



## ASSIGNMENT 2

**SUBJECT CODE :** BCS3453

**SUBJECT TITLE :** INTEGRATED APPLICATION DEVELOPMENT FRAMEWORK

**SECTION :** 01A

**LECTURER :** Ts. Dr. AZLEE BIN ZABIDI

**GROUP NAME :** GROUP 14

NAME	STUDENT ID
NUR ALYA SYAKIRAH BINTI NASARUDIN	CB22141

## 1) SETTING UP LARAVEL PROJECT

- Project Setup

Created a new Laravel project using the command:

```
laravel new customer-management
```

Opened the project in a code editor and set up the environment file (.env) for database connection.

- Database Configuration

Configured the database connection in the .env file:

```
DB_CONNECTION=mysql
```

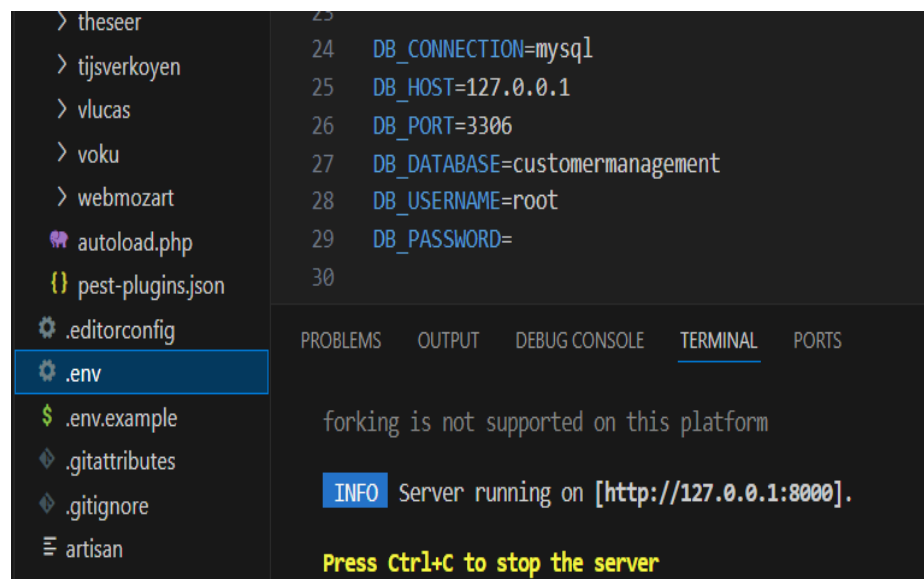
```
DB_HOST=127.0.0.1
```

```
DB_PORT=3306
```

```
DB_DATABASE=customermanagement
```

```
DB_USERNAME=root
```

```
DB_PASSWORD=
```



*Figure 1 : .env*

- Tested the database connection using:

```
php artisan migrate
```

## 2) IMPLEMENTING MVC STRUCTURE

- Model Creation

Created the Customer model:

```
php artisan make:model Customer
```

Defined the table name and fillable fields in the Customer model:

```
namespace App\Models;

use
Illuminate\Database\Eloquent\Factories\HasFactory;
use Illuminate\Database\Eloquent\Model;

class Customer extends Model
{
    use HasFactory;

    protected $fillable = [
        'name', 'email', 'address', 'phoneNumber',
        'gender', 'birthday'
    ];
}
```

- Controller Creation

Created a CustomerController:

```
php artisan make:controller CustomerController
```

Implemented methods in the controller for fetching data and handling filters:

```
public function index(Request $request)
{
    $query = Customer::query();

    if ($request->has('gender')) {
        $query->where('gender', $request->input('gender'));
    }

    if ($request->has('birthday')) {
        $query->where('birthday', $request->input('birthday'));
    }

    $customers = $query->paginate(10);

    return view('index', compact('customers'));
}
```

Blade View:

Created the index.blade.php in the resources/views folder to display customer data.

