

Meet Query Builder

- Allows to interact with your database
- Provides a wide range of methods
- Highly flexible easy to use
- Used to perform complex queries
- Well-documented

Retrieving All Rows

- Import the DB facade.
- Use the `table()` method
- Use the `get()` method to execute

```
use Illuminate\Support\Facades\DB;
class DemoController extends Controller
{
    function DemoAction(){
        $products = DB::table('products')->get();
        return $products;
    }
}
```

Retrieving Single Row



```
function DemoAction(){  
    $products = DB::table('products')->first();  
    return $products;  
}
```



```
function DemoAction(){  
    $products = DB::table('products')->find(1);  
    return $products;  
}
```

Retrieving List Of Column Values



```
function DemoAction(){  
    $products = DB::table('products')->pluck('price');  
    return $products;  
}
```



```
function DemoAction(){  
    $products = DB::table('products')->pluck('title', 'id');  
    return $products;  
}
```

Aggregates

- The query builder provides a variety of methods for retrieving aggregate values like `count`, `max`, `min`, `avg`, and `sum`.
- Call any of these methods after constructing query

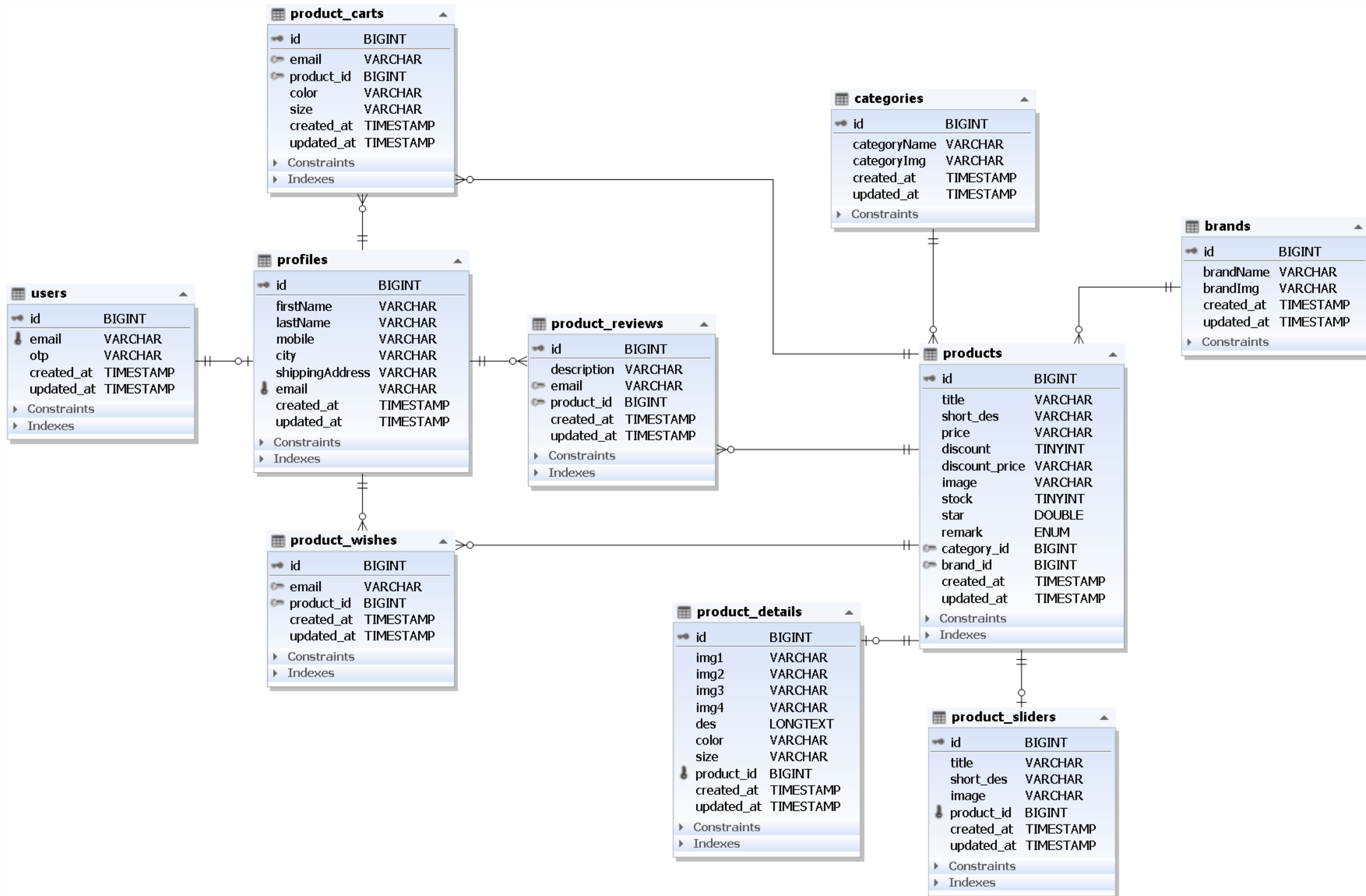
```
function DemoAction(){  
  
    $count = DB::table('products')->count();  
  
    $max= DB::table('products')->max('price');  
    $avg= DB::table('products')->avg('price');  
    $min= DB::table('products')->min('price');  
    $sum= DB::table('products')->sum('price');  
  
    return ['count'=>$count, 'max'=>$max, 'avg'=>$avg, 'min'=>$min, 'sum'=>$sum];  
}
```

