LAPORAN

HandsOut(Jobsheet) - Pemrograman Web – Migration and Seeder

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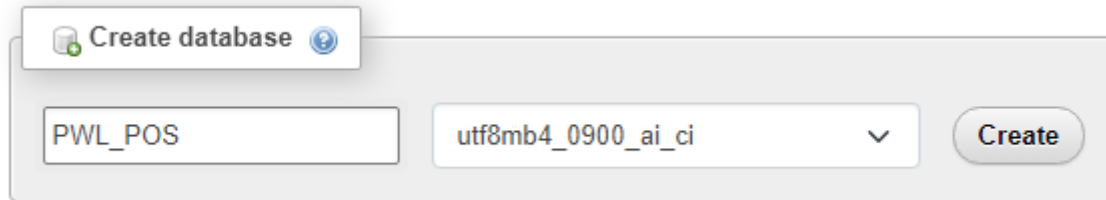
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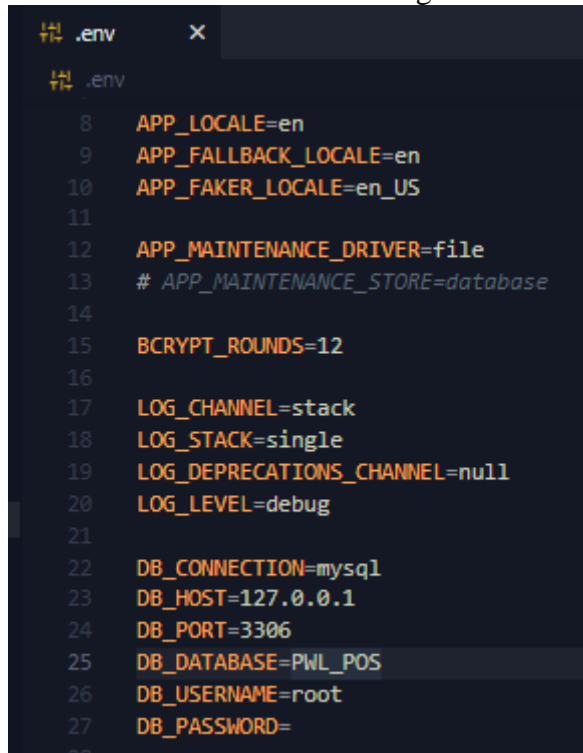
Percobaan 1 : Pengaturan Database

1. Buat project laravel beri nama pwl_pos

```
C:\laragon\www>composer create-project laravel/laravel pwl-pos
```

2. Buka aplikasi phpMyAdmin, dan buat database baru dengan nama PWL_POS.

```
Create database
PWL_POS          utf8mb4_0900_ai_ci   ∨     Create
```

3. Buka aplikasi VSCode dan buka folder project PWL_POS yang sudah dibuat
4. Copy file .env.example menjadi .env
5. Buka file .env, dan pastikan konfigurasi APP_KEY bernilai. Jika belum bernilai silahkan kalian generate menggunakan 'php artisan key:generate'.
6. Edit file .env dan sesuaikan dengan database yang telah dibuat

```
.env      ×
.env
  8   APP_LOCALE=en
  9   APP_FALLBACK_LOCALE=en
 10   APP_FAKER_LOCALE=en_US
 11
 12   APP_MAINTENANCE_DRIVER=file
 13   # APP_MAINTENANCE_STORE=database
 14
 15   BCRYPT_ROUNDS=12
 16
 17   LOG_CHANNEL=stack
 18   LOG_STACK=single
 19   LOG_DEPRECATIONS_CHANNEL=null
 20   LOG_LEVEL=debug
 21
 22   DB_CONNECTION=mysql
 23   DB_HOST=127.0.0.1
 24   DB_PORT=3306
 25   DB_DATABASE=PWL_POS
 26   DB_USERNAME=root
 27   DB_PASSWORD=
 28
```

Percobaan 2 : Pembuatan Migration tanpa relasi

1. Membuat artisan untuk membuat file migration

```
WINDOWS  X@DESKTOP-6E8EN92 MINGW64 /c/laragon/www/pwl-pos (main)
$ php artisan make:migration <nama-file-table> --create=<nama-tabel>
```