### 3) DATABASE MIGRATION

- Migration File Creation

Created a migration file for the customers table:

```
php artisan make:migration create_customers_table
```

- Fields in the Migration File

Defined the schema for the customers table:

```
public function up()
{
    Schema::create('customers', function (Blueprint
$table) {
        $table->id();
        $table->string('name');
        $table->string('email')->unique();
        $table->string('address');
        $table->string('phoneNumber');
        $table->enum('gender', ['Male', 'Female']);
        $table->date('birthday');
        $table->timestamps();
    });
}
```

- Migration Commands

Ran the migration to create the table:

```
php artisan migrate
```

#### 4) GENERATING FAKE DATA WITH FAKER

- Factory Implementation

Created a factory for the Customer model:

```
php artisan make:factory CustomerFactory
```

Defined the fake data generation logic in CustomerFactory:

```
public function definition()
{
    return [
        'name' => $this->faker->name(),
        'email' => $this->faker->unique()-
>safeEmail(),
        'address' => $this->faker->address(),
        'phoneNumber' => $this->faker-
>phoneNumber(),
        'gender' => $this->faker-
>randomElement(['Male', 'Female']),
        'birthday' => $this->faker->date(),
    ];
}
```

- Seeder Implementation

Created a seeder for the Customer model:

```
php artisan make:seeder CustomerSeeder
```

Generated 100 customer records in the CustomerSeeder:

```
public function run()
{
    Customer::factory(100)->create();
}
```

- Seeding Commands

Ran the database seeder:

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

## 5) DISPLAYING DATA IN A TABLE

- Blade Template Design

Created a responsive table in index.blade.php to display customer data:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport"
content="width=device-width, initial-
scale=1.0">
    <title>Customer Management System</title>
    <link rel="stylesheet"
href="https://cdn.jsdelivrivr.net/npm/bootstrap@
5.3.0/dist/css/bootstrap.min.css">
    <style>
        .custom-button {
            background-color: #1AA260;
            color: black;
            border: none;
        }
        .custom-button:hover {
            background-color: #90EE90;
        }
        .back-button {
            background-color: #1AA260;
            color: black;
            border: none;
        }
        .back-button:hover {
            background-color: #90EE90;
        }
        body {
            background-color: #FFC0CB;
        }
        th {
            background-color: #1AA260 !important;
            color: white;
        }
    </style>
</head>
<body>
    <div class="container mt-5">
        <!-- Title -->
        <h1 class="mb-4">Customer Management
System</h1>
```

```

        <!-- Back to Home and Filter Form in
One Row -->
        <div class="d-flex justify-content-
between align-items-center mb-4">
            <!-- Back to Home Button -->
            <a href="{{ url('/') }}"
class="btn back-button">Back to Home</a>

            <!-- Filter Form -->
            <form method="GET" action="{{
route('customers.index') }}" class="d-flex
align-items-center">
                <div class="me-2">
                    <select name="gender"
class="form-select">
                        <option
value="">Select Gender</option>
                        <option value="Male"
{{ request('gender') == 'Male' ? 'selected' :
'' }}>Male</option>
                        <option
value="Female" {{ request('gender') ==
'Female' ? 'selected' : '' }}>Female</option>
                    </select>
                </div>
                <div class="me-2">
                    <select name="birthday"
class="form-select">
                        <option
value="">Select Birthday Filter</option>
                        <option
value="after2000" {{ request('birthday') ==
'after2000' ? 'selected' : '' }}>Born After
2000</option>
                    </select>
                </div>
                <button type="submit"
class="btn custom-button">Filter</button>
            </form>
        </div>

        <!-- Customers Table -->
        <table class="table table-bordered
table-striped">
            <thead>
                <tr>

```



```

        <th>Name</th>
        <th>Email</th>
        <th>Address</th>
        <th>Phone Number</th>
        <th>Gender</th>
        <th>Birthday</th>
    </tr>
</thead>
<tbody>
    @forelse ($customers as
$customer)
        <tr>
            <td>{{ $customer-
>name }}</td>
            <td>{{ $customer-
>email }}</td>
            <td>{{ $customer-
>address }}</td>
            <td>{{ $customer-
>phoneNumber }}</td>
            <td>{{ $customer-
>gender }}</td>
            <td>{{ $customer-
>birthday }}</td>
        </tr>
    @empty
        <tr>
            <td colspan="6"
class="text-center">No customers found</td>
        </tr>
    @endforelse
</tbody>
</table>
</div>
</body>
</html>

```

## 6) IMPLEMENTING DATA FILTERING

- Filter Implementation in Controller

Added logic in the CustomerController to handle gender and birthday filters:

```
        if ($request->has('gender') && $request->gender != '') {
            $query->where('gender', $request->gender);
        }
        if ($request->has('birthday') && $request->birthday == 'after2000') {
            $query->whereYear('birthday', '>', 2000)
                ->orderBy('birthday', 'asc'); //
            Sort by birthday in ascending order
        }

