

**LAPORAN PRAKTIKUM  
PEMROGRAMAN WEB II  
MODUL 6**



**CRUD DAN LOGIN PADA CODEIGNITER**

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**LEMBAR PENGESAHAN**  
**LAPORAN PRAKTIKUM PEMROGRAMAN WEB II**  
**MODUL 6**

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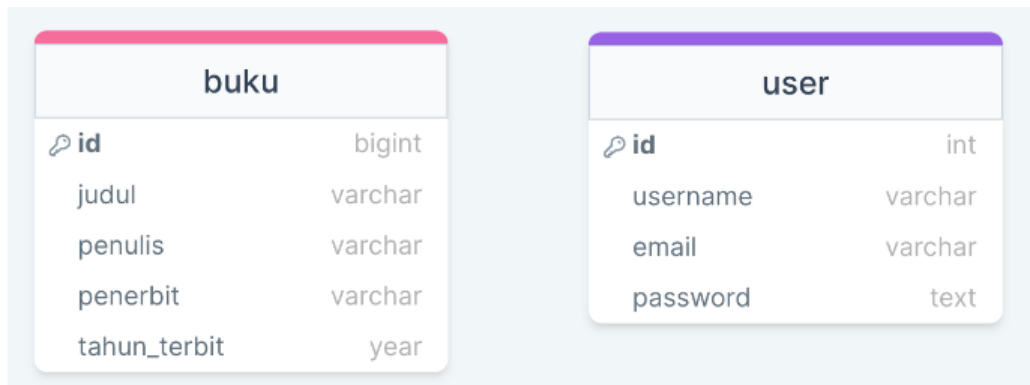
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## SOAL 1

Buatlah sebuah website yang memiliki fitur login dan logout. Setelah login pengguna website dapat melakukan CRUD yang terhubung langsung dengan database. Beberapa syarat yang harus ada pada website:

- Jika seorang pengguna belum login dan mengakses halaman yang mengharuskan login, maka tampilkan sebuah pesan peringatan di halaman login, peringatan berisi “Login terlebih dahulu!”.
- Berikan validasi pada bagian ‘Create’ atau ‘tambah data’ di form, sebagai berikut:
  - judul: Harus diisi dan berupa string
  - penulis: Harus diisi dan berupa string
  - penerbit: Harus diisi dan berupa string
  - tahun\_terbit: Harus diisi dan berupa angka, angka harus lebih besar dari 1800 dan lebih kecil dari 2024
- (opsional) buatlah custom pesan validasi menggunakan bahasa Indonesia
- Buat file migration pada codeigniter dengan Desain konseptual database sebagai berikut:



Simpan dalam folder github PRAK 601

## A. Source Code

*Tabel 1. Source Code Routes.php*

```
1  <?php
2
3  namespace Config;
4
5  // Create a new instance of our RouteCollection class.
6  $routes = Services::routes();
7
8  /*
9   * -----
10   * Router Setup
11   * -----
12   */
13 $routes->setDefaultNamespace('App\Controllers');
14 $routes->setDefaultController('Home');
15 $routes->setDefaultMethod('index');
16 $routes->setTranslateURIDashes(false);
17 $routes->set404Override();
18 // The Auto Routing (Legacy) is very dangerous. It is easy to
19 // create vulnerable apps
20 // where controller filters or CSRF protection are bypassed.
21 // If you don't want to define all routes, please use the Auto
22 // Routing (Improved).
23 // Set ` $autoRoutesImproved` to true in
24 // `app/Config/Feature.php` and set the following to true.
25 // $routes->setAutoRoute(false);
26
27 /*
28 * -----
29 * Route Definitions
30 * -----
31 */
32
33 // We get a performance increase by specifying the default
34 // route since we don't have to scan directories.
35 $routes->setAutoRoute(true);
36 $routes->get('/', 'Home::index', ['filter' => 'auth']);
37 $routes->get('/buku', 'BukuController::index');
38 $routes->get('/buku/create', 'BukuController::create');
39 $routes->post('/buku/create', 'BukuController::store');
40 $routes->get('/buku/(:num)/edit',
41 'BukuController::edit/$1');
```