2. Menggunakan artisan untuk membuat file model + file migration

```
WINDOWS  X@DESKTOP-6E8EN92 MINGW64 /c/laragon/www/pwl-pos (main)
$ php artisan make:model <nama-model> -m
```

3. Pada Laravel, file-file migration ataupun seeder berada pada folder PWL_POS/database
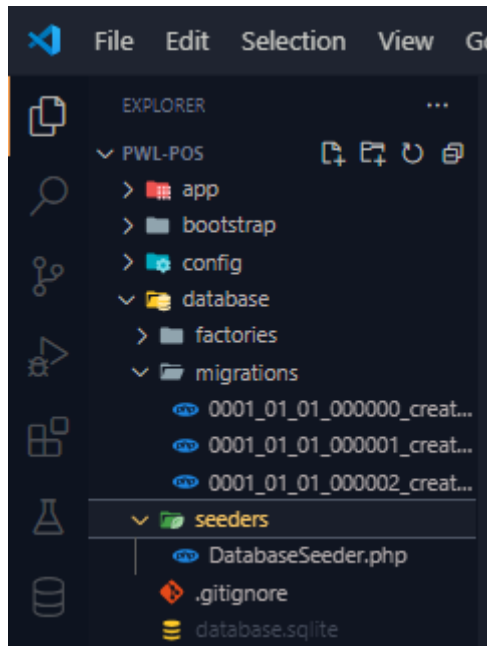
4. Buat file migrasi untuk table m_level dengan perintah


```
WINDOWS X@DESKTOP-6E8EN92 MINGW64 /c/laragon/www/pwl-pos (main)
$ php artisan make:migration create-m-level-table --create=m_level

 INFO  Migration [C:\laragon\www\pwl-pos\database\migrations/2024_08_13_021745_create-m-level-table.php] created successfully.
```

```
∨ 🗁 migrations                                          ●
    🔵 0001_01_01_000000_create_users_table.php
    🔵 0001_01_01_000001_create_cache_table.php
    🔵 0001_01_01_000002_create_jobs_table.php
    🔵 2024_08_13_021745_create-m-level-tabl...   U
```

5. Modifikasi sesuai desain database yang sudah ada

```php
 7    return new class extends Migration
 8    {
 9        /**
10         * Run the migrations.
11         */
12        public function up(): void
13        {
14            Schema::create('m_level', function (Blueprint $table) {
15                $table->id('level_id');
16                $table->string('level_kode', 10)->unique();
17                $table->string('level_nama', 100);
18                $table->timestamps();
19            });
20        }
```

6. Simpan kode pada tahapan 4 tersebut, kemudian jalankan perintah ini pada terminal VSCode untuk melakukan migrasi

```
 INFO  Running migrations.

2014_10_12_000000_create_users_table ........................................................... 1,712ms DONE
2014_10_12_100000_create_password_reset_tokens_table ........................................... 334ms DONE
2019_08_19_000000_create_failed_jobs_table ..................................................... 658ms DONE
2019_12_14_000001_create_personal_access_tokens_table .......................................... 1,089ms DONE
2024_08_13_041301_create-m-level-table ......................................................... 314ms DONE
```