        $customers = $query->get();

        if ($request->has('from') && $request->from == 'filter') {
            return view('filter', compact('customers'));
        }

        return view('index', compact('customers'));
    }
}
```

- Filter UI in Blade View

Added dropdown and input fields for filters in index.blade.php:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Filtered Customers</title>
    <link rel="stylesheet" href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0/dist/css/bootstrap.min.css">
    <style>
        .custom-button {
            background-color: #ffc107; /* Yellow-Gold */
            color: black;
        }
    </style>
</head>
```

```

        border: none;
    }
    .custom-button:hover {
        background-color: #e0a800; /* Darker
Yellow-Gold */
    }
</style>
</head>
<body>
    <div class="container mt-5">
        <h1 class="mb-4">Filter Customers</h1>

        <!-- Filter Form -->
        <form method="GET" action="{ {
route('customers.filter') } }" class="mb-4">
            <input type="hidden" name="from"
value="filter"> <!-- Identify this is from
filter.blade.php -->
            <div class="row g-3">
                <div class="col-md-3">
                    <select name="gender"
class="form-select">
                        <option value="">Select
Gender</option>
                        <option value="Male" {{
request('gender') == 'Male' ? 'selected' : ''
}}>Male</option>
                        <option value="Female" {{
request('gender') == 'Female' ? 'selected' : ''
}}>Female</option>
                    </select>
                </div>
                <div class="col-md-3">
                    <select name="birthday"
class="form-select">
                        <option value="">Select
Birthday Filter</option>
                        <option value="after2000" {{
request('birthday') == 'after2000' ? 'selected' : ''
}}>Born After 2000</option>
                    </select>
                </div>
                <div class="col-md-2">
                    <button type="submit" class="btn
custom-button">Filter</button>
                </div>
            </div>
        </form>
    </div>

```

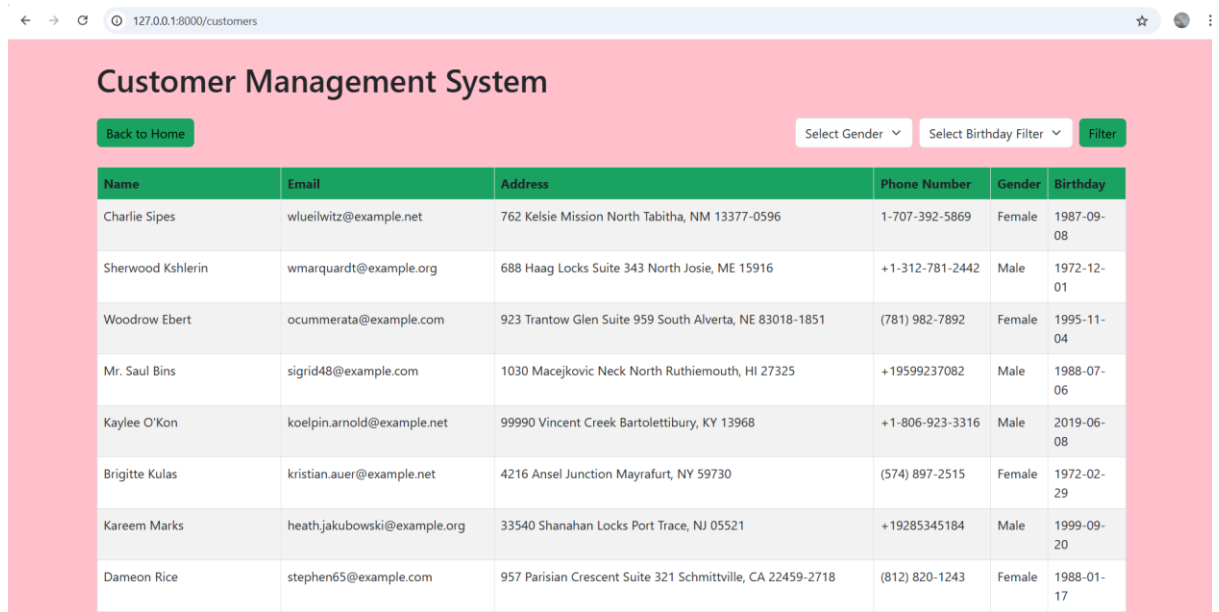
```

        </form>

        <!-- Filtered Results Table -->
        <table class="table table-bordered table-
striped">
            <thead>
                <tr>
                    <th>Name</th>
                    <th>Email</th>
                    <th>Address</th>
                    <th>Phone Number</th>
                    <th>Gender</th>
                    <th>Birthday</th>
                </tr>
            </thead>
            <tbody>
                @forelse ($customers as $customer)
                    <tr>
                        <td>{{ $customer->name
}}</td>
                        <td>{{ $customer->email
}}</td>
                        <td>{{ $customer->address
}}</td>
                        <td>{{ $customer->
phoneNumber }}</td>
                        <td>{{ $customer->gender
}}</td>
                        <td>{{ $customer->birthday
}}</td>
                    </tr>
                @empty
                    <tr>
                        <td colspan="6" class="text-
center">No customers found</td>
                    </tr>
                @endforelse
            </tbody>
        </table>
    </div>
</body>
</html>