38	\$routes->post('/buku/(:num)/edit', 'BukuController::update/\$1');
39	\$routes->delete('/buku/(:num)/delete', 'BukuController::delete/\$1');
40	\$routes->get('/login', 'UserController::index');
41	
42	\$routes->post('/login', 'UserController::login');
43	\$routes->get('/logout', 'UserController::logout');
44	
45	/*
46	* -----
47	-----
48	* Additional Routing
49	* -----
50	* -----
51	* There will often be times that you need additional routing and you
52	* need it to be able to override any defaults in this file. Environment
53	* based routes is one such time. require() additional route files here
54	* to make that happen.
55	* You will have access to the \$routes object within that file
56	without
57	* needing to reload it.
58	*/
59	if (is_file(APPPATH . 'Config/' . ENVIRONMENT . '/Routes.php')) {
60	require APPPATH . 'Config/' . ENVIRONMENT . '/Routes.php';
61	}

*Tabel 2. Source Code BaseControllerl.php*

1	<?php
2	
3	namespace App\Controllers;
4	
5	use CodeIgniter\Controller;
6	use CodeIgniter\HTTP\CLIRequest;
7	use CodeIgniter\HTTP\IncomingRequest;
8	use CodeIgniter\HTTP\RequestInterface;
9	use CodeIgniter\HTTP\ResponseInterface;
10	use Psr\Log\LoggerInterface;



```

11
12  /**
13   * Class BaseController
14   *
15   * BaseController provides a convenient place for loading
    components
16   * and performing functions that are needed by all your
    controllers.
17   * Extend this class in any new controllers:
18   *     class Home extends BaseController
19   *
20   * For security be sure to declare any new methods as
    protected or private.
21   */
22  abstract class BaseController extends Controller
23  {
24      /**
25       * Instance of the main Request object.
26       *
27       * @var CLIRequest|IncomingRequest
28       */
29      protected $request;
30
31      /**
32       * An array of helpers to be loaded automatically upon
33       * class instantiation. These helpers will be available
34       * to all other controllers that extend BaseController.
35       *
36       * @var array
37       */
38      protected $helpers = [];
39
40      /**
41       * Be sure to declare properties for any property fetch
42       * you initialized.
43       * The creation of dynamic property is deprecated in PHP
44       * 8.2.
45       */
46      // protected $session;
47
48      /**
49       * Constructor.
50       */
51      public function initController(RequestInterface
    $request, ResponseInterface $response, LoggerInterface
    $logger)
52      {

```

51	// Do Not Edit This Line
52	parent::initController(\$request, \$response, \$logger);
53	
54	// Preload any models, libraries, etc, here.
55	
56	// E.g.: \$this->session = \Config\Services::session();
57	}
58	}

*Tabel 3. Source Code BukuController.php*

1	<?php
2	
3	namespace App\Controllers;
4	
5	use App\Controllers\BaseController;
6	use App\Models\BukuModel;
7	
8	class BukuController extends BaseController
9	{
10	public function index()
11	{
12	// Check if user is authenticated
13	if (!session()->get('logged_in')) {
14	return redirect()->to(base_url('/login'));
15	}
16	return view('buku/index', [
17	'buku' => (new BukuModel())->findAll()
18	]);
19	}
20	
21	public function create()
22	{
23	return view('buku/create');
24	}
25	
26	public function store()
27	{
28	\$buku = new BukuModel();
29	
30	\$buku->insert([
31	'judul' => \$this->request->getPost('judul'),
32	'penulis' => \$this->request->getPost('penulis'),
33	'penerbit' => \$this->request->getPost('penerbit'),

```

34         'tahun_terbit'           =>           $this->request-
>getPost('tahun_terbit'),
35         ]);
36
37         return redirect()->to('/buku');
38     }
39
40     public function edit($id)
41     {
42         return view('buku/edit', [
43             'buku' => (new BukuModel())->find($id)
44         ]);
45     }
46
47     public function update($id)
48     {
49         $buku = new BukuModel();
50
51         $buku->update($id, [
52             'judul' => $this->request->getPost('judul'),
53             'penulis' => $this->request->getPost('penulis'),
54             'penerbit'           =>           $this->request-
>getPost('penerbit'),
55             'tahun_terbit'           =>           $this->request-
>getPost('tahun_terbit'),
56         ]);
57
58         return redirect()->to('/buku');
59     }
60
61     public function delete($id)
62     {
63         $buku = new BukuModel();
64
65         $buku->delete($id);
66
67         return redirect()->to('/buku');
68     }
69
70
71 }

