# 02. MIGRATION - MODEL

1. Buka project "penilaian-siswa"
2. Buka file .env -> setting nama database menjadi "db_penilaian-siswa"

```
11    DB_CONNECTION=mysql
12    DB_HOST=127.0.0.1
13    DB_PORT=3306
14    DB_DATABASE=db_penilaian-siswa
15    DB_USERNAME=root
16    DB_PASSWORD=
```

3. Buka terminal -> ketik syntax dibawah ini
   "php artisan make:model Administrator -m"
   "php artisan make:model Guru -m"
   "php artisan make:model Siswa -m"
   "php artisan make:model Jurusan -m"
   "php artisan make:model Mapel -m"
   "php artisan make:model Kelas -m"
   "php artisan make:model Mengajar -m"
   "php artisan make:model Nilai -m"

4. Setting field table pada file migration
   a. File migration administrators

```
14        public function up()
15        {
16            Schema::create('administrators', function (Blueprint $table) {
17                $table->id();
18                $table->integer('id_admin');
19                $table->string('password');
20                $table->timestamps();
21            });
22        }
```

   b. File migration gurus

```
14        public function up()
15        {
16            Schema::create('gurus', function (Blueprint $table) {
17                $table->id();
18                $table->string('nip')->unique();
19                $table->string('nama_guru');
20                $table->enum('jk', ['L', 'P']);
21                $table->text('alamat');
22                $table->string('password');
23                $table->timestamps();
24            });
25        }
```

c. File migration siswas

```
14      public function up()
15      {
16          Schema::create('siswas', function (Blueprint $table) {
17              $table->id();
18              $table->string('nis')->unique();
19              $table->string('nama_siswa');
20              $table->enum('jk', ['L', 'P']);
21              $table->text('alamat');
22              $table->integer('kelas_id');
23              $table->string('password');
24              $table->timestamps();
25          });
26      }
```

d. File migration mapels

```
14      public function up()
15      {
16          Schema::create('mapels', function (Blueprint $table) {
17              $table->id();
18              $table->string('nama_mapel');
19              $table->timestamps();
20          });
21      }
```

e. File migration kelas

```
14      public function up()
15      {
16          Schema::create('kelas', function (Blueprint $table) {
17              $table->id();
18              $table->enum('kelas', ['10', '11', '12', '13']);
19              $table->enum('jurusan', ['DKV', 'BKP', 'DPIB', 'RPL', 'SIJA', 'TKJ', 'TP', 'TOI', 'TKR', 'TFLM']);
20              $table->enum('rombel', ['1', '2', '3', '4']);
21              $table->timestamps();
22          });
23      }
```

f. File migration mengajars

```
14      public function up()
15      {
16          Schema::create('mengajars', function (Blueprint $table) {
17              $table->id();
18              $table->integer('guru_id');
19              $table->integer('mapel_id');
20              $table->integer('kelas_id');
21              $table->timestamps();
22          });
23      }
```

g. File migration nilais

```
14      public function up()
15      {
16          Schema::create('nilais', function (Blueprint $table) {
17              $table->id();
18              $table->integer('mengajar_id');
19              $table->integer('siswa_id');
20              $table->double('uh');
21              $table->double('uts');
22              $table->double('uas');
23              $table->double('na');
24              $table->timestamps();
25          });
26      }
```

5. Setelah setting field pada file migration

   Buka Terminal -> Ketik "php artisan migrate"

6. Setting relasi table pada file model

   a. File model Administrator

```
1   <?php
2
3   namespace App\Models;
4
5   use Illuminate\Database\Eloquent\Factories\HasFactory;
6   use Illuminate\Database\Eloquent\Model;
7
8   class Administrator extends Model
9   {
10      use HasFactory;
11
12      protected $table = 'administrators';
13      protected $guarded = ['id'];
14  }
```

   b. File Model Guru

```
1   <?php
2
3   namespace App\Models;
4
5   use Illuminate\Database\Eloquent\Factories\HasFactory;
6   use Illuminate\Database\Eloquent\Model;
7
8   class Guru extends Model
9   {
10      use HasFactory;
11
12      protected $table = 'gurus';
13      protected $guarded = ['id'];
14  }
```

**Commented [H2]:** Jika kalian sudah migrate dan ternyata ada kesalahan pada table kalian. Silahkan edit terlebih dahulu file migrationsnya setelah itu gunakan perintah :
1. "php artisan migrate:rollback" artinya kalian mengUNDO migrasi yang telah dilakukan lalu kalian ketikkan kembali "php artisan migrate" ATAU
2. "php artisan migrate:fresh" artinya kalian menghapus migrasi yang telah dibuat sekaligus membuat kembali migrasi

**Commented [c13]:** Protected $table = 'nameTable'
Protected $guarded = ['nameField']
$guarded : attribute yang bisa diset

c. File Model Siswa

```php
1    <?php
2
3    namespace App\Models;
4
5    use Illuminate\Database\Eloquent\Factories\HasFactory;
6    use Illuminate\Database\Eloquent\Model;
7
8    class Siswa extends Model
9    {
10       use HasFactory;
11
12       protected $table = 'siswas';
13       protected $guarded = ['id'];
14       protected $primaryKey = 'id';
15       public function kelas()
16       {
17           return $this->belongsTo(Kelas::class, 'kelas_id', 'id');
18       }
19   }
```

d. File Model Mapel

app › Models › Mapel.php › ...

```php
1    <?php
2
3    namespace App\Models;
4
5    use Illuminate\Database\Eloquent\Factories\HasFactory;
6    use Illuminate\Database\Eloquent\Model;
7
8    class Mapel extends Model
9    {
10       use HasFactory;
11
12       protected $table = 'mapels';
13       protected $guarded = ['id'];
14   }
```

e. File Model Kelas

```php
1    <?php
2
3    namespace App\Models;
4
5    use Illuminate\Database\Eloquent\Factories\HasFactory;
6    use Illuminate\Database\Eloquent\Model;
7
8    class Kelas extends Model
9    {
10       use HasFactory;
11
12       protected $table = 'kelas';
13       protected $guarded = ['id'];
14   }
```

f. File Model Mengajar

```php
1   <?php
2
3   namespace App\Models;
4
5   use Illuminate\Database\Eloquent\Factories\HasFactory;
6   use Illuminate\Database\Eloquent\Model;
7
8   class Mengajar extends Model
9   {
10      use HasFactory;
11
12      protected $table = 'mengajars';
13      protected $guarded = ['id'];
14      protected $primaryKey = 'id';
15      public function guru()
16      {
17          return $this->belongsTo(Guru::class, 'guru_id', 'id');
18      }
19      public function mapel()
20      {
21          return $this->belongsTo(Mapel::class, 'mapel_id', 'id');
22      }
23      public function kelas()
24      {
25          return $this->belongsTo(Kelas::class, 'kelas_id', 'id');
26      }
27  }
```

g. File Model Nilai

```php
1   <?php
2
3   namespace App\Models;
4
5   use Illuminate\Database\Eloquent\Factories\HasFactory;
6   use Illuminate\Database\Eloquent\Model;
7
8   class Nilai extends Model
9   {
10      use HasFactory;
11
12      protected $table = 'nilais';
13      protected $guarded = ['id'];
14
15      public function mengajar()
16      {
17          return $this->belongsTo(Mengajar::class, 'mengajar_id', 'id');
18      }
19      public function siswa()
20      {
21          return $this->belongsTo(Siswa::class, 'siswa_id', 'id');
22      }
23  }
```