

Modul 2

Database – Konfigurasi – Model buku

Buat Database

- Buat database: perpustakaan
- Buat table: mst_buku
- Struktur table mst_buku

Field	Tipe Data	Size
ID_Buku	Integer	8, auto increment
Judul	Varchar	100
Pengarang	Varchar	150
Kategori	Varchar	30

Isi dengan data berikut

Judul	Pengarang	Kategori
Donal Bebek	Disney	komik
UML	Rosa	teori
Pemrograman Web	April	pemrograman

Konfigurasi Database (.env)

- buka file **.env** di folder C:\framework\perpus\.env
- Tentukan hostname, username, password, dan nama database.
Contoh:

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

Konfigurasi Database (config/database.php)

- Masuk ke direktori config/, lalu buka file **database.php**. Tentukan hostname, username, password, dan nama database. Contoh:

```
46      'mysql' => [  
47          'driver' => 'mysql',  
48          'url' => env('DATABASE_URL'),  
49          'host' => env('DB_HOST', '127.0.0.1'),  
50          'port' => env('DB_PORT', '3306'),  
51          'database' => env('DB_DATABASE', 'perpus'),  
52          'username' => env('DB_USERNAME', 'root'),  
53          'password' => env('DB_PASSWORD', ''),  
54          'unix_socket' => env('DB_SOCKET', ''),  
55          'charset' => 'utf8mb4',  
56          'collation' => 'utf8mb4_unicode_ci',  
57          'prefix' => '',  
58          'prefix_indexes' => true,  
59          'strict' => true,  
60          'engine' => null,  
61          'options' => extension_loaded('pdo_mysql') ? array_filter([  
62              PDO::MYSQL_ATTR_SSL_CA => env('MYSQL_ATTR_SSL_CA'),  
63          ]) : [],  
64      ],
```

Buat Eloquent Model Buku (1)

- Buat file model **Buku_m.php** menggunakan artisan:

```
PS C:\framework\perpus> C:\xampp\php\php artisan make:model Buku_m
Model created successfully.
PS C:\framework\perpus> 
```

- Hasil generate menggunakan artisan:
 - C:\framework\perpus\app\Models\Buku_m.php

```
app > Models > Buku_m.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 Buku_m extends Model
9  {
10     use HasFactory;
11 }
12
```

Edit Eloquent Model “Buku_m”

- Edit isi file model “Buku_m.php” sbb:

```
app > Models >  Buku_m.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 Buku_m extends Model
9  {
10     use HasFactory;
11
12     protected $table = 'mst_buku';
13     protected $primaryKey = 'ID_Buku';
14     public $timestamps = false;
15 }
--
```

Menguji Eloquent Model “Buku_m” menggunakan tinker

- Jalankan tinker menggunakan artisan

```
PS C:\framework\perpus> C:\xampp\php\php artisan tinker
Psy Shell v0.11.8 (PHP 7.4.29 - cli) by Justin Hileman
>>> █
```

- Beberapa fungsi Eloquent model laravel yang dapat kita coba sbb:
 - all()
 - first()
 - find()
 - where() → get()

Menguji Eloquent Model “Buku_m” menggunakan tinkler

- Fungsi all() untuk mendapatkan semua record

```
>>> App\Models\Buku_m::all()
```

- Hasil

```
>>> App\Models\Buku_m::all()
=> Illuminate\Database\Eloquent\Collection {#3632
  all: [
    App\Models\Buku_m {#3633
      ID_Buku: 1,
      Judul: "Senja Kelabu",
      Pengarang: "Mutia",
      Kategori: "komik",
    },
    App\Models\Buku_m {#3634
      ID_Buku: 2,
      Judul: "Donald Bebek",
      Pengarang: "disney",
      Kategori: "komik",
    },
  ],
}
```

```
App\Models\Buku_m {#3615
  ID_Buku: 2,
  Judul: "Donald Bebek",
  Pengarang: "disney",
  Kategori: "komik",
},
App\Models\Buku_m {#3616
  ID_Buku: 5,
  Judul: "UML",
  Pengarang: "rosa",
  Kategori: "pemrograman",
},
App\Models\Buku_m {#3617
  ID_Buku: 6,
  Judul: "Pemrograman Web",
}
```

Dst....