```

Tabel 4. Source Code UserController.php

```

1  <?php
2
3  namespace App\Controllers;
4
5  use App\Controllers\BaseController;
6  use App\Models\UserModel;
7
8  class UserController extends BaseController
9  {
10     public function index()
11     {
12         return view('login');
13     }
14
15     public function login()
16     {
17         $user = new UserModel();
18         $username = $this->request->getPost('username');
19         $pw = $this->request->getPost('password');
20         $dataUser = $user->where(['username' => $username])->
>orWhere(['email' => $username])->first();
21         if ($dataUser) {
22             if (password_verify($pw, $dataUser['password']))
23             {
24                 session()->set([
25                     'username' => $dataUser['username'],
26                     'email' => $dataUser['email'],
27                     'logged_in' => true
28                 ]);
29                 return redirect()->to(base_url('buku'));
30             } else {
31                 session()->setFlashdata('pesan', 'Password
32                 salah');
33                 return redirect()->to(base_url('login'));
34             }
35             } else {
36                 session()->setFlashdata('pesan', 'Username atau
37                 email tidak ditemukan');
38                 return redirect()->to(base_url('login'));
39             }
40         }
41
42     public function logout()
43     {
44         session()->destroy();

```

43	return redirect()->to(base_url('login'));
44	}
45	}

*Tabel 5. Source Code Home.php*

1	<?php
2	
3	namespace App\Controllers;
4	
5	class Home extends BaseController
6	{
7	public function index()
8	{
9	return view('welcome_message');
10	}
11	}

*Tabel 6. Source Code 2024-06-10-071037\_Buku.php*

1	<?php
2	
3	namespace App\Database\Migrations;
4	
5	use CodeIgniter\Database\Migration;
6	
7	class Buku extends Migration
8	{
9	public function up()
10	{
11	\$this->forge->addField([
12	'id' => [
13	'type' => 'INT',
14	'constraint' => 5,
15	'unsigned' => true,
16	'auto_increment' => true
17	],
18	'judul' => [
19	'type' => 'VARCHAR',
20	'constraint' => 100,
21	],
22	'penulis' => [
23	'type' => 'VARCHAR',
24	'constraint' => 100,
25	],
26	'penerbit' => [
27	'type' => 'VARCHAR',

```

28         'constraint' => 100,
29     ],
30     'tahun_terbit' => [
31         'type' => 'YEAR',
32     ],
33 ];
34
35 $this->forge->addKey('id', true);
36 $this->forge->createTable('buku');
37 }
38
39 public function down()
40 {
41     $this->forge->dropTable('buku', true);
42 }
43 }

```

*Tabel 7. Source Code 2024-06-10-071057\_User.php*

```

1  <?php
2
3  namespace App\Database\Migrations;
4
5  use CodeIgniter\Database\Migration;
6
7  class User extends Migration
8  {
9      public function up()
10     {
11         $this->forge->addField([
12             'id'=> [
13                 'type' => 'INT',
14                 'constraint' => 5,
15                 'unsigned' => true,
16                 'auto_increment' => true
17             ],
18             'username' => [
19                 'type' => 'VARCHAR',
20                 'constraint' => 100,
21             ],
22             'email' => [
23                 'type' => 'VARCHAR',
24                 'constraint' => 100,
25             ],
26             'password' => [
27                 'type' => 'TEXT',
28