```

## 7) CUSTOMERS LIST AND FILTERED VIEWS

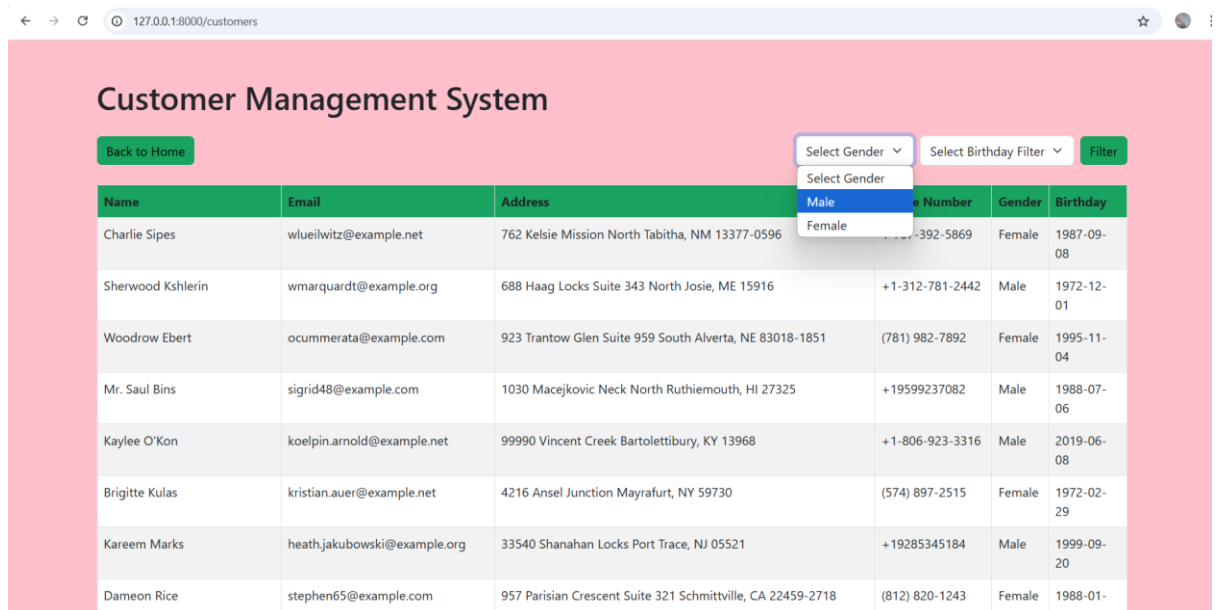


Customer Management System

[Back to Home](#) Select Gender Select Birthday Filter Filter

Name	Email	Address	Phone Number	Gender	Birthday
Charlie Sipes	wlueilwitz@example.net	762 Kelsie Mission North Tabitha, NM 13377-0596	1-707-392-5869	Female	1987-09-08
Sherwood Kshlerin	wmarquardt@example.org	688 Haag Locks Suite 343 North Josie, ME 15916	+1-312-781-2442	Male	1972-12-01
Woodrow Ebert	ocummerata@example.com	923 Trantow Glen Suite 959 South Alverta, NE 83018-1851	(781) 982-7892	Female	1995-11-04
Mr. Saul Bins	sigrid48@example.com	1030 Macejkovic Neck North Ruthiemouth, HI 27325	+19599237082	Male	1988-07-06
Kaylee O'Kon	koelpin.arnold@example.net	99990 Vincent Creek Bartolettibury, KY 13968	+1-806-923-3316	Male	2019-06-08
Brigitte Kulas	kristian.auer@example.net	4216 Ansel Junction Mayrafurt, NY 59730	(574) 897-2515	Female	1972-02-29
Kareem Marks	heath.jakubowski@example.org	33540 Shanahan Locks Port Trace, NJ 05521	+19285345184	Male	1999-09-20
Dameon Rice	stephen65@example.com	957 Parisian Crescent Suite 321 Schmittville, CA 22459-2718	(812) 820-1243	Female	1988-01-17