7. Kemudian kita cek di phpMyAdmin apakah table sudah ter-generate atau belum
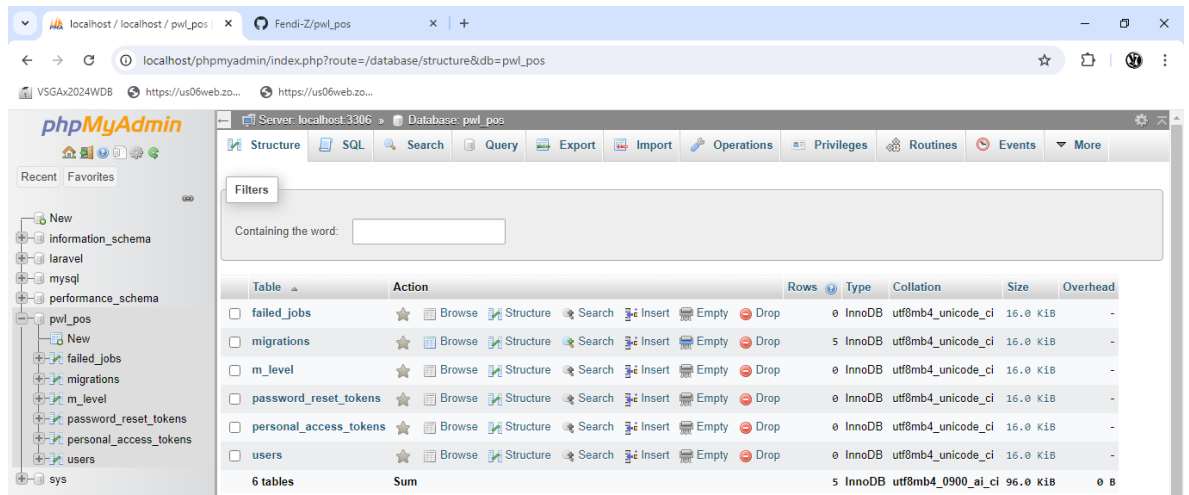
8. Ok, table sudah dibuat di database setelah itu Buat table database dengan migration untuk table m_kategori yang sama-sama tidak memiliki foreign key


```php
<?php

use Illuminate\Database\Migrations\Migration;
use Illuminate\Database\Schema\Blueprint;
use Illuminate\Support\Facades\Schema;

return new class extends Migration
{
    /**
     * Run the migrations.
     */
    public function up(): void
    {
        Schema::create('m_kategori', function (Blueprint $table) {
            $table->id('kategori_id');
            $table->string('kategori_kode', 10)->unique();
            $table->string('kategori_nama', 100);
            $table->timestamps();
        });
    }
}
```

```
C:\laragon\www\pwl_pos>php artisan migrate

 INFO  Running migrations.

 2024_08_13_063636_create_m_kategori_table ................................................... 3,087ms DONE
```

Percobaan 3 : Pembuatan Migration dengan relasi
1. Buka terminal VSCode, dan buat file migrasi untuk table m_user.

2. Buka file migrasi untuk table m_user dan modifikasi seperti berikut

```php
<?php

use Illuminate\Database\Migrations\Migration;
use Illuminate\Database\Schema\Blueprint;
use Illuminate\Support\Facades\Schema;

return new class extends Migration
{
    /**
     * Run the migrations.
     */
    public function up(): void
    {
        Schema::table('m_user', function (Blueprint $table) {
            $table->id('user_id');
            $table->unsignedBigInteger('level_id')->index(); // Indexing untuk ForeignKey
            $table->string('username', 20)->unique();
            $table->string('nama', 100);
            $table->string('password');

            // Mendefinisikan ForeignKey pada kolom level_id mengacu pada kolom level_id di tabel m_level
            $table->foreign('level_id')->references('level_id')->on('m_level');
        });
    }
}
```