Select Clause

- The `select()` method allows you to specify the columns
- To return distinct results use the `distinct()` method

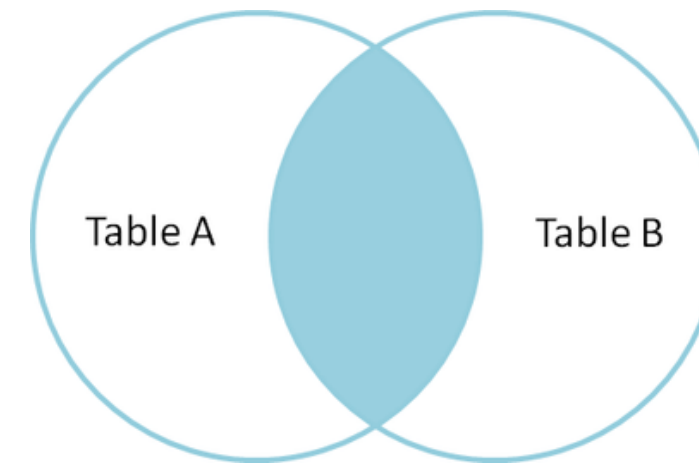
```
function DemoAction(){  
    $products = DB::table('products')->select('title', 'price')->get();  
    return $products;  
}
```

```
function DemoAction(){  
    $products= DB::table('products')->select('title')->distinct()->get();  
    return $products;  
}
```

Inner Join

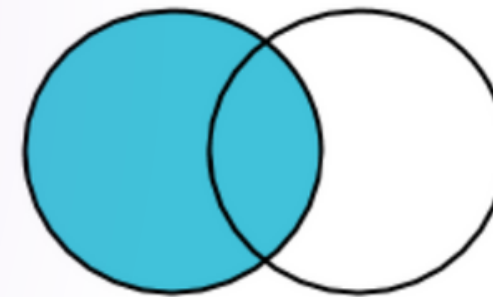
- The name of the table to join
- The column on the current table to join on
- The column on the joined table to join on



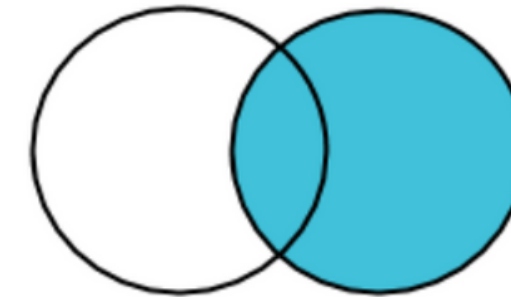
```
function DemoAction(){
    $products= DB::table('products')
        ->join('categories', 'products.category_id', '=', 'categories.id')
        ->join('brands', 'products.brand_id', '=', 'brands.id')
        ->get();
    return $products;
}
```