Figure 2 : List of 100 customers



Customer Management System

[Back to Home](#) Select Gender Select Birthday Filter Filter

Name	Email	Address	Phone Number	Gender	Birthday
Charlie Sipes	wlueilwitz@example.net	762 Kelsie Mission North Tabitha, NM 13377-0596	1-707-392-5869	Female	1987-09-08
Sherwood Kshlerin	wmarquardt@example.org	688 Haag Locks Suite 343 North Josie, ME 15916	+1-312-781-2442	Male	1972-12-01
Woodrow Ebert	ocummerata@example.com	923 Trantow Glen Suite 959 South Alverta, NE 83018-1851	(781) 982-7892	Female	1995-11-04
Mr. Saul Bins	sigrid48@example.com	1030 Macejkovic Neck North Ruthiemouth, HI 27325	+19599237082	Male	1988-07-06
Kaylee O'Kon	koelpin.arnold@example.net	99990 Vincent Creek Bartolettibury, KY 13968	+1-806-923-3316	Male	2019-06-08
Brigitte Kulas	kristian.auer@example.net	4216 Ansel Junction Mayrafurt, NY 59730	(574) 897-2515	Female	1972-02-29
Kareem Marks	heath.jakubowski@example.org	33540 Shanahan Locks Port Trace, NJ 05521	+19285345184	Male	1999-09-20
Dameon Rice	stephen65@example.com	957 Parisian Crescent Suite 321 Schmittville, CA 22459-2718	(812) 820-1243	Female	1988-01-17

Figure 3 : Select gender ( male )

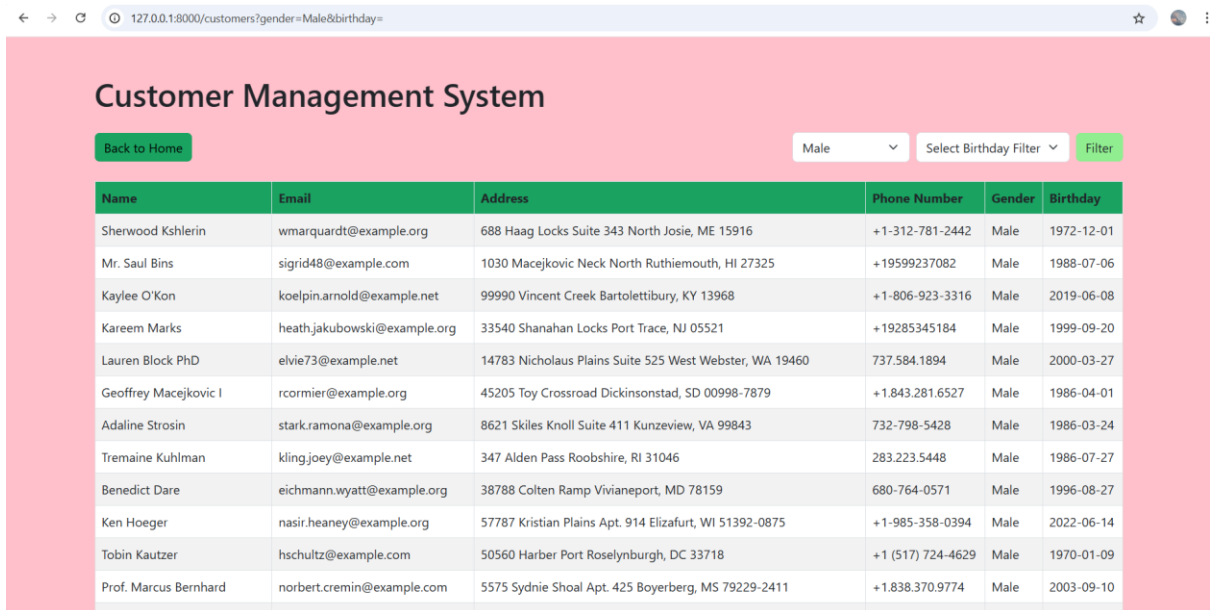


Figure 4 : Filter select ( male )