Menguji Eloquent Model “Buku_m” menggunakan tinker

- Fungsi first() untuk mendapatkan record pertama

```
>>> App\Models\Buku_m::first()
```

- Hasil

```
>>> App\Models\Buku_m::first()
=> App\Models\Buku_m {#3604
    ID_Buku: 1,
    Judul: "Senja Kelabu",
    Pengarang: "Mutia",
    Kategori: "komik",
}
```

Menguji Eloquent Model “Buku_m” menggunakan tinker

- Fungsi find() untuk mendapatkan record sesuai ID_Buku

```
>>> App\Models\Buku_m::find(6)
```

ID_Buku



- Hasil

```
>>> App\Models\Buku_m::find(6)
=> App\Models\Buku_m {#3647
  ID_Buku: 6,
  Judul: "Pemrograman Web",
  Pengarang: "April",
  Kategori: "novel",
}
```

Menguji Eloquent Model “Buku_m” menggunakan tinker

- Fungsi where()->get() untuk mendapatkan record sesuai kriteria

```
>>> App\Models\Buku_m::where('Kategori','Novel')->get()
```

- Hasil

```
>>> App\Models\Buku_m::where('Kategori','Novel')->get()
=> Illuminate\Database\Eloquent\Collection {#3593
  all: [
    App\Models\Buku_m {#3598
      ID_Buku: 6,
      Judul: "Pemrograman Web",
      Pengarang: "April",
      Kategori: "novel",
    },
    App\Models\Buku_m {#3603
      ID_Buku: 7,
      Judul: "Pemrograman Web",
      Pengarang: "April",
      Kategori: "novel",
    },
    App\Models\Buku_m {#3647
      ID_Buku: 11,
      Judul: "Mereka",
      Pengarang: "aku",
      Kategori: "novel",
    },
  ],
}
```

Uji Insert data Eloquent Model "Buku_m"

- Ikuti perintah berikut:

```
PS C:\framework\perpus> c:\xampp\php\php artisan tinker
Psy Shell v0.11.8 (PHP 7.4.29 - cli) by Justin Hileman
>>> $buku = new App\Models\Buku_m
=> App\Models\Buku_m {#3587}

>>> $buku->Judul = "Buku 1"
=> "Buku 1"

>>> $buku->Pengarang = "Pengarang 1"
=> "Pengarang 1"

>>> $buku->Kategori = "Pemrograman"
=> "Pemrograman"

>>> $buku->save()
=> true

>>> █
```

- Hasil

<input type="checkbox"/>	 Edit	 Copy	 Delete	31 judul 1	pengarang 1	pemrograman
<input type="checkbox"/>	 Edit	 Copy	 Delete	32 judul 2	pengarang 3	komik
<input type="checkbox"/>	 Edit	 Copy	 Delete	33 Buku 1	Pengarang 1	Pemrograman



Uji Update data Eloquent Model "Buku_m"

- Ikuti perintah berikut:

```
PS C:\framework\perpus> c:\xampp\php\php artisan tinker
Psy Shell v0.11.8 (PHP 7.4.29 - cli) by Justin Hileman
>>> $buku = App\Models\Buku_m::find(33)
=> App\Models\Buku_m {#3597
    ID_Buku: 33,
    Judul: "Buku 1",
    Pengarang: "Pengarang 1",
    Kategori: "Pemrograman",
}
```

ID_Buku

```
>>> $buku->Judul = "Buku 11111"
=> "Buku 11111"

>>> $buku->save()
=> true

>>> █
```


- Hasil

<input type="checkbox"/>	 Edit	 Copy	 Delete	31 judul 1	pengarang 1	pemrograman
<input type="checkbox"/>	 Edit	 Copy	 Delete	32 judul 2	pengarang 3	komik
<input type="checkbox"/>	 Edit	 Copy	 Delete	33 Buku 11111	Pengarang 1	Pemrograman

Uji Delete data Eloquent Model "Buku_m"

- Ikuti perintah berikut:

```
PS C:\framework\perpus> c:\xampp\php\php artisan tinker
Psy Shell v0.11.8 (PHP 7.4.29 - cli) by Justin Hileman
>>> $buku = App\Models\Buku_m::find(33)
=> App\Models\Buku_m {#3597
    ID_Buku: 33,
    Judul: "Buku 11111",
    Pengarang: "Pengarang 1",
    Kategori: "Pemrograman",
}
```



```
>>> $buku->delete()
=> true
```