Left Join Right Join

- The name of the table to join
- The column on the current table to join on
- The column on the joined table to join on



Left Join



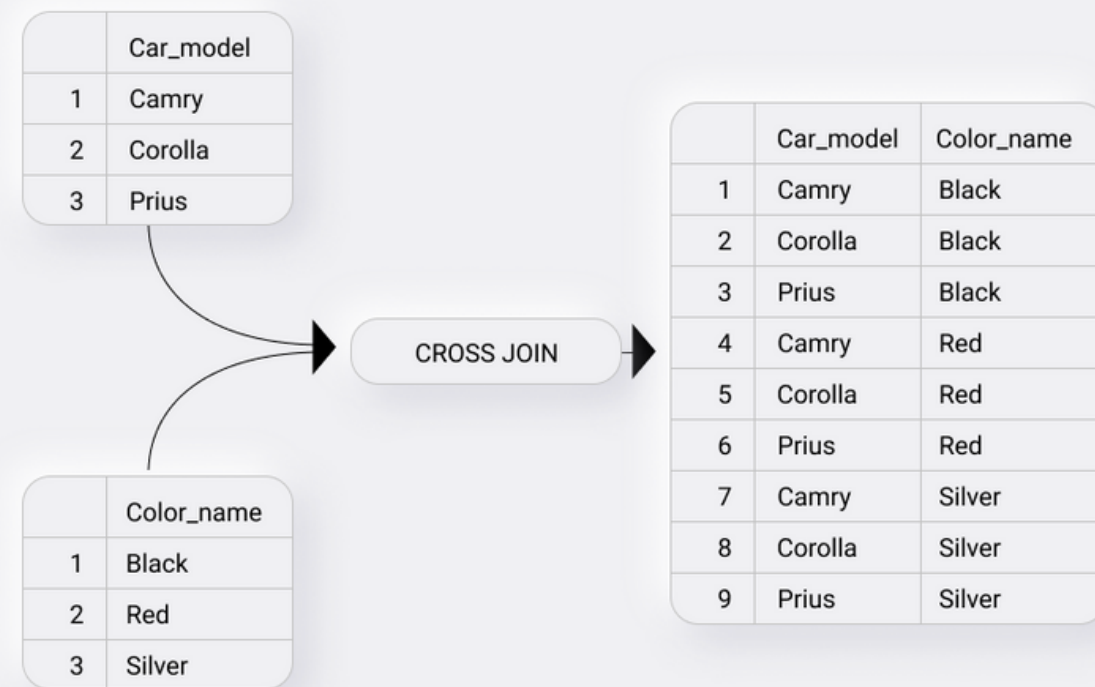
Right Join



```
function DemoAction(){  
    $products= DB::table('products')  
        ->leftJoin('categories', 'products.category_id', '=', 'categories.id')  
        ->leftJoin('brands', 'products.brand_id', '=', 'brands.id')  
        ->get();  
    return $products;  
}
```

Cross Join

The `crossJoin()` method returns all possible combinations of rows from the two tables.



```
function DemoAction(){  
    $affected = DB::table('products')  
        ->crossJoin('brands')  
        ->get();  
    return $affected;  
}
```

Advanced Join Clauses



```
function DemoAction(){
    $products=DB::table('products')
        ->join('categories',function (JoinClause $join){
            $join->on('products.category_id', '=', 'categories.id')
            ->where('products.price', '>', 2000);
        })
        ->join('brands',function (JoinClause $join){
            $join->on('products.brand_id', '=', 'brands.id')
            ->where('brands.brandName', '=', 'Hatil');
        })
        ->get();
    return $products;
}
```

Unions

- The `union` method takes two arguments: the first argument is the `first query`, and the second argument is the `second query`.
- The two queries must select the `same columns` in the same order.



```
function DemoAction(){  
    $query = DB::table('products')->where('price','>',2000);  
    $otherQuery = DB::table('products')->where('category_id','=',3)->union($query)->get();  
    return $otherQuery ;  
}
```

Basic Where Clauses

The `where()` method allows you to filter the results.