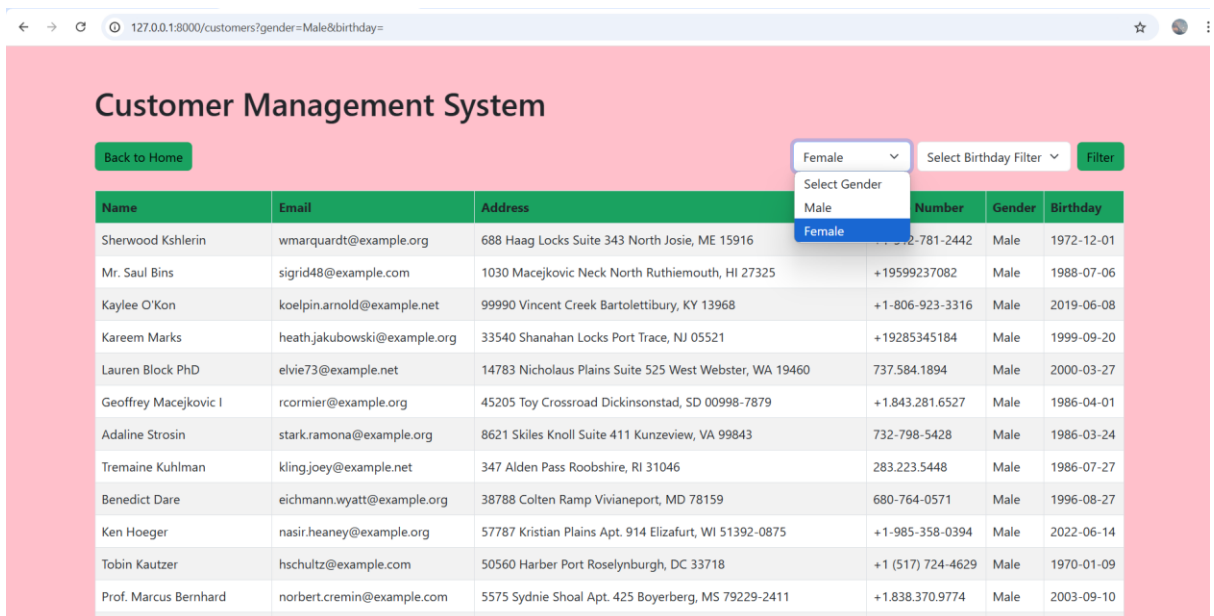


Figure 5 : Select gender ( female )

← → ↻ 127.0.0.1:8000/customers?gender=Female&birthday=

## Customer Management System

Back to Home

Female Select Birthday Filter Filter

Name	Email	Address	Phone Number	Gender	Birthday
Charlie Sipes	wlueilwitz@example.net	762 Kelsie Mission North Tabitha, NM 13377-0596	1-707-392-5869	Female	1987-09-08
Woodrow Ebert	ocummerata@example.com	923 Trantow Glen Suite 959 South Alverta, NE 83018-1851	(781) 982-7892	Female	1995-11-04
Brigitte Kulas	kristian.auer@example.net	4216 Ansel Junction Mayrafurt, NY 59730	(574) 897-2515	Female	1972-02-29
Dameon Rice	stephen65@example.com	957 Parisian Crescent Suite 321 Schmittville, CA 22459-2718	(812) 820-1243	Female	1988-01-17
Elinor Denesik DVM	dach.milford@example.org	22227 Toy Fork Jessberg, ME 38081	838-633-9566	Female	1983-03-31
Lawrence Hayes Sr.	joyce56@example.com	105 Gerhold Neck Bogisichton, AZ 50199	+1.743.277.4515	Female	1997-10-19
Kyle Stokes	hpagac@example.com	356 Cordell Mews Milliehaven, ME 04097-9854	1-417-674-8433	Female	2019-05-11
Xander Gibson	smcdermott@example.com	5277 Paucek Ridge Port Unique, GA 93982-1644	+1-717-413-8494	Female	1994-09-23
Kasey Yost	wyman.mclaughlin@example.org	8412 Mabel Run Jordyville, IA 72832-9400	+12514207587	Female	1979-07-14
Lenore Collins	cleta.wolff@example.com	428 Felicia Groves Apt. 720 West Maymietown, OH 11405-2568	1-928-549-6122	Female	1999-07-25
Loy Kshlerin	maximo.pouros@example.org	18210 Denesik Track South Rettacheater, AL 78406-6318	+1.385.760.5302	Female	1999-06-06
Naomi Berge	dietrich.emmanuelle@example.com	8798 Brenda Meadow West Donald, TX 35905	(859) 713-8580	Female	1971-02-20

Figure 6 : Filter select ( female )