3. Simpan kode program dan jalankan perintah php artisan migrate dan amati apa yang terjadi pada database
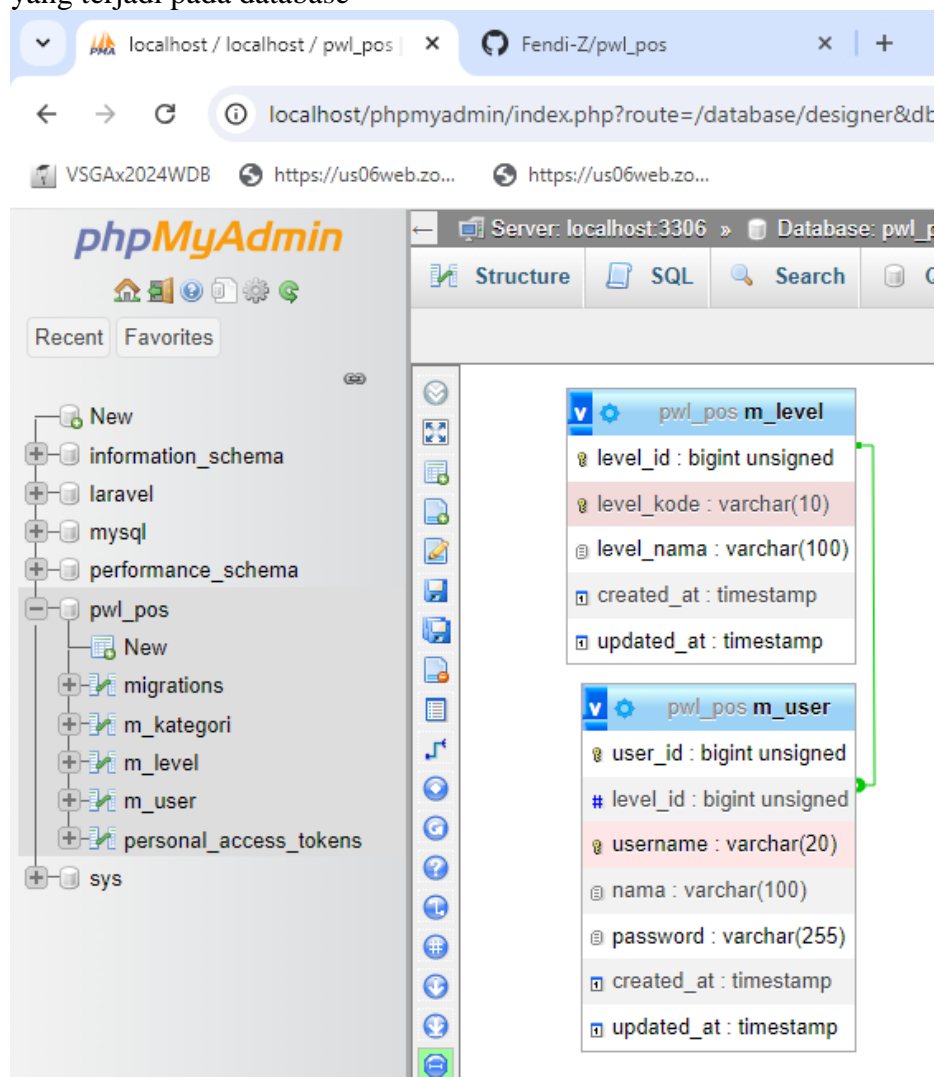
4. Buat table database dengan migration untuk table-tabel yg memiliki foreign key

m_barang
t_penjualan
t_stock
t_penjualan_detail

5. Jika semua file migrasi sudah di buat dan dijalankan maka bisa kita lihat tampilan designer pada phpMyAdmin seperti berikut
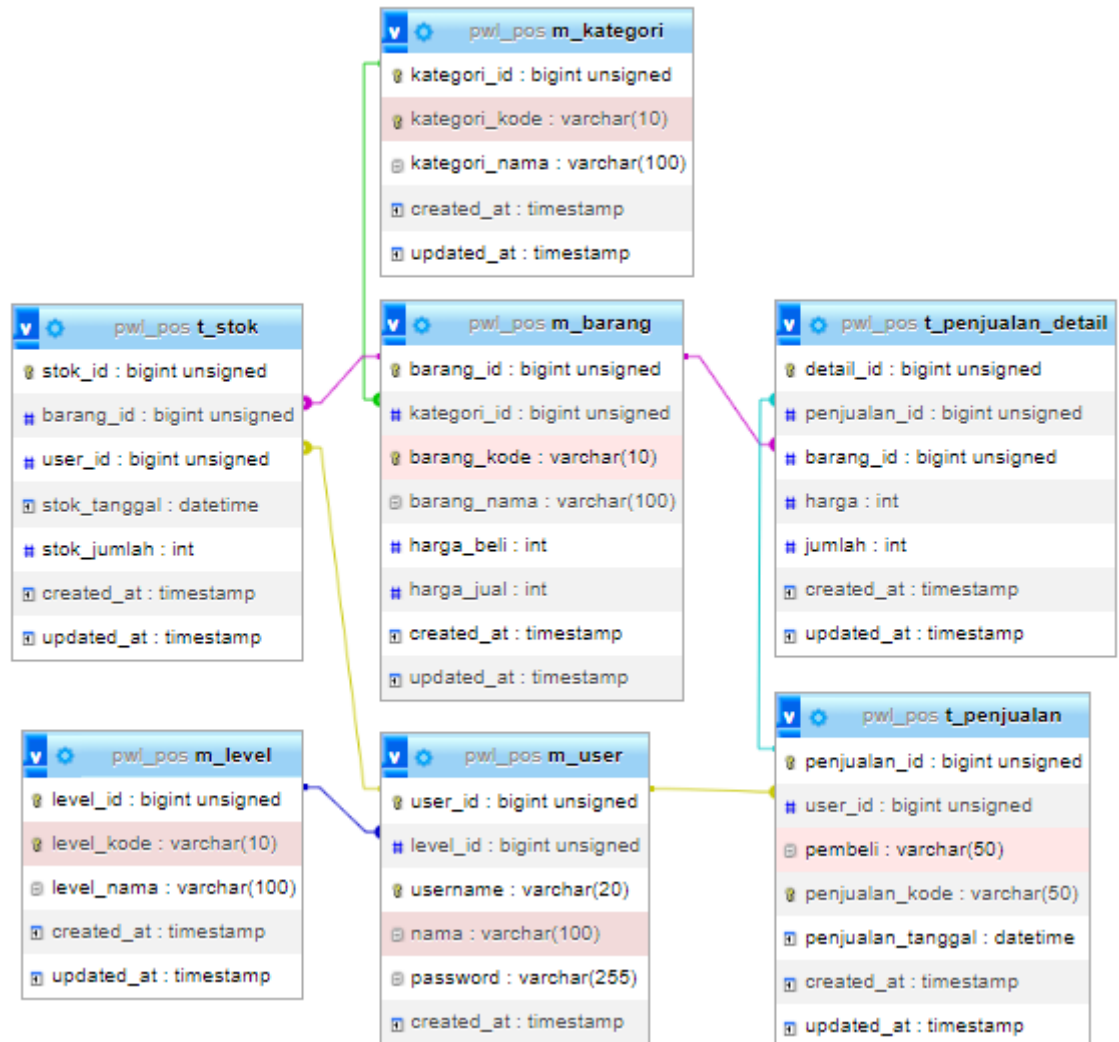
Percobaan 4 : Seeder

