

# Laravel - Database

Topics : [Laravel](#)

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In Laravel, working with databases is made easy through the Eloquent ORM (Object-Relational Mapping) and the underlying Query Builder. Laravel supports multiple database systems, including MySQL, PostgreSQL, SQLite, and SQL Server. Here's a brief overview of working with databases in Laravel:

## 1. Configuration:

Database configuration is defined in the `config/database.php` file. You can set the connection details for different environments (development, testing, production) in the `.env` file.

## 2. Eloquent ORM:

Eloquent is Laravel's implementation of the active record pattern, allowing you to interact with your database using PHP objects. Each table in your database has a corresponding "model" in Laravel.

### Creating a Model:

You can create a model using the Artisan command:

```
php artisan make:model ModelName
```

### Example Model:

```
namespace App;

use Illuminate\Database\Eloquent\Model;

class User extends Model
{
    // Model-specific code
}
```

### Example Usage:

```
// Retrieving all users
$users = User::all();
```

```
// Finding a user by primary key
$user = User::find(1);

// Querying with conditions
$users = User::where('name', 'John')->get();

// Creating a new user
$newUser = new User;
$newUser->name = 'Jane';
$newUser->email = 'jane@example.com';
$newUser->save();
```

### 3. Query Builder:

Laravel also provides a query builder for direct database queries:

```
// Select query
$users = DB::table('users')->get();

// Insert query
DB::table('users')->insert([
    'name' => 'John Doe',
    'email' => 'john@example.com',
]);

// Update query
DB::table('users')->where('id', 1)->update(['name' => 'New Name']);

// Delete query
DB::table('users')->where('id', 1)->delete();
```

### 4. Migrations:

Migrations allow you to version-control your database schema. You can create and run migrations to modify database tables.

```
php artisan make:migration create_users_table
```

Example migration file:

```
public function up()
{
    Schema::create('users', function (Blueprint $table) {
        $table->id();
        $table->string('name');
        $table->string('email')->unique();
        $table->timestamps();
    });
}
```

Run the migration:

```
php artisan migrate
```

## 5. Seeding:

Database seeding is the process of populating your database with sample data. Laravel provides a simple way to seed your database using seed classes:

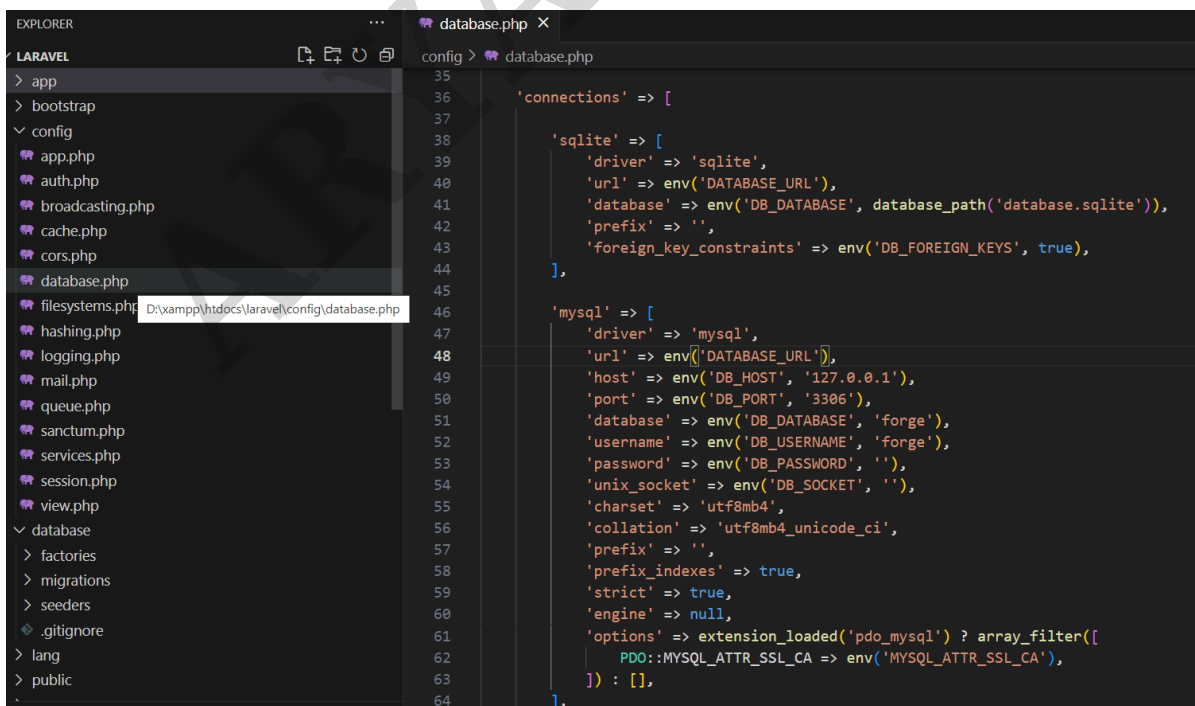
```
php artisan make:seeder UsersTableSeeder
```

Example seeder:

```
public function run()
{
    DB::table('users')->insert([
        'name' => 'John Doe',
        'email' => 'john@example.com',
    ]);
}
```

Run the seeder:

```
php artisan db:seed --class=UsersTableSeeder
```



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