```

```

29         ],
30         'created_at' => [
31             'type' => 'DATETIME',
32         ],
33         'updated_at' => [
34             'type' => 'DATETIME',
35         ],
36         'deleted_at' => [
37             'type' => 'DATETIME',
38         ],
39     ]);
40
41     $this->forge->addKey('id', true);
42     $this->forge->createTable('user', true);
43 }
44
45 public function down()
46 {
47     $this->forge->dropTable('user', true);
48 }
49 }

```

*Tabel 8. Source Code Buku.php*

```

1  <?php
2
3  namespace App\Database\Seeds;
4
5  use CodeIgniter\Database\Seeder;
6  use App\Models\BukuModel;
7
8  class Buku extends Seeder
9  {
10     public function run()
11     {
12         $this->db->table('buku')->insert([
13             'judul' => 'Belajar Pemrograman Java',
14             'penulis' => 'Petani Kode',
15             'penerbit' => 'PT Gramedia',
16             'tahun_terbit' => '2020'
17         ]);
18
19         $this->db->table('buku')->insert([
20             'judul' => 'Belajar Pemrograman PHP',
21             'penulis' => 'Petani Kode',
22             'penerbit' => 'PT Gramedia',
23             'tahun_terbit' => '2020'

```

24	]);
25	
26	\$this->db->table('buku')->insert([
27	'judul' => 'Belajar Pemrograman Python',
28	'penulis' => 'Petani Kode',
29	'penerbit' => 'PT Gramedia',
30	'tahun_terbit' => '2020'
31	]);
32	}
33	}

*Tabel 9. Source Code UserSeeder.php*

1	<?php
2	
3	namespace App\Database\Seeds;
4	
5	use CodeIgniter\Database\Seeder;
6	
7	class UserSeeder extends Seeder
8	{
9	public function run()
10	{
11	\$this->db->table('user')->insert([
12	'username' => 'admin',
13	'email' => 'admin@mail.com',
14	'password' => password_hash('12345678',
15	PASSWORD_DEFAULT),
16	]);
17	}
18	}

*Tabel 10. Source Code AuthFilter.php*

1	<?php
2	
3	namespace App\Filters;
4	
5	use CodeIgniter\Filters\FilterInterface;
6	use CodeIgniter\HTTP\RequestInterface;
7	use CodeIgniter\HTTP\ResponseInterface;
8	
9	class AuthFilter implements FilterInterface
10	{
11	public function before(RequestInterface \$request,
12	\$arguments = null)
13	{



```

13         if(!session()->get('logged_in')){
14             session()->setFlashdata('pesan', 'Login terlebih
dahulu!');
15             return redirect()->to(base_url('login'));
16         }
17     }
18
19     public function after(RequestInterface $request,
ResponseInterface $response, $arguments = null)
20     {
21         // Do something here
22     }
23 }

```

*Tabel 11. Source Code BukuModel.php*

```

1 <?php
2
3 namespace App\Models;
4
5 use CodeIgniter\Model;
6
7 class BukuModel extends Model
8 {
9     protected $DBGroup           = 'default';
10    protected $table              = 'buku';
11    protected $primaryKey         = 'id';
12    protected $useAutoIncrement   = true;
13    protected $returnType         = 'array';
14    protected $useSoftDeletes     = false;
15    protected $protectFields      = true;
16    protected $allowedFields      = [
17        'judul',
18        'penulis',
19        'penerbit',
20        'tahun_terbit'
21    ];
22
23    // Dates
24    protected $useTimestamps      = false;
25    protected $dateFormat         = 'datetime';
26    protected $createdField       = 'created_at';
27    protected $updatedField       = 'updated_at';
28    protected $deletedField       = 'deleted_at';
29
30    // Validation
31    protected $validationRules     = [];