1. Perintah umum untuk membuat file seeder seperti berikut

```
C:\laragon\www\pwl_pos>php artisan make:seeder <nama-class-seeder>
```

2. Dan perintah untuk menjalankan file seeder seperti berikut

```
C:\laragon\www\pwl_pos>php artisan db:seed --class=<nama-class-seeder>
```

3. Kita akan membuat file seeder untuk table m_level dengan mengetikkan perintah

```
C:\laragon\www\pwl_pos>php artisan make:seeder LevelSeeder

 INFO  Seeder [C:\laragon\www\pwl_pos\database\seeders\LevelSeeder.php] created successfully.
```
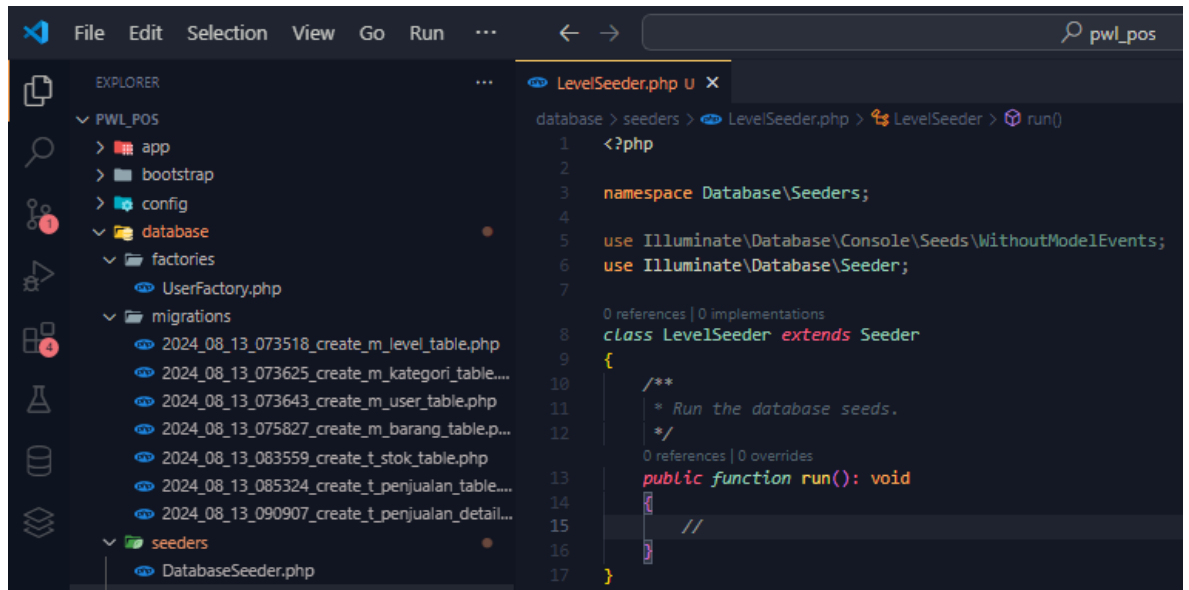
4. Selanjutnya, untuk memasukkan data awal, kita modifikasi file tersebut di dalam function run()