- Hasil


<input type="checkbox"/>	 Edit	 Copy	 Delete	31 judul 1	pengarang 1	pemrograman
<input type="checkbox"/>	 Edit	 Copy	 Delete	32 judul 2	pengarang 3	komik

Edit file model “Buku_m.php”

- Tambahkan method berikut:
 - get_records() → untuk mengambil data
 - insert_record() → untuk menambah data
 - update_by_id() → untuk mengupdate data
 - delete_by_id() → untuk menghapus data
- Sisipkan method diatas diantara { .. } dalam class

“Buku_m

```
8  class Buku_m extends Model
9  {
    .
    .
    .
15 }
```



get_records()

```
16 function get_records($criteria='')
17 {
18     $result = self::select('*')
19         ->when($criteria, function ($query, $criteria) {
20             return $query->where('ID_Buku',$criteria);
21         })
22         ->get();
23     return $result;
24 }
```

insert_record(), update_by_id(), delete_by_id()

```
35 function insert_record($data)
36 {
37     $result = self::insert($data);
38     return $result;
39 }
40
41 function update_by_id($data, $id)
42 {
43     $result = self::where('ID_Buku', $id)
44     |>update($data);
45     return $result;
46 }
47
48 function delete_by_id($id)
49 {
50     $result = self::where('ID_Buku', $id)
51     |>delete();
52     return $result;
53 }
```

Uji insert_record()





```
PS C:\framework\perpus> c:\xampp\php\php artisan tinker
Psy Shell v0.11.8 (PHP 7.4.29 - cli) by Justin Hileman
>>> $buku = new App\Models\Buku_m
=> App\Models\Buku_m {#3587}

>>> $data = [
...     'Judul' => 'Doraemon',
...     'Pengarang' => 'Dino',
...     'Kategori' => 'Komik'
... ]
=> [
    "Judul" => "Doraemon",
    "Pengarang" => "Dino",
    "Kategori" => "Komik",
]

>>> $buku->insert_record($data)
=> true
```

Perintah untuk
membuat object
\$buku

Hasil:

<input type="checkbox"/>	 Edit	 Copy	 Delete	31 judul 1	pengarang 1	pemrograman
<input type="checkbox"/>	 Edit	 Copy	 Delete	35 Doraemon	Dino	Komik

Uji get_records()

- Buat object \$buku terlebih dahulu

```
$buku = new App\Models\Buku_m
```

```
>>> $buku->get_records()
=> Illuminate\Database\Eloquent\Collection {#3614
  all: [
    App\Models\Buku_m {#3615
      ID_Buku: 1,
      Judul: "Senja Kelabu",
      Pengarang: "Mutia",
      Kategori: "komik",
    },
    App\Models\Buku_m {#3616
      ID_Buku: 2,
      Judul: "Donald Bebek",
      Pengarang: "disney",
      Kategori: "komik",
    },
  ],
}
```

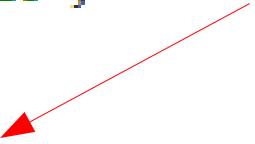
Uji update_by_id()

- Buat object \$buku terlebih dahulu







```
$buku = new App\Models\Buku_m
```


```
>>> $data = [  
... 'Judul' => 'Petualangan Doraemon',  
... 'Pengarang' => 'Fujiko Fujio'  
... ]  
=> [  
    "Judul" => "Petualangan Doraemon",  
    "Pengarang" => "Fujiko Fujio",  
]  
  
>>> $buku->update_by_id($data,35)  
=> 1
```

ID_Buku



Hasil:

<input type="checkbox"/>	 Edit	 Copy	 Delete	31 judul 1	pengarang 1	pemrograman
<input type="checkbox"/>	 Edit	 Copy	 Delete	35 Petualangan Doraemon	Fujiko Fujio	Komik



Uji delete_by_id()

- Buat object \$buku terlebih dahulu

```
$buku = new App\Models\Buku_m
```







```
>>> $buku->delete_by_id(35)
```

```
=> 1
```

```
>>> █
```

ID_Buku

Hasil:

<input type="checkbox"/>	 Edit	 Copy	 Delete	30	aku dan kamu	chairil anwar	novel
<input type="checkbox"/>	 Edit	 Copy	 Delete	31	judul 1	pengarang 1	pemrograman