← → ↻ 127.0.0.1:8000/customers?gender=Male&birthday=

## Customer Management System

Back to Home

Male Select Birthday Filter Filter

Select Birthday Filter

Name	Email	Address	Phone Number	Gender	Birthday
Sherwood Kshlerin	wmarquardt@example.org	688 Haag Locks Suite 343 North Josie, ME 15916	+1-312-781-2442	Male	1972-12-01
Mr. Saul Bins	sigrid48@example.com	1030 Macejkovic Neck North Ruthiemouth, HI 27325	+19599237082	Male	1988-07-06
Kaylee O'Kon	koelpin.arnold@example.net	99990 Vincent Creek Bartolettibury, KY 13968	+1-806-923-3316	Male	2019-06-08
Kareem Marks	heath.jakubowski@example.org	33540 Shanahan Locks Port Trace, NJ 05521	+19285345184	Male	1999-09-20
Lauren Block PhD	elvie73@example.net	14783 Nicholas Plains Suite 525 West Webster, WA 19460	737.584.1894	Male	2000-03-27
Geoffrey Macejkovic I	rcormier@example.org	45205 Toy Crossroad Dickinsonstad, SD 00998-7879	+1.843.281.6527	Male	1986-04-01
Adaline Strosin	stark.ramona@example.org	8621 Skiles Knoll Suite 411 Kunzeview, VA 99843	732-798-5428	Male	1986-03-24
Tremaine Kuhlman	klings.joey@example.net	347 Alden Pass Roobshire, RI 31046	283.223.5448	Male	1986-07-27
Benedict Dare	eichmann.wyatt@example.org	38788 Colten Ramp Vivianeport, MD 78159	680-764-0571	Male	1996-08-27
Ken Hoeger	nasir.heaney@example.org	57787 Kristian Plains Apt. 914 Elizafurt, WI 51392-0875	+1-985-358-0394	Male	2022-06-14
Tobin Kautzer	hschultz@example.com	50560 Harber Port Roselynburch, DC 33718	+1 (517) 724-4629	Male	1970-01-09
Prof. Marcus Bernhard	norbert.cremin@example.com	5575 Sydnie Shoal Apt. 425 Boyerberg, MS 79229-2411	+1.838.370.9774	Male	2003-09-10

Figure 7 : Select birthday filter born after 2000 ( male )

← → ↻ 127.0.0.1:8000/customers?gender=Male&birthday=after2000 ☆ ⚙ ⋮

## Customer Management System

[Back to Home](#) Male Born After 2000 [Filter](#)

Name	Email	Address	Phone Number	Gender	Birthday
Jasmin Jacobson	rollin.dare@example.com	5388 Cassidy Mill Apt. 922 Port Braulio, TN 48092-7330	+13472566957	Male	2001-09-22
Bobbie Feeney	anderson.haven@example.org	933 Ettie Points Suite 720 Lake Fernhaven, NH 67036	+1.828.776.5559	Male	2002-11-15
Kaci Johnston DVM	xreinger@example.net	5415 Oliver Burgs Suite 926 Yoshikoton, DC 50058-5245	+1-937-926-5896	Male	2003-07-08
Prof. Marcus Bernhard	norbert.cremin@example.com	5575 Sydnie Shoal Apt. 425 Boyerberg, MS 79229-2411	+1.838.370.9774	Male	2003-09-10
Mckenzie Hintz DDS	ernestina88@example.org	293 Wanda Club Apt. 510 Blancaland, VA 61325-7168	+17176258318	Male	2005-04-22
Miles Bayer I	dietrich.lyla@example.net	879 Heathcote Crossroad South Eva, GA 61510	1-623-370-0381	Male	2010-10-14
Thelma Krajcik	maritza.quitzon@example.net	66622 Nicholas Shoal Apt. 306 Kirstenhaven, NV 99161-5008	+12072605357	Male	2012-04-20
Alden Jaskolski I	dcummings@example.org	80512 Rosenbaum Summit Apt. 732 Sawaynchester, IL 60561	1-973-858-4275	Male	2012-07-09
Harry Mayert	eugenia73@example.org	668 Ritchie Underpass East Matteofort, AR 09739-5605	+1 (520) 524-1997	Male	2012-08-26
Keven Dooley	twila.wilkinson@example.net	97743 Anya Lodge Apt. 960 Hillport, PA 76687	+1.947.325.8758	Male	2013-01-23
Blaise Gibson	rabshire@example.com	3673 Mann Garden Apt. 054 Maiaaton, NM 37747-2857	281.369.7675	Male	2013-05-06
Myrna Mayert	wdoyle@example.com	920 Houston Summit Ferrymouth, NV 42731	1-302-254-1703	Male	2015-11-30

Figure 8 : Filter birthday born after 2000 ( male )

← → ↻ 127.0.0.1:8000/customers?gender=Female&birthday=after2000 ☆ ⚙ ⋮

## Customer Management System

[Back to Home](#) Female Select Birthday Filter [Filter](#)

