

Project creation and database setup:

At first we have to create the project by the following command in the CLI:

```
composer create-project --prefer-dist laravel/laravel income_expense_tracker
```

After creating the project we have to configure the database as we want from the '.env' file of the project. Here, I'm configuring my database:

```
DB_CONNECTION=mysql
```

```
DB_HOST=127.0.0.1
```

```
DB_PORT=3306
```

```
DB_DATABASE=income-expense-tracker
```

```
DB_USERNAME=root
```

```
DB_PASSWORD=
```

Database Migration:

We will create two tables named 'incomes' and 'expenses' by running following command in the terminal:

```
php artisan make:migration create_incomes_table --create=incomes
```

```
php artisan make:migration create_expenses_table --create=expenses
```

Now we have to modify the up method of the '{timestamp}_create_incomes_table.php' and '{timestamp}_create_expenses_table.php' file as following:

For '{timestamp}_create_incomes_table.php' file:

```
public function up()  
  
{  
  
Schema::create('incomes', function (Blueprint $table) {  
  
    $table->id();  
  
    $table->foreignId('user_id')->constrained();  
  
    $table->decimal('amount', 8, 2);  
  
    $table->string('description');
```

```
$table->date('date');  
$table->string('category');  
$table->timestamps();  
});  
}
```

For '{timestamp}_create_expenses_table.php' file:

```
public function up()  
{  
Schema::create('expenses', function (Blueprint $table) {  
    $table->id();  
    $table->foreignId('user_id')->constrained();  
    $table->decimal('amount', 8, 2);  
    $table->string('description');  
    $table->date('date');  
    $table->string('category');  
    $table->timestamps();  
});  
}
```

For the updated migration now we need to run the following command in the terminal:

```
php artisan migrate
```

Models creation:

Now we have to create models named 'Income' and 'Expense' by running following command in the terminal:

```
php artisan make:model Income
```

```
php artisan make:model Expense
```

Now inside the 'User ' model we have to include the following functions:

```
public function incomes()  
  
{  
  
    return $this->hasMany(Income::class);  
  
}  
  
public function expenses()  
  
{  
  
    return $this->hasMany(Expense::class);  
  
}
```

And inside the 'Income ' and 'Expense' model we have to include the following function:

```
public function user()  
  
{  
  
    return $this->belongsTo(User::class);  
  
}
```

User authentication:

For scaffolding a complete authentication system we have to run following Laravel's built-in command in the terminal:

```
composer require laravel/ui
```

```
php artisan ui bootstrap --auth
```

```
npm install && npm run dev
```

Routing:

Now we have to append the following routing in the 'routes/web.php' file:

```
Route::middleware('auth')->group(function () {  
  
    Route::resource('incomes', IncomeController::class);  
  
    Route::resource('expenses', ExpenseController::class);  
  
});
```

Generating controllers:

Now we have to generate 'IncomeController' and 'ExpenseController' by running following command in the terminal:

```
php artisan make:controller IncomeController --resource
```

```
php artisan make:controller ExpenseController --resource
```

Now we have to implement the 'IncomeController.php' file from the directory 'app/Http/Controllers/' as follow:

```
namespace App\Http\Controllers;
```

```
use App\Models\Income;
```

```
use Illuminate\Http\Request;
```

```
class IncomeController extends Controller
{
    public function index()
    {
        $incomes = auth()->user()->incomes()->paginate(10);

        return view('incomes.index', compact('incomes'));
    }

    public function create()
    {
        return view('incomes.create');
    }

    public function store(Request $request)
    {
        $validated = $request->validate([
            'amount' => 'required|numeric',
            'description' => 'required',
            'date' => 'required|date',
            'category' => 'required'
        ]);

        $income = new Income($validated);

        $income->user_id = auth()->id();

        $income->save();

        return redirect()->route('incomes.index');
    }
}
```

```

    public function edit(Income $income)
    {
        return view('incomes.edit', compact('income'));
    }

    public function update(Request $request, Income $income)
    {
        $validated = $request->validate([
            'amount' => 'required|numeric',
            'description' => 'required',
            'date' => 'required|date',
            'category' => 'required'
        ]);

        $income->fill($validated);

        $income->save();

        return redirect()->route('incomes.index');
    }

    public function destroy(Income $income)
    {
        $income->delete();

        return redirect()->route('incomes.index');
    }
}

```

And have to implement the 'ExpenseController.php' file from the directory 'app/Http/Controllers/' as follow:

```

namespace App\Http\Controllers;

