
```

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.

Add new column migration file create command:

```
php artisan make:migration add_quantity_to_products_table
```

Migration file up() & down() method:

```
public function up(): void{
    Schema::table( 'products', function ( Blueprint $table ) {
        $table->integer( 'quantity' )->nullable()->after( 'price' );
    } );
}

public function down(): void{
    Schema::table( 'products', function ( Blueprint $table ) {
        $table->dropColumn( 'quantity' );
    } );
}
```

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.

Add new column migration file create command:

```
php artisan make:migration add_category_to_products_table
```

Migration file up() & down() method:

```
public function up(): void{
    Schema::table( 'products', function ( Blueprint $table ) {
        $table->string( 'category', 50 )->after( 'description' );
    } );
}
```

```
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.

migration run command:

```
php artisan migrate
```

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.

Create migration file command:

```
php artisan make:migration create_orders_table
```

Orders migration file columns:

```
public function up(): void{
    Schema::create( 'orders', function ( Blueprint $table ) {
        $table->id();
        $table->unsignedBigInteger( 'product_id' );
        $table->integer( 'quantity' );
        $table->timestamp( 'created_at' )->useCurrent();
        $table->timestamp( 'updated_at' )->useCurrent()->useCurrentOnUpdate();

        $table->foreign( 'product_id' )->references( 'id' )->on( 'products' )
            ->restrictOnDelete()
            ->cascadeOnUpdate();
    } );
}
```

Task 8:

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

migration run command:

```
php artisan migrate
```