- `=` (equal to)
- `!=` (not equal to)
- `<` (less than)
- `<=` (less than or equal to)
- `>` (greater than)
- `>=` (greater than or equal to)
- `LIKE` (contains)
- `NOT LIKE` (does not contain)
- `IN` (is in the list)
- `NOT IN` (is not in the list)

```
function DemoAction(){  
    $products = DB::table('products')->where('price','>',2000)->get();  
    return $products;  
}
```

```
function DemoAction(){  
    $products = DB::table('products')->where('title','LIKE','%CA%')->get();  
    return $products;  
}
```


Advance Where Clauses

- The `orWhere` method to join a clause to the query using the or operator.
- The `whereNot` and `orWhereNot` methods may be used to negate a given group of query constraints.
- The `whereBetween` method verifies that a column's value is between two values .
- The `whereNotBetween` method verifies that a column's value lies outside of two values.
- The `whereBetweenColumns` method verifies that a column's value is between the two values of two columns in the same table row.
- The `whereNotBetweenColumns` method verifies that a column's value lies outside the two values of two columns in the same table row.
- The `whereIn` method verifies that a given column's value is contained within the given array.
- The `whereNotIn` method verifies that the given column's value is not contained in the given array.
- The `whereNull` method verifies that the value of the given column is NULL.
- The `whereNotNull` method verifies that the column's value is not NULL.
- The `whereDate` method may be used to compare a column's value against a date.
- The `whereMonth` method may be used to compare a column's value against a specific month.
- The `whereDay` method may be used to compare a column's value against a specific day of the month.
- The `whereYear` method may be used to compare a column's value against a specific year.
- The `whereTime` method may be used to compare a column's value against a specific time.
- The `whereColumn` method may be used to verify that two columns are equal.

Advance Where Clauses



```
function DemoAction(){
    $affected = DB::table('products')
        ->where('price', '>', 8000)
        ->orWhere('title', 'LIKE', '%car%')
        ->get();
    return $affected;
}
```



```
function DemoAction(){
    $affected = DB::table('products')
        ->where('price', '>', 8000)
        ->whereNot('title', 'LIKE', '%car%')
        ->get();
    return $affected;
}
```

Advance Where Clauses

```
function DemoAction(){
    $affected = DB::table('products')
        ->whereBetween('price', [1, 100])
        ->get();
    return $affected;
}
```

```
function DemoAction(){
    $affected = DB::table('products')
        ->whereNotBetween('price', [1, 100])
        ->get();
    return $affected;
}
```

Advance Where Clauses



```
function DemoAction(){
    $affected = DB::table('products')
        ->whereIn('price', [100, 2000, 3000])
        ->get();
    return $affected;
}
```



```
function DemoAction(){
    $affected = DB::table('products')
        ->whereNotIn('price', [100, 2000, 3000])
        ->get();
    return $affected;
}
```

Advance Where Clauses

```
function DemoAction(){  
    $affected = DB::table('products')  
        ->whereNull('price')  
        ->get();  
    return $affected;  
}
```

```
function DemoAction(){  
    $affected = DB::table('products')  
        ->whereNotNull('price')  
        ->get();  
    return $affected;  
}
```

Advance Where Clauses

```
function DemoAction(){  
    $affected = DB::table('products')  
        ->whereDate('updated_at', '2023-05-16')  
        ->get();  
    return $affected;  
}
```

```
function DemoAction(){  
    $affected = DB::table('products')  
        ->whereMonth('updated_at', '05')  
        ->get();  
    return $affected;  
}
```

Advance Where Clauses

```
function DemoAction(){
    $affected = DB::table('products')
        ->whereDay('updated_at', '05')
        ->get();
    return $affected;
}
```

```
function DemoAction(){
    $affected = DB::table('products')
        ->whereYear('updated_at', '2023')
        ->get();
    return $affected;
}
```