```

```
use App\Models\Expense;
```

```
use Illuminate\Http\Request;
```

```
class ExpenseController extends Controller
```

```
{
```

```
    public function index()
```

```
    {
```

```
        $expenses = auth()->user()->expenses()->paginate(10);
```

```
        return view('expenses.index', compact('expenses'));
```

```
    }
```

```
    public function create()
```

```
    {
```

```
        return view('expenses.create');
```

```
    }
```

```
    public function store(Request $request)
```

```
    {
```

```
        $validated = $request->validate([
```

```
            'amount' => 'required|numeric',
```

```
            'description' => 'required',
```

```
            'date' => 'required|date',
```

```
            'category' => 'required'
```

```
        ]);
```

```
        $expense = new Expense($validated);
```

```
        $expense->user_id = auth()->id();
```

```
$expense->save();

return redirect()->route('expenses.index');
}

public function edit(Expense $expense)
{
    return view('expenses.edit', compact('expense'));
}

public function update(Request $request, Expense $expense)
{
    $validated = $request->validate([
        'amount' => 'required|numeric',
        'description' => 'required',
        'date' => 'required|date',
        'category' => 'required'
    ]);

    $expense->fill($validated);
    $expense->save();
    return redirect()->route('expenses.index');
}

public function destroy(Expense $expense)
{
    $expense->delete();
    return redirect()->route('expenses.index');
}
```



```
}
```

Views:

Now we have to create blade files for showing expenses and incomes form, lists, edit inside the directory 'resources/views/expenses/' and 'resources/views/incomes/' respectively.

Expense creation form:

We have to create a blade file named 'create.blade.php' for expenses form and write the code as following:

```
@extends('layouts.app')

@section('content')

<div class="container">

    <form action="{{ route('expenses.store') }}" method="post">

        @csrf

        <div class="form-group">

            <label for="amount">Amount</label>

            <input type="number" step="0.01" class="form-control" id="amount" name="amount" required>

        </div>

        <div class="form-group">

            <label for="description">Description</label>

            <textarea class="form-control" id="description" name="description" required></textarea>

        </div>

        <div class="form-group">

            <label for="date">Date</label>

            <input type="date" class="form-control" id="date" name="date" required>

        </div>

        <div class="form-group">
```

```
<label for="category">Category</label>

<input type="text" class="form-control" id="category" name="category" required>

</div>

<button type="submit" class="btn btn-primary">Submit</button>

</form>

</div>

@endsection
```

Expense list:

We have to create a blade file named 'index.blade.php' for expense lists and write the code as following:

```
@extends('layouts.app')

@section('content')

<div class="container">

    <h2>Expense List</h2>

    <a href="{{ route('expenses.create') }}" class="btn btn-primary mb-3">Add New Expense</a>

    <table class="table table-striped">

        <thead>

            <tr>

                <th>Date</th>

                <th>Description</th>

                <th>Amount</th>

                <th>Category</th>

                <th>Action</th>

            </tr>

        </thead>
```

```

<tbody>

  @foreach($expenses as $expense)

    <tr>

      <td>{{ $expense->date }}</td>

      <td>{{ $expense->description }}</td>

      <td>${{ $expense->amount }}</td>

      <td>{{ $expense->category }}</td>

      <td>

        <a href="{{ route('expenses.edit', $expense->id) }}" class="btn btn-warning">Edit</a>

        <form action="{{ route('expenses.destroy', $expense->id) }}" method="POST" class="d-
inline">

          @csrf

          @method('DELETE')

          <button type="submit" class="btn btn-danger">Delete</button>

        </form>

      </td>

    </tr>

  @endforeach

</tbody>

</table>

{{ $expenses->links() }}

</div>

@endsection

```

Expense edit form:

We have to create a blade file named 'edit.blade.php' for expense edit and write the code as following:

```
@extends('layouts.app')

@section('content')

<div class="container">

    <form action="{{ route('expenses.update', $expense->id) }}" method="post">

        @csrf

        @method('PUT')

        <div class="form-group">

            <label for="amount">Amount</label>

            <input type="number" step="0.01" class="form-control" id="amount" name="amount" value="{{
$expense->amount }}" required>

        </div>

        <button type="submit" class="btn btn-primary">Update</button>

    </form>

</div>

@endsection
```

Income creation form:

We have to create a blade file named 'create.blade.php' for income form and write the code as following:

```
@extends('layouts.app')

@section('content')

<div class="container">

    <form action="{{ route('incomes.store') }}" method="post">

        @csrf
```

```
<div class="form-group">
```

```
  <label for="amount">Amount</label>
```

```
  <input type="number" step="0.01" class="form-control" id="amount" name="amount" required>
```

```
</div>
```

```
<div class="form-group">
```

```
  <label for="description">Description</label>
```

```
  <textarea class="form-control" id="description" name="description" required></textarea>
```

```
</div>
```

```
<div class="form-group">
```

```
  <label for="date">Date</label>
```

```
  <input type="date" class="form-control" id="date" name="date" required>
```

```
</div>
```

```
<div class="form-group">
```

```
  <label for="category">Category</label>
```

```
  <input type="text" class="form-control" id="category" name="category" required>
```

```
</div>
```

```
<button type="submit" class="btn btn-primary">Submit</button>
```

```
</form>
```

```
</div>
```

```
@endsection
```