5. Selanjutnya kita jalankan file seeder untuk table m_level pada terminal

```
C:\laragon\www\pwl_pos>php artisan db:seed --class=LevelSeeder

 INFO  Seeding database.
```
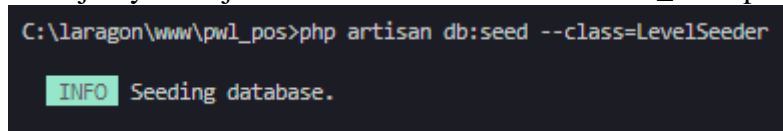
6. Ketika seeder berhasil dijalankan maka akan tampil data pada table m_level
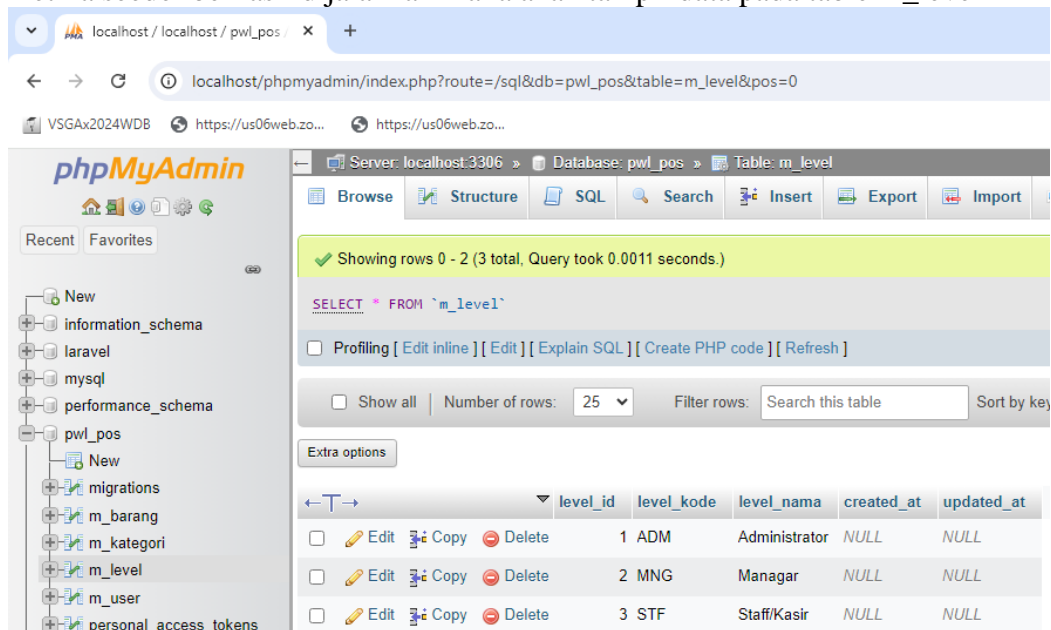
7. Sekarang kita buat file seeder untuk table m_user yang me-refer ke table m_level

```
C:\laragon\www\pwl_pos>php artisan make:seeder UserSeeder

  INFO  Seeder [C:\laragon\www\pwl_pos\database\seeders\UserSeeder.php] created successfully.
```

8. Modifikasi file class UserSeeder seperti berikut

```php
15      public function run(): void
16      {
17          //
18          $data = [
19              [
20                  'user_id' => 1,
21                  'level_id' => 1,
22                  'username' => 'Admin',
23                  'nama' => 'Administrator',
24                  'password' => Hash::make('1234'),
25              ],
26              [
27                  'user_id' => 2,
28                  'level_id' => 2,
29                  'username' => 'anager',
30                  'nama' => 'Manager',
31                  'password' => Hash::make('1234'),
32              ],
33              [
34                  'user_id' => 3,
35                  'level_id' => 3,
36                  'username' => 'staff',
37                  'nama' => 'Staff/Kasir',
38                  'password' => Hash::make('1234'),
39              ],
40          ];
41          DB::table('m_user')->insert($data);
42      }
```