Name	Email	Address	Phone Number	Gender	Birthday
Raymundo Ankunding	mireya.blick@example.org	18656 Ebert Viaduct Ernserchester, IL 28910-8805	+16202309550	Female	2002-10-20
Hector Connelly	elta72@example.com	618 Adolphus Circles Weberchester, PA 63070	(980) 973-2098	Female	2003-09-12
Mr. Micah Kuhlman DVM	kohler.jeff@example.org	59900 Lowe Villages Lazaromouth, NE 10046	1-325-915-6841	Female	2005-11-03
Emmanuelle Sawayn	rashawn.huels@example.net	8048 Talia Plain Suite 715 Kylerburgh, NY 65769-4622	(872) 472-0702	Female	2005-12-28
Ms. Lila Boyle	frieda.stehr@example.org	40813 Daisha Crossing Suite 815 Hillhaven, TN 65172-0413	931-913-4383	Female	2006-05-01
Sofia Dickens	kavon50@example.org	34663 Camylle Course Dickiton, NH 02494-1008	+1 (707) 259-9989	Female	2008-04-27
Ms. Isabella Effertz	runolfsson.joannie@example.org	30642 Christy Wells Leschbury, IL 66684-7837	+1-847-645-3649	Female	2013-12-14
Ines Hyatt	carleton.reichert@example.org	8650 Hackett Estate South Alvabury, MI 89847-9723	(952) 852-3023	Female	2016-10-19
Kyle Stokes	hpagac@example.com	356 Cordell Mews Milliehaven, ME 04097-9854	1-417-674-8433	Female	2019-05-11
Kevon West	alana94@example.net	22946 Kessler Street Apt. 549 Elisabethburgh, AK 68380	336-406-1786	Female	2020-09-30
Prof. Dorcas Prohaska	khalil.Lang@example.com	8469 Ebert Brook Port Dereckbury, MN 20973	+1.331.979.9817	Female	2022-02-05
Dr. Sophia Fisher IV	mkoss@example.net	607 Ziemann Park Suite 213 Noraland, KS 83977	+17439481658	Female	2022-06-08

Figure 9 : Select birthday filter born after 2000 ( female )



← → 127.0.0.1:8000/customers?gender=Female&birthday=after2000 ☆

## Customer Management System

[Back to Home](#)
Female
Born After 2000
Filter

Name	Email	Address	Phone Number	Gender	Birthday
Raymundo Ankunding	mireya.blick@example.org	18656 Ebert Viaduct Ernserchester, IL 28910-8805	+16202309550	Female	2002-10-20
Hector Connelly	elta72@example.com	618 Adolphus Circles Weberchester, PA 63070	(980) 973-2098	Female	2003-09-12
Mr. Micah Kuhlman DVM	kohler.jeff@example.org	59900 Lowe Villages Lazaromouth, NE 10046	1-325-915-6841	Female	2005-11-03
Emmanuelle Sawayn	rashawn.huels@example.net	8048 Talia Plain Suite 715 Kylerburgh, NY 65769-4622	(872) 472-0702	Female	2005-12-28
Ms. Lila Boyle	frieda.stehr@example.org	40813 Daisha Crossing Suite 815 Hillhaven, TN 65172-0413	931-913-4383	Female	2006-05-01
Sofia Dickens	kavon50@example.org	34663 Camylle Course Dickiton, NH 02494-1008	+1 (707) 259-9989	Female	2008-04-27
Ms. Isabella Effertz	runolfsson.joannie@example.org	30642 Christy Wells Leschbury, IL 66684-7837	+1-847-645-3649	Female	2013-12-14
Ines Hyatt	carleton.reichert@example.org	8650 Hackett Estate South Alvabury, MI 89847-9723	(952) 852-3023	Female	2016-10-19
Kyle Stokes	hpagac@example.com	356 Cordell Mews Milliehaven, ME 04097-9854	1-417-674-8433	Female	2019-05-11
Kevon West	alana94@example.net	22946 Kessler Street Apt. 549 Elisabethburgh, AK 68380	336-406-1786	Female	2020-09-30
Prof. Dorcas Prohaska	khalil.lang@example.com	8469 Ebert Brook Port Dereckbury, MN 20973	+1.331.979.9817	Female	2022-02-05
Dr. Sophia Fisher IV	mkoss@example.net	607 Ziemann Park Suite 213 Noraland, KS 83977	+17439481658	Female	2022-06-08

Figure 10 : Filter birthday born after 2000 ( female )