Income lists:

We have to create a blade file named 'index.blade.php' for income lists and write the code as following:

```
@extends('layouts.app')
```

```
@section('content')
```

```
<div class="container">
```

```
    <h2>Income List</h2>
```

```
    <a href="{{ route('incomes.create') }}" class="btn btn-primary mb-3">Add New Income</a>
```

```
    <table class="table table-striped">
```

```
        <thead>
```

```
            <tr>
```

```
                <th>Date</th>
```

```
                <th>Description</th>
```

```
                <th>Amount</th>
```

```
                <th>Category</th>
```

```
                <th>Action</th>
```

```
            </tr>
```

```
        </thead>
```

```
        <tbody>
```

```
            @foreach($incomes as $income)
```

```
                <tr>
```

```
                    <td>{{ $income->date }}</td>
```

```
                    <td>{{ $income->description }}</td>
```

```
                    <td>${{ $income->amount }}</td>
```

```
                    <td>{{ $income->category }}</td>
```

```
                    <td>
```

```

        <a href="{{ route('incomes.edit', $income->id) }}" class="btn btn-warning">Edit</a>

        <form action="{{ route('incomes.destroy', $income->id) }}" method="POST" class="d-
inline">

            @csrf

            @method('DELETE')

            <button type="submit" class="btn btn-danger">Delete</button>

        </form>

    </td>

</tr>

@endforeach

</tbody>

</table>

{{ $incomes->links() }}

</div>

@endsection

```

Income edit form:

We have to create a blade file named 'edit.blade.php' for income edit and write the code as following:

```

@extends('layouts.app')

@section('content')

<div class="container">

    <form action="{{ route('incomes.update', $income->id) }}" method="post">

        @csrf

        @method('PUT')

        <div class="form-group">

            <label for="amount">Amount</label>

```

```

        <input type="number" step="0.01" class="form-control" id="amount" name="amount" value="{{
$income->amount }}" required>

    </div>

    <button type="submit" class="btn btn-primary">Update</button>

</form>

</div>

@endsection

```

Styling and user experiences:

Now we are creating a layout file named 'app.blade.php' using Bootstrap in the directory 'resources/views/layouts/' and write the code as follow:

```

<!DOCTYPE html>

<html lang="en">

<head>

    <meta charset="UTF-8">

    <meta name="viewport" content="width=device-width, initial-scale=1.0">

    <meta name="csrf-token" content="{{ csrf_token() }}">

    <title>Income Expense Tracker</title>

    <!-- Bootstrap CSS -->

    <link rel="stylesheet"
href="https://maxcdn.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css">

    <!-- Additional Styles -->

    <link href="{{ asset('css/custom.css') }}" rel="stylesheet">

</head>

<body>

    <nav class="navbar navbar-expand-lg navbar-light bg-light">

        <a class="navbar-brand" href="{{ url('/') }}">Income Expense Tracker</a>

```



```
<button class="navbar-toggler" type="button" data-toggle="collapse" data-target="#navbarNav"
aria-controls="navbarNav" aria-expanded="false" aria-label="Toggle navigation">
```

```
<span class="navbar-toggler-icon"></span>
```

```
</button>
```

```
<div class="collapse navbar-collapse" id="navbarNav">
```

```
<ul class="navbar-nav ml-auto">
```

```
@auth
```

```
<li class="nav-item">
```

```
<a class="nav-link" href="{{ route('incomes.index') }}">Incomes</a>
```

```
</li>
```

```
<li class="nav-item">
```

```
<a class="nav-link" href="{{ route('expenses.index') }}">Expenses</a>
```

```
</li>
```

```
<li class="nav-item">
```

```
<a class="nav-link" href="{{ route('logout') }}" onclick="event.preventDefault();
document.getElementById('logout-form').submit();">Logout</a>
```

```
<form id="logout-form" action="{{ route('logout') }}" method="POST" class="d-none">
```

```
@csrf
```

```
</form>
```

```
</li>
```

```
@else
```

```
<li class="nav-item">
```

```
<a class="nav-link" href="{{ route('login') }}">Login</a>
```

```
</li>
```

```
<li class="nav-item">
```

```
<a class="nav-link" href="{{ route('register') }}">Register</a>
```


@endauth

</div>

</nav>

<div class="container mt-4">

@yield('content')

</div>

<!-- Bootstrap JS and jQuery -->

<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.5.1/jquery.min.js"></script>

<script src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.16.0/umd/popper.min.js"></script>

<script src="https://maxcdn.bootstrapcdn.com/bootstrap/4.5.2/js/bootstrap.min.js"></script>

</body>

</html>