9. Jalankan perintah untuk mengeksekusi class UserSeeder

```
C:\laragon\www\pwl_pos>php artisan db:seed --class=UserSeeder

  INFO  Seeding database.
```

10. Perhatikan hasil seeder pada table m_user

			user_id	level_id	username	nama	password
☐	🖉 Edit 🗐 Copy ⊖ Delete		1	1	Admin	Administrator	$2y$12$aEuL7d5GSNhmclKM6kU/C.q7sGB9nPL/F54wgZjlHlp...
☐	🖉 Edit 🗐 Copy ⊖ Delete		2	2	manager	Manager	$2y$12$I4DLP3YAxJM0.X1J06EvQeFGIPEHAou7MFhLSAuyG1B...
☐	🖉 Edit 🗐 Copy ⊖ Delete		3	3	staff	Staff/Kasir	$2y$12$2TRfv8K29gbjd2m9ZAcjQ.DOSPilwsYE8hJlvkideKL...

11. Masukkan data seeder untuk table yang lain, dengan ketentuan seperti berikut

No	Nama Tabel	Jumlah Data	Keterangan
1	m_kategori	5	5 kategori barang
2	m_barang	10	10 barang berbeda
3	t_stok	10	Stok untuk 10 barang
4	t_penjualan	10	10 transaksi penjualan
5	t_penjualan_detail	30	3 barang untuk setiap transaksi penjualan

```
C:\laragon\www\pwl_pos>php artisan db:seed

 INFO  Seeding database.

Database\Seeders\LevelSeeder ................................................................. RUNNING
Database\Seeders\LevelSeeder ....................................................... 5,868 ms DONE

Database\Seeders\UserSeeder .................................................................. RUNNING
Database\Seeders\UserSeeder ........................................................ 2,861 ms DONE

Database\Seeders\KategoriSeeder .............................................................. RUNNING
Database\Seeders\KategoriSeeder ....................................................... 57 ms DONE

Database\Seeders\BarangSeeder ................................................................ RUNNING
Database\Seeders\BarangSeeder ......................................................... 28 ms DONE

Database\Seeders\StokSeeder .................................................................. RUNNING
Database\Seeders\StokSeeder ........................................................... 33 ms DONE

Database\Seeders\PenjualanSeeder ............................................................. RUNNING
Database\Seeders\PenjualanSeeder ...................................................... 29 ms DONE

Database\Seeders\PenjualanDetailSeeder ....................................................... RUNNING
Database\Seeders\PenjualanDetailSeeder ................................................ 47 ms DONE
```

				kategori_id	kategori_kode	kategori_nama
☐	✏ Edit	Copy	⊝ Delete	1	KAT001	Elektronik
☐	✏ Edit	Copy	⊝ Delete	2	KAT002	Pakaian
☐	✏ Edit	Copy	⊝ Delete	3	KAT003	Makanan
☐	✏ Edit	Copy	⊝ Delete	4	KAT004	Kesehatan
☐	✏ Edit	Copy	⊝ Delete	5	KAT005	Kecantikan

				barang_id	kategori_id	barang_kode	barang_nama	harga_beli	harga_jual
☐	✏ Edit	Copy	⊝ Delete	1	1	BRG001	Laptop	5000000	6000000
☐	✏ Edit	Copy	⊝ Delete	2	1	BRG002	Smartphone	3000000	3500000
☐	✏ Edit	Copy	⊝ Delete	3	2	BRG003	Jacket	150000	200000
☐	✏ Edit	Copy	⊝ Delete	4	2	BRG004	Shirt	80000	120000
☐	✏ Edit	Copy	⊝ Delete	5	3	BRG005	Chocolate	20000	30000
☐	✏ Edit	Copy	⊝ Delete	6	3	BRG006	Coffee	25000	35000
☐	✏ Edit	Copy	⊝ Delete	7	4	BRG007	Vitamins	50000	75000
☐	✏ Edit	Copy	⊝ Delete	8	4	BRG008	First Aid Kit	80000	100000
☐	✏ Edit	Copy	⊝ Delete	9	5	BRG009	Lipstick	100000	150000
☐	✏ Edit	Copy	⊝ Delete	10	5	BRG010	Foundation	120000	170000