```

32	protected \$validationMessages = [];
33	protected \$skipValidation = false;
34	protected \$cleanValidationRules = true;
35	
36	// Callbacks
37	protected \$allowCallbacks = true;
38	protected \$beforeInsert = [];
39	protected \$afterInsert = [];
40	protected \$beforeUpdate = [];
41	protected \$afterUpdate = [];
42	protected \$beforeFind = [];
43	protected \$afterFind = [];
44	protected \$beforeDelete = [];
45	protected \$afterDelete = [];
46	}

*Tabel 12. Source Code UserModel.php*

1	<?php
2	
3	namespace App\Models;
4	
5	use CodeIgniter\Model;
6	
7	class UserModel extends Model
8	{
9	protected \$DBGroup = 'default';
10	protected \$table = 'user';
11	protected \$primaryKey = 'id';
12	protected \$useAutoIncrement = true;
13	protected \$returnType = 'array';
14	protected \$useSoftDeletes = false;
15	protected \$protectFields = true;
16	protected \$allowedFields = [];
17	
18	// Dates
19	protected \$useTimestamps = false;
20	protected \$dateFormat = 'datetime';
21	protected \$createdField = 'created_at';
22	protected \$updatedField = 'updated_at';
23	protected \$deletedField = 'deleted_at';
24	
25	// Validation
26	protected \$validationRules = [];
27	protected \$validationMessages = [];
28	protected \$skipValidation = false;
29	protected \$cleanValidationRules = true;

30	
31	// Callbacks
32	protected \$allowCallbacks = true;
33	protected \$beforeInsert = [];
34	protected \$afterInsert = [];
35	protected \$beforeUpdate = [];
36	protected \$afterUpdate = [];
37	protected \$beforeFind = [];
38	protected \$afterFind = [];
39	protected \$beforeDelete = [];
40	protected \$afterDelete = [];
41	}

*Tabel 13. Source Code Create.php*

1	<!DOCTYPE html>
2	<html lang="en">
3	
4	<head>
5	<meta charset="UTF-8">
6	<meta http-equiv="X-UA-Compatible" content="IE=edge">
7	<meta name="viewport" content="width=device-width,
	initial-scale=1.0">
8	<title>Tambah Data Buku</title>
9	<link
	href="https://cdn.jsdelivrivr.net/npm/bootstrap@5.3.0-
	alpha3/dist/css/bootstrap.min.css" rel="stylesheet"
	integrity="sha384-
	KK94CHFLLe+nY2dmCWGMq91rCGa5gtU4mk92HdvYe+M/SXH301p5ILy+dN9
	+nJOZ" crossorigin="anonymous">
10	<style>
11	body {
12	background-color: #f8f9fa;
13	font-family: 'Arial', sans-serif;
14	}
15	
16	.navbar {
17	margin-bottom: 20px;
18	}
19	
20	.btn-primary {
21	background-color: #007bff;
22	border: none;
23	}
24	
25	.btn-primary:hover {
26	background-color: #0056b3;

```

27         }
28
29         .btn-danger {
30             background-color: #dc3545;
31             border: none;
32         }
33
34         .btn-danger:hover {
35             background-color: #c82333;
36         }
37
38         .btn-warning {
39             background-color: #ffc107;
40             border: none;
41         }
42
43         .btn-warning:hover {
44             background-color: #e0a800;
45         }
46
47         footer {
48             margin-top: 40px;
49             padding: 20px 0;
50             background-color: #343a40;
51             color: white;
52             text-align: center;
53         }
54     </style>
55 </head>
56
57 <body>
58     <nav class="navbar navbar-expand-lg navbar-dark bg-
dark">
59         <div class="container-fluid">
60             <a                                class="navbar-brand"
href="#">Perpustakaan</a>
61             <button