Advance Where Clauses

```
function DemoAction(){  
    $affected = DB::table('products')  
        ->whereTime('updated_at', '01:25:04')  
        ->get();  
    return $affected;  
}
```

```
function DemoAction(){  
    $affected = DB::table('products')  
        ->whereColumn('updated_at', '>', 'created_at')  
        ->get();  
    return $affected;  
}
```

Ordering, Grouping, Limit

- The `orderBy` method allows you to sort the results of the query by a given column
- The `latest` and `oldest` methods allow you to easily order results by date
- The `inRandomOrder` method may be used to sort the query results randomly
- The `groupBy` and `having` methods may be used to group the query results
- The `skip` and `take` methods to `limit` the number of results returned from the query or to skip a given number of results in the query

Ordering



```
function DemoAction(){
    $affected = DB::table('brands')
        ->orderBy('brandName', 'desc')
        ->get();
    return $affected;
}
```



```
function DemoAction(){
    $affected = DB::table('brands')
        ->inRandomOrder()
        ->first();
    return $affected;
}
```

Latest & Oldest

```
function DemoAction(){  
    $affected = DB::table('brands')  
        ->latest()  
        ->first();  
    return $affected;  
}
```

```
function DemoAction(){  
    $affected = DB::table('brands')  
        ->oldest()  
        ->first();  
    return $affected;  
}
```

groupBy and having



```
function DemoAction(){
    $affected = DB::table('products')
        ->groupBy('price')
        ->get();
    return $affected;
}
```



```
function DemoAction(){
    $affected = DB::table('products')
        ->groupBy('price')
        ->having('price', '>', 5000)
        ->get();
    return $affected;
}
```

Skip & Take



```
function DemoAction(){  
    $affected = DB::table('products')  
        ->skip(10)  
        ->take(5)  
        ->get();  
    return $affected;  
}
```


Insert Statements

- `insert` method used to insert records into the database table.
- The `insert` method accepts an array of column names and values.

```
function DemoAction(){  
    $affected = DB::table('brands')  
        ->insert(  
            ['brandName' => 'New brand', 'brandImg' => 'New brand img']  
        );  
    return $affected;  
}
```

Update Statements

- Update existing records using the `update` method

```
function DemoAction(){  
    $affected = DB::table('products')  
        ->where('id', 1)  
        ->update(['price' => 1000]);  
}
```

Update or Insert Statements

- `updateOrCreate` method may be used. to update an existing record in the database or create it if no matching record exists.

```
function DemoAction(){
    $affected = DB::table('brands')
        ->updateOrCreate(
            ['brandName'=>'Hatil'],
            ['brandName' => 'New Hatil', 'brandImg' => 'Hatil']
        );
    return $affected;
}
```

Increment & Decrement

- The query builder also provides convenient methods for [incrementing](#) or [decrementing](#) the value of a given column.

```
function DemoAction(){  
    $result=DB::table('products')  
        ->where('id','=',1)  
        ->increment('price');  
    // ->increment('price',10);  
    // ->decrement('price');  
    // ->decrement('price',10);  
  
    return $result ;  
}
```

Delete Statements

The query builder's `delete` method may be used to delete records from the table to `truncate` an entire table use the `truncate` method

```
function DemoAction(Request $request){  
    $deleted = DB::table('products')  
        ->where('id', '=', $request->id)  
        ->delete();  
    return $deleted ;  
}
```

```
function DemoAction(Request $request){  
    $deleted = DB::table('users')->truncate();  
    return $deleted ;  
}
```

Paginate

Display simple "Next" and "Previous" links in your application's UI, use the `simplePaginate` method to perform a single, efficient query

```
function DemoAction(){  
    $affected = DB::table('products')  
        ->simplePaginate(2);  
    return $affected;  
}
```


Paginate

The `paginate` method counts the total number of records matched by the query before retrieving the records from the database.



```
function DemoAction(){  
    $affected = DB::table('products')  
        ->paginate(2);  
    return $affected;  
}
```



```
function DemoAction(){  
    $affected = DB::table('products')  
        ->paginate(  
            $perPage = 2, $columns = ['*'], $pageName = 'products'  
        );  
    return $affected;  
}
```