			stok_id	barang_id	user_id	stok_tanggal	stok_jumlah
☐	🖉 Edit	⚡ Copy	⊖ Delete	1	1	1	2024-08-01 00:00:00	10
☐	🖉 Edit	⚡ Copy	⊖ Delete	2	2	1	2024-08-01 00:00:00	20
☐	🖉 Edit	⚡ Copy	⊖ Delete	3	3	1	2024-08-01 00:00:00	15
☐	🖉 Edit	⚡ Copy	⊖ Delete	4	4	1	2024-08-01 00:00:00	25
☐	🖉 Edit	⚡ Copy	⊖ Delete	5	5	1	2024-08-01 00:00:00	30
☐	🖉 Edit	⚡ Copy	⊖ Delete	6	6	1	2024-08-01 00:00:00	10
☐	🖉 Edit	⚡ Copy	⊖ Delete	7	7	1	2024-08-01 00:00:00	40
☐	🖉 Edit	⚡ Copy	⊖ Delete	8	8	1	2024-08-01 00:00:00	5
☐	🖉 Edit	⚡ Copy	⊖ Delete	9	9	1	2024-08-01 00:00:00	25
☐	🖉 Edit	⚡ Copy	⊖ Delete	10	10	1	2024-08-01 00:00:00	20

			penjualan_id	user_id	pembeli	penjualan_kode	penjualan_tanggal
☐	🖉 Edit	⚡ Copy	⊖ Delete	1	1	John Doe	PJ001	2024-08-01 00:00:00
☐	🖉 Edit	⚡ Copy	⊖ Delete	2	1	Jane Doe	PJ002	2024-08-01 00:00:00
☐	🖉 Edit	⚡ Copy	⊖ Delete	3	2	Alice Smith	PJ003	2024-08-01 00:00:00
☐	🖉 Edit	⚡ Copy	⊖ Delete	4	2	Bob Brown	PJ004	2024-08-02 00:00:00
☐	🖉 Edit	⚡ Copy	⊖ Delete	5	3	Charlie White	PJ005	2024-08-02 00:00:00
☐	🖉 Edit	⚡ Copy	⊖ Delete	6	3	Daisy Black	PJ006	2024-08-03 00:00:00
☐	🖉 Edit	⚡ Copy	⊖ Delete	7	1	Eva Green	PJ007	2024-08-03 00:00:00
☐	🖉 Edit	⚡ Copy	⊖ Delete	8	1	Frank Blue	PJ008	2024-08-03 00:00:00
☐	🖉 Edit	⚡ Copy	⊖ Delete	9	2	Grace Red	PJ009	2024-08-04 00:00:00
☐	🖉 Edit	⚡ Copy	⊖ Delete	10	2	Hannah Yellow	PJ010	2024-08-05 00:00:00

			detail_id	penjualan_id	barang_id	harga	jumlah
☐	🖉 Edit	⧉ Copy ⊖ Delete	1	1	1	39220	4
☐	🖉 Edit	⧉ Copy ⊖ Delete	2	1	2	44599	3
☐	🖉 Edit	⧉ Copy ⊖ Delete	3	1	3	41315	1
☐	🖉 Edit	⧉ Copy ⊖ Delete	4	2	1	36923	5
☐	🖉 Edit	⧉ Copy ⊖ Delete	5	2	2	26757	4
☐	🖉 Edit	⧉ Copy ⊖ Delete	6	2	3	20284	2
☐	🖉 Edit	⧉ Copy ⊖ Delete	7	3	1	39034	3
☐	🖉 Edit	⧉ Copy ⊖ Delete	8	3	2	48168	2
☐	🖉 Edit	⧉ Copy ⊖ Delete	9	3	3	32902	3
☐	🖉 Edit	⧉ Copy ⊖ Delete	10	4	1	33247	4
☐	🖉 Edit	⧉ Copy ⊖ Delete	11	4	2	28467	5
☐	🖉 Edit	⧉ Copy ⊖ Delete	12	4	3	48643	3
☐	🖉 Edit	⧉ Copy ⊖ Delete	13	5	1	14970	1
■ Console	it	⧉ Copy ⊖ Delete	14	5	2	17069	3

			detail_id	penjualan_id	barang_id	harga	jumlah