

Quiz Web Programming LB01

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EduFun

Jelaskan secara detail mengenai routing, controller, model, view and blade, dll pada lembar jawaban Anda dan Screenshot hasil (output) website Anda berupa User Interface dari main features dan/atau challenges (optional) features yang berhasil Anda kerjakan untuk membuktikan bahwa fitur tersebut sudah berjalan dengan benar.

Source code n sql file: <https://github.com/verenavynne/EduFun.git>

EduFun merupakan website yang bergerak di bidang edukasi. Pada website ini, mahasiswa dapat mengakses beberapa materi Computer Science. Materi yang ada dalam website ini adalah Data Science dan Network Security (NIM ganjil). Berikut ini adalah rincian website EduFun:

Route

```
Route::prefix(prefix: '/user')->group(callback: function(): void{
    Route::get( uri: '/home', action: [ArticleController::class,'home'])->name(name: 'edufun.home');

    Route::get( uri: '/datascience', action: [ArticleController::class,'dataScience'])->name(name: 'edufun.datascience');

    Route::get( uri: '/networksecurity', action: [ArticleController::class,'networkSecurity'])->name(name: 'edufun.networksecurity');

    Route::get(uri: '/writers', action: [WriterController::class,'index'])->name(name: 'edufun.writers');
    Route::get(uri: '/writers/{id}',action: [WriterController::class, 'show'])->name(name: 'edufun.writerArticle');

    Route::get(uri: '{category}/{title}',action: [ArticleController::class,'show'])->name(name: 'edufun.detail');

    Route::get(uri: '/aboutus', action: function(): Factory|View{
        return view(view: 'edufun.aboutus');
    })->name(name: 'edufun.aboutus');

    Route::get(uri: '/popular', action: [ArticleController::class,'popular'])->name(name: 'edufun.popular');

});
```

Code diatas merupakan route yang digunakan untuk mengakses halaman-halaman pada web EduFun. Dikarenakan web ini dikhususkan untuk user, maka saya mengelompokkan routenya ke dalam route user.

- Route '/home' untuk mengakses page home
- Route '/datascience' untuk mengakses page materi category Data Science
- Route '/networksecurity' untuk mengakses page materi category Network Security
- Route '/writers' untuk mengakses page writers
- Route '/writers/{id}' untuk mengakses page artikel yang ditulis oleh masing-masing writers
- Route '/{category}/{title}' untuk mengakses detail page dari masing-masing artikel
- Route '/aboutus' untuk mengakses page About Us
- Route '/popular' untuk mengakses page Popular

Database (Migration and Seeder/Faker)

Terdapat 3 database yang dibutuhkan di website ini yakni

- Table category (berisi 2 category yakni Data Science dan Network Security)

		id	name	slug	created_at	updated_at
<input type="checkbox"/>	Edit	1	Data Science	data-science	2024-11-02 16:33:03	2024-11-02 16:33:03
<input type="checkbox"/>	Edit	2	Network Security	network-security	2024-11-02 16:33:03	2024-11-02 16:33:03

Migration:

```
public function up(): void
{
    Schema::create(table: 'category', callback: function (Blueprint $table): void {
        $table->id();
        $table->string(column: 'name');
        $table->string(column: 'slug')->unique();
        $table->timestamps();
    });
}
```

Seeder:

```
public function run(): void
{
    Category::create(attributes: [
        'name' => 'Data Science',
        'slug' => 'data-science',
    ]);

    Category::create(attributes: [
        'name' => 'Network Security',
        'slug' => 'network-security',
    ]);
}
```

- Table writer

		id	name	bio	writer_image	created_at	updated_at
<input type="checkbox"/>	Edit	1	Bia Mika Annisa	Spesialis Data Science	http://localhost:8000/assets/datascience_writer_im...	2024-11-02 16:33:03	2024-11-02 16:50:35
<input type="checkbox"/>	Edit	2	Abi Firmansyah	Spesialis Network Security	http://localhost:8000/assets/network_writer_image...	2024-11-02 16:33:03	2024-11-02 16:50:35

Migration:

```
public function up(): void
{
    Schema::create(table: 'writer', callback: function (Blueprint $table): void {
        $table->id();
        $table->string(column: 'name');
        $table->text(column: 'bio');
        $table->string(column: 'writer_image')->nullable();
        $table->timestamps();
    });
}
```

Seeder:

```

public function run(): void
{
    Writer::create(attributes: [
        'name' => 'Bia Mika Annisa',
        'bio' => 'Spesialis Data Science',
        'writer_image' => asset(path: 'assets/datascience_writer_image.png'),
    ]);

    Writer::create(attributes: [
        'name' => 'Abi Firmansyah',
        'bio' => 'Spesialis Network Security',
        'writer_image' => asset(path: 'assets/network_writer_image.png'),
    ]);

    Writer::where(column: 'name', operator: 'Bia Mika Annisa')->update(attributes: [
        'writer_image' => 'http://localhost:8000/assets/datascience_writer_image.png',
    ]);

    Writer::where(column: 'name', operator: 'Abi Firmansyah')->update(attributes: [
        'writer_image' => 'http://localhost:8000/assets/network_writer_image.png',
    ]);
}

```

- Table article

		id	title	category_id	writer_id	content	post_date	views	article_image	created_at	updated_at
<input type="checkbox"/>	Edit Copy Delete	2	Deep Learning	1	1	Assumenda asperiores qui et explicabo nam rem. Per...	1989-10-29	18	https://via.placeholder.com/640x480.png/008844?tex...	2024-11-02 16:33:03	2024-11-02 16:33:03
<input type="checkbox"/>	Edit Copy Delete	5	Network Administration	2	2	Dolorem voluptatem minus similique velit. Laudanti...	2000-07-12	36	https://via.placeholder.com/640x480.png/00aa11?tex...	2024-11-02 16:33:03	2024-11-02 16:33:03
<input type="checkbox"/>	Edit Copy Delete	3	Natural Language Processing	1	1	Eos doloribus molestiae rerum voluptas distinctio ...	2001-09-27	70	https://via.placeholder.com/640x480.png/00bb77?tex...	2024-11-02 16:33:03	2024-11-02 16:33:03
<input type="checkbox"/>	Edit Copy Delete	6	Popular Network Technology	2	2	Laboriosam officia eos perferendis expedita facili...	1991-03-13	90	https://via.placeholder.com/640x480.png/00bb88?tex...	2024-11-02 16:33:03	2024-11-02 16:33:03
<input type="checkbox"/>	Edit Copy Delete	1	Machine Learning	1	1	Nesciunt hic voluptatem optio ratione est consecte...	2012-02-28	23	https://via.placeholder.com/640x480.png/004422?tex...	2024-11-02 16:33:03	2024-11-02 16:33:03
<input type="checkbox"/>	Edit Copy Delete	4	Software Security	2	2	Veritatis distinctio consectetur ipsum voluptatem....	1987-06-15	94	https://via.placeholder.com/640x480.png/00ff66?tex...	2024-11-02 16:33:03	2024-11-02 16:33:03

Migration:

```

public function up(): void
{
    Schema::create(table: 'article', callback: function (Blueprint $table): void {
        $table->id();
        $table->string(column: 'title');
        $table->foreignId(column: 'category_id')->constrained(table: 'category')->onDelete(action: 'cascade');
        $table->foreignId(column: 'writer_id')->constrained(table: 'writer')->onDelete(action: 'cascade');
        $table->text(column: 'content');
        $table->date(column: 'post_date');
        $table->integer(column: 'views')->default(value: 0);
        $table->string(column: 'article_image');
        $table->timestamps();
    });
}

```

Seeder dan Faker:

```

public function run(): void
{
    $faker = Faker::create(locale: 'id_ID');

    $dataScienceCategory = Category::where(column: 'slug', operator: 'data-science')->first();
    $networkSecurityCategory = Category::where(column: 'slug', operator: 'network-security')->first();

    $dataScienceWriter = Writer::where(column: 'name', operator: 'Bia Mika Annisa')->first();
    $networkSecurityWriter = Writer::where(column: 'name', operator: 'Abi Firmansyah')->first();

    $dataScienceArticle = [
        'Machine Learning',
        'Deep Learning',
        'Natural Language Processing',
    ];

    foreach($dataScienceArticle as $title){
        Article::create(attributes: [
            'title' => $title,
            'category_id' => $dataScienceCategory->id,
            'writer_id' => $dataScienceWriter->id,
            'content' => $this->generateContent($faker, paragraphCount: 6),
            'post_date' => $faker->date(),
            'views' => $faker->numberBetween(int1: 0, int2: 100),
            'article_image' => $faker->imageUrl(width: 640, height: 480, category: 'technics'),
        ]);
    }

    $networkSecurityArticle = [
        'Software Security',
        'Network Administration',
        'Popular Network Technology',
    ];

    foreach($networkSecurityArticle as $title){
        Article::create(attributes: [
            'title' => $title,
            'category_id' => $networkSecurityCategory->id,
            'writer_id' => $networkSecurityWriter->id,
            'content' => $this->generateContent($faker, paragraphCount: 6),
            'post_date' => $faker->date(),
            'views' => $faker->numberBetween(int1: 0, int2: 100),
            'article_image' => $faker->imageUrl(width: 640, height: 480, category: 'technics'),
        ]);
    }
}

2 references
private function generateContent($faker, $paragraphCount): string
{
    $content = '';
    for ($i = 0; $i < $paragraphCount; $i++) {
        $content .= $faker->paragraph;
    }
    return $content;
}

```

Untuk ArticleSeeder, saya menggunakan faker untuk membuat data content, post_date, views, dan article_image. Untuk content, saya mau sebanyak 6 paragraph sehingga saya membuat function untuk generateContent sebanyak yang dibutuhkan. Data views digunakan untuk menentukan article itu sepopuler apa (berapa banyak orang melihat artikel tersebut), data views ini akan digunakan pada page popular.

Model

- Class Category

```

class Category extends Model
{
    use HasFactory;

    0 references
    protected $table='category';

    0 references
    protected $fillable = ['name', 'slug'];

    0 references | 0 overrides
    public function articles(): HasMany{
        return $this->hasMany(related: Article::class);
    }
}

```

Category punya hubungan one to many dengan article yang berarti satu category bisa mempunyai banyak article.

- Class Writer

```

class Writer extends Model
{
    use HasFactory;

    0 references
    protected $table='writer';

    0 references
    protected $fillable = ['name','bio','writer_image'];

    0 references | 0 overrides
    public function articles(): HasMany{
        return $this->hasMany(related: Article::class);
    }
}

```

Writer punya hubungan one to many dengan article yang berarti satu writer bisa mempunyai banyak article.

- Class Article

```

class Article extends Model
{
    use HasFactory;

    0 references
    protected $table = 'article';

    0 references
    protected $fillable = ['title', 'category_id', 'writer_id', 'content', 'post_date', 'views', 'article_image'];

    0 references | 0 overrides
    public function category(): BelongsTo
    {
        return $this->belongsTo(related: Category::class);
    }

    0 references | 0 overrides
    public function writer(): BelongsTo
    {
        return $this->belongsTo(related: Writer::class);
    }
}

```

Karena satu artikel hanya bisa mempunyai satu category dan satu writer, maka article belongsTo Category dan Writer.

Controller

- ArticleController

```

// untuk display article di homepage
1 reference | 0 overrides
public function home(): Factory|View{
    $articles = Article::with(relations: ['writer', 'category'])->latest()->take(value: 2)->get();
    return view(view: 'edufun.home', data: compact(var_name: 'articles'));
}

// untuk display semua article di data science category
1 reference | 0 overrides
public function dataScience(): Factory|View{
    $category = Category::where(column: 'name', operator: 'Data Science')->firstOrFail();
    $articles = Article::where(column: 'category_id', operator: $category->id)->get();
    return view(view: 'edufun.datascience', data: compact(var_name: 'articles'));
}

// untuk display semua article di network security category
1 reference | 0 overrides
public function networkSecurity(): Factory|View{
    $category = Category::where(column: 'name', operator: 'Network Security')->firstOrFail();
    $articles = Article::where(column: 'category_id', operator: $category->id)->get();
    return view(view: 'edufun.networkssecurity', data: compact(var_name: 'articles'));
}

// untuk display detail page
1 reference | 0 overrides
public function show($category, $title): Factory|View{
    $article = Article::where(column: 'title', operator: $title)->with(relations: 'writer')->firstOrFail();
    return view(view: 'edufun.detail', data: compact(var_name: 'article'));
}

// untuk display article pada page Popular berdasarkan urutan views terbanyak ke terdikit
1 reference | 0 overrides
public function popular(): Factory|View{
    $articles = Article::orderBy(column: 'views', direction: 'desc')->paginate(perPage: 3);
    return view(view: 'edufun.popular', data: compact(var_name: 'articles'));
}

```

ArticleController berisi beberapa function yang mengatur bagaimana data yang berhubungan dengan data Article akan ditampilkan. Function ini akan dipanggil pada route agar data bisa ditampilkan sesuai kebutuhan.

- WriterController

```
// untuk display semua writer pada page Writer
1 reference | 0 overrides
public function index(): Factory|View{
    $writers = Writer::all();
    return view(view: 'edufun.writers', data: compact(var_name: 'writers'));
}

// untuk display article yang ditulis oleh masing-masing writer
1 reference | 0 overrides
public function show($id): Factory|View
{
    $writer = Writer::with(relations: 'articles')->find(id: $id);

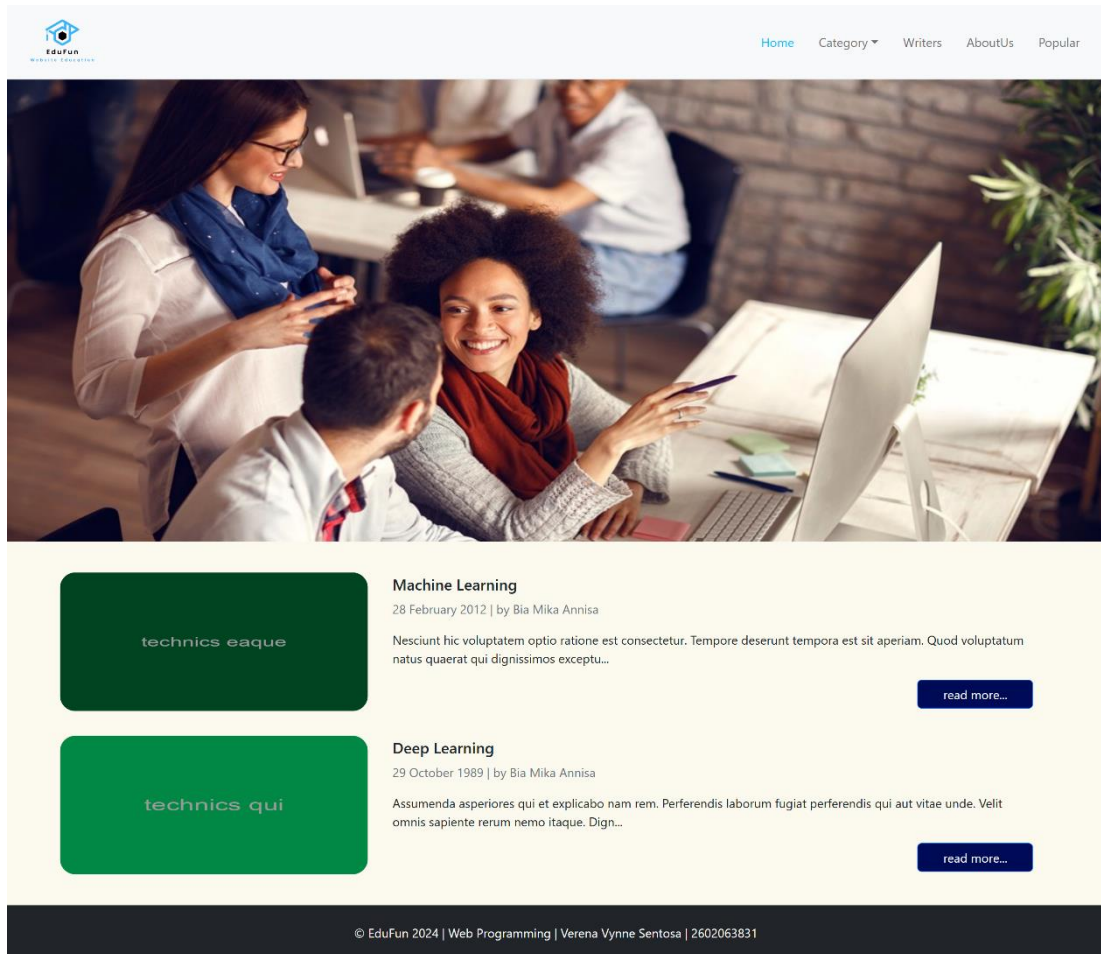
    if (!$writer) {
        return abort(code: 404);
    }

    return view(view: 'edufun.writerArticle', data: compact(var_name: 'writer'));
}
```

WriterController berisi beberapa function yang mengatur bagaimana data yang berhubungan dengan data Writer akan ditampilkan. Function ini akan dipanggil pada route agar data bisa ditampilkan sesuai kebutuhan.

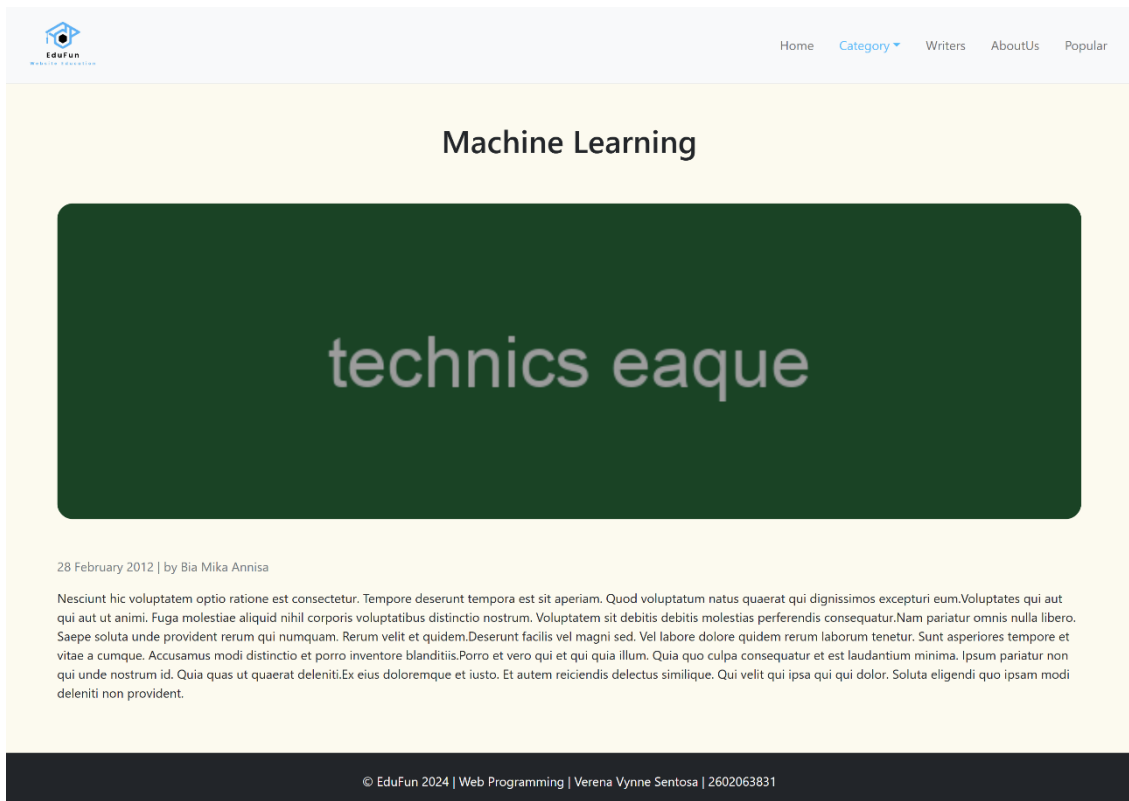
View

- Home Page

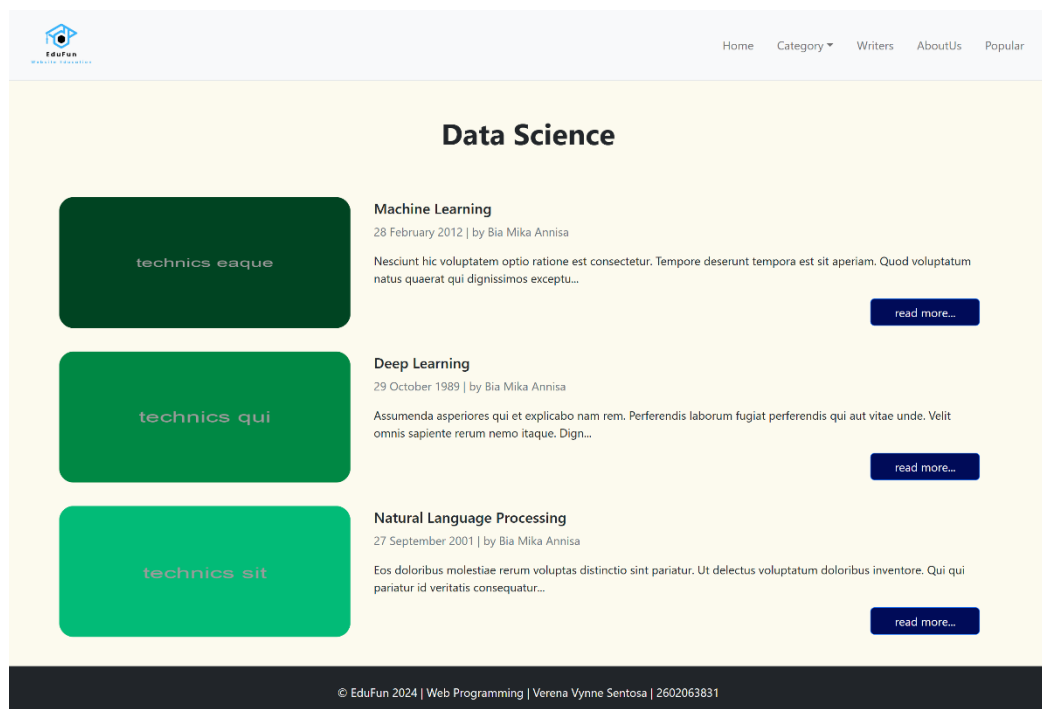


Pada Home Page terdapat navbar, banner, dan section yang berisi article yang merupakan materi-materi dalam DataScience dan atau Network Security. Pada masing-masing article terdapat article image, title article, postdate article, nama writernya, serta beberapa kalimat content. Kemudian di kanan bawah terdapat button 'read more' yang jika diklik, akan ke redirect pada detail page. Detail page merupakan page yang berisi isi article secara rinci.

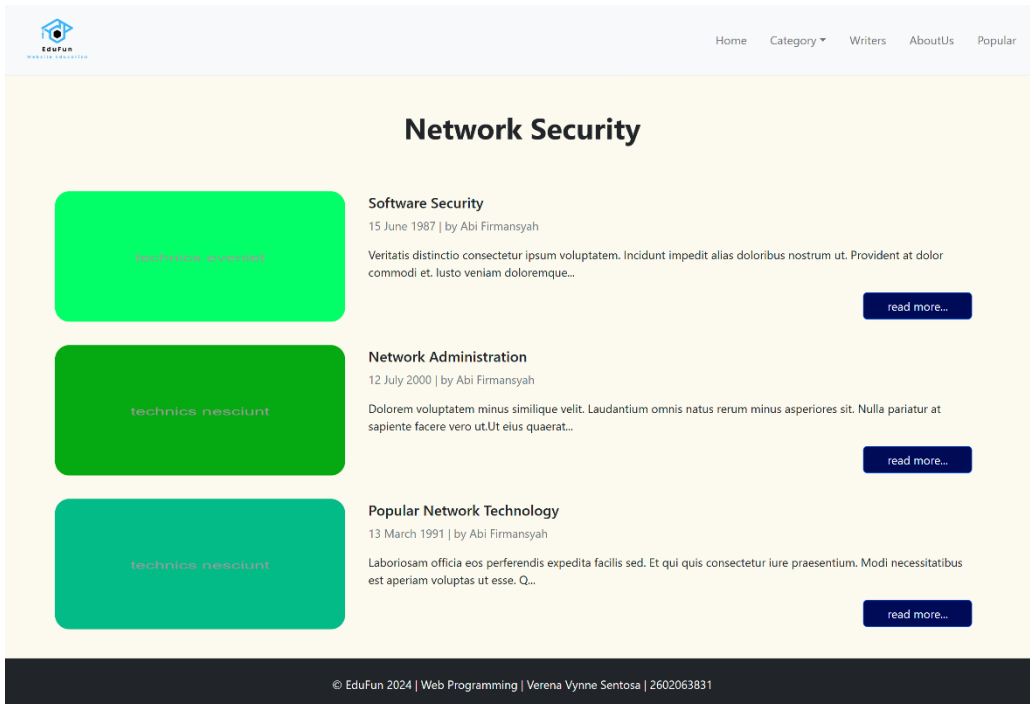
Contoh: Apabila saya klik button 'read more' pada article Machine Learning, maka akan muncul page ini:



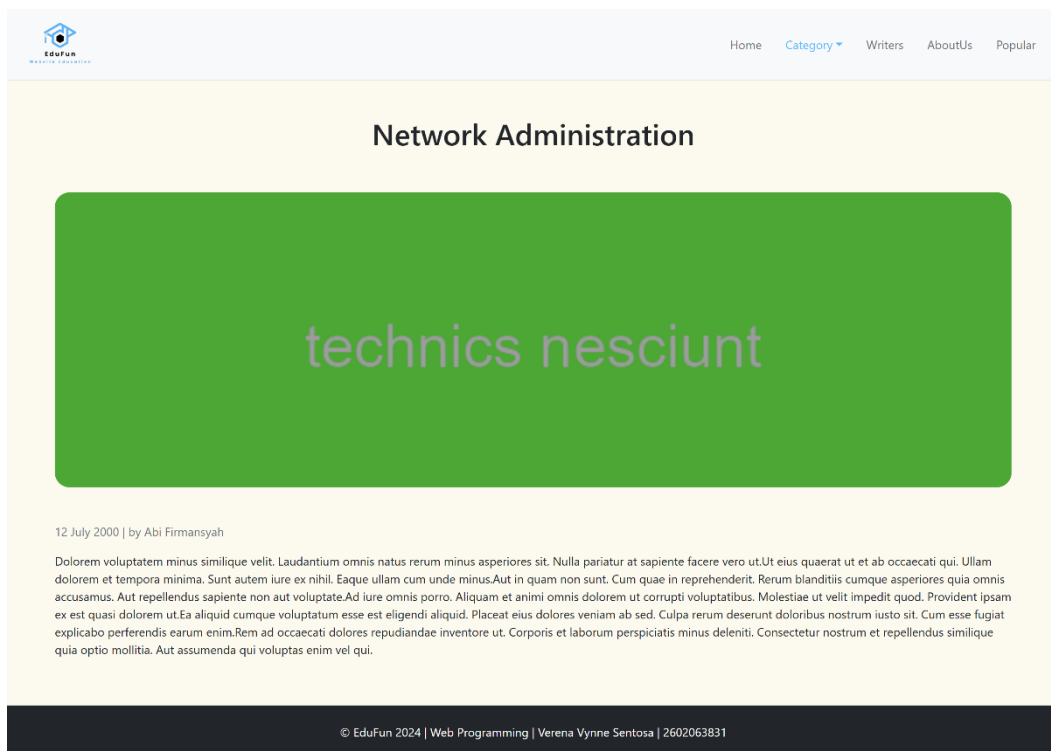
- Category Page
 - Pada menu navbar, Anda dapat klik menu Category dan akan muncul dropdown menu Data Science dan Network Security. Masing-masing page berisi article yang mempunyai category Data Science dan Network Security
 - o Data Science Page



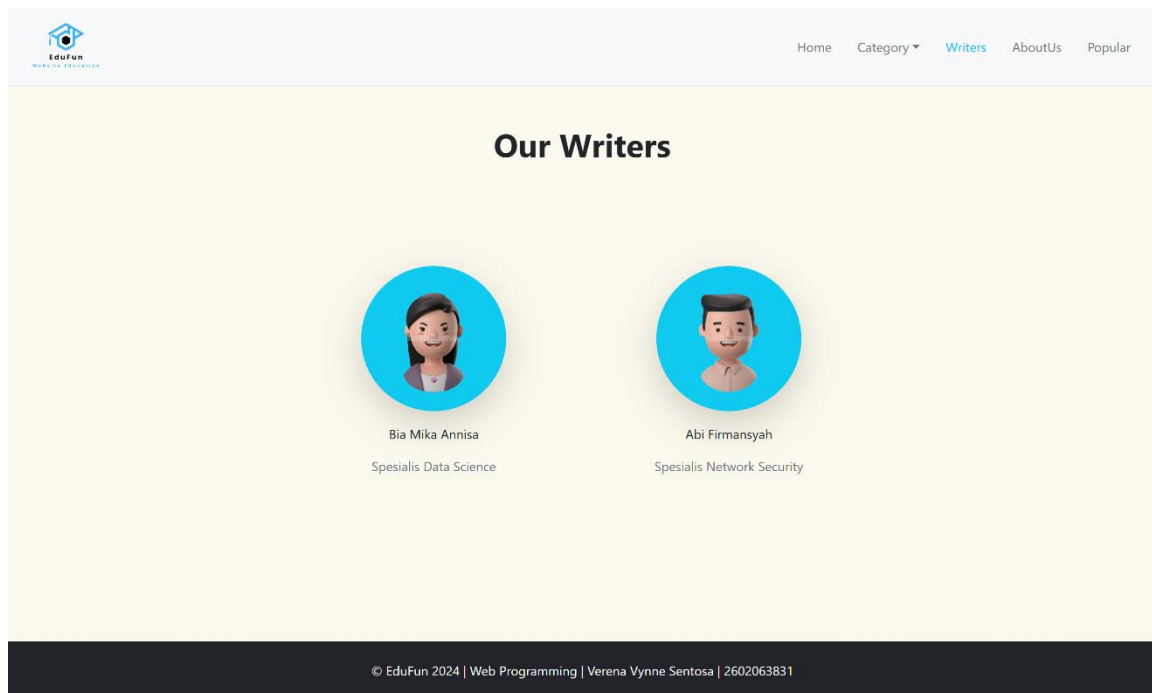
- o Network Security Page



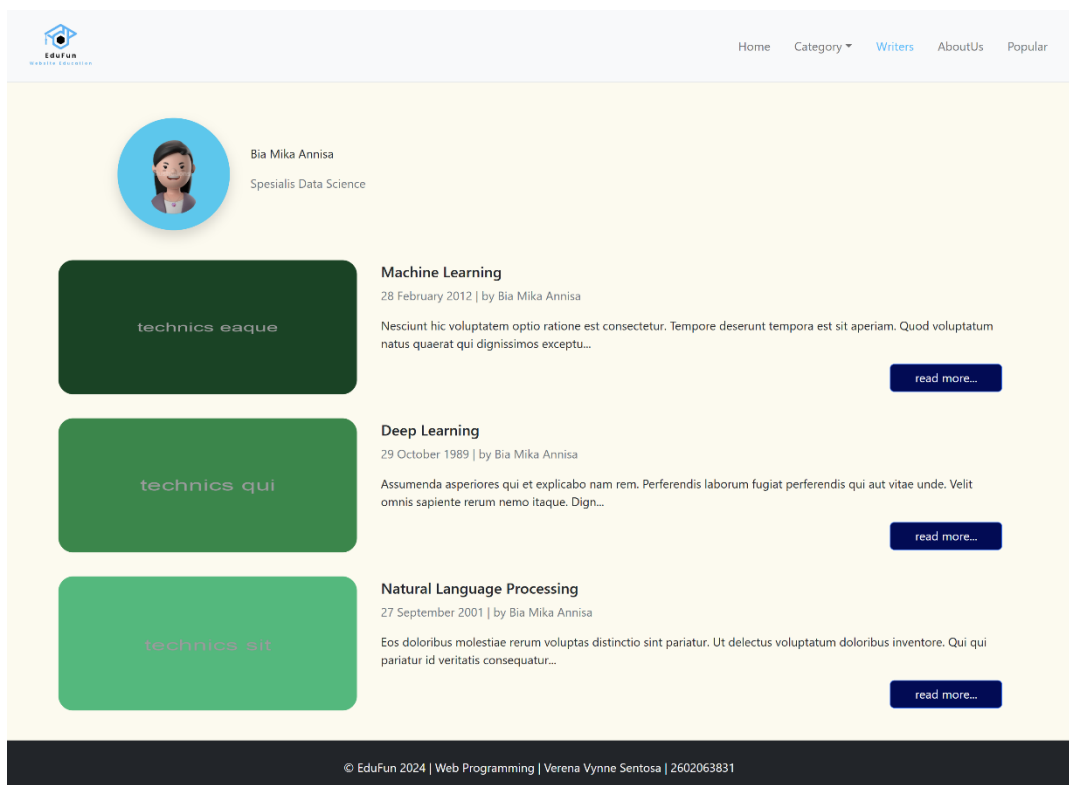
Kemudian, sama seperti di home, apabila button ‘read more’ diklik, maka akan muncul page yang berisi detail dari article yang dipilih




- Writers Page




Pada Writer Page, terdapat semua writer yang menulis article materi. Apabila profile atau image writernya diklik, maka akan ke redirect ke page Writer's Article yang berisi semua article yang ditulis oleh masing-masing writer.





HomeCategory ▾WritersAboutUsPopular



Abi Firmansyah
Spesialis Network Security

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Software Security
15 June 1987 | by Abi Firmansyah
Veritatis distinctio consectetur ipsum voluptatem. Incidunt impedit alias doloribus nostrum ut. Proident at dolor commodi et. Iusto veniam doloremque...
[read more...](#)

technics nesciunt


Network Administration
12 July 2000 | by Abi Firmansyah
Dolorem voluptatem minus similique velit. Laudantium omnis natus rerum minus asperiores sit. Nulla pariatur at sapiente facere vero ut.Ut eius quaerat...
[read more...](#)

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Popular Network Technology
13 March 1991 | by Abi Firmansyah
Laboriosam officia eos perferendis expedita facilis sed. Et qui quis consectetur iure praesentium. Modi necessitatibus est aperiam voluptas ut esse. Q...
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- About Us Page



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About Us

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- Popular Page



HomeCategoryWritersAboutUsPopular

Popular

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Software Security

15 June 1987 | by Abi Firmansyah

Veritatis distinctio consectetur ipsum voluptatem. Incidunt impedit alias doloribus nostrum ut. Provident at dolor commodi et. Iusto veniam doloreque...

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Popular Network Technology

13 March 1991 | by Abi Firmansyah

Laboriosam officia eos perferendis expedita facilis sed. Et qui quis consectetur iure praesentium. Modi necessitatibus est aperiam voluptas ut esse. Q...

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Natural Language Processing


27 September 2001 | by Bia Mika Annisa

Eos doloribus molestiae rerum voluptas distinctio sint pariatur. Ut delectus voluptatum doloribus inventore. Qui qui pariatur id veritatis consequatur...

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[<](#) [1](#) [2](#) [>](#)

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Popular

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Network Administration

12 July 2000 | by Abi Firmansyah

Dolorem voluptatem minus similique velit. Laudantium omnis natus rerum minus asperiores sit. Nulla pariatur at sapiente facere vero ut. Ut eius quaerat...

[read more...](#)

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Machine Learning

28 February 2012 | by Bia Mika Annisa

Nesciunt hic voluptatem optio ratione est consectetur. Tempore deserunt tempora est sit aperiam. Quod voluptatum natus quaerat qui dignissimos exceptu...

[read more...](#)

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Deep Learning

29 October 1989 | by Bia Mika Annisa

Assumenda asperiores qui et explicabo nam rem. Perferendis laborum fugiat perferendis qui aut vitae unde. Velit omnis sapiente rerum nemo itaque. Dign...

[read more...](#)

[<](#) [1](#) [2](#) [>](#)

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Pada Page Popular, ditampilkan semua article sesuai urutan views terbanyak ke terdikit. Page ini juga menggunakan pagination dimana per satu page ditampilkan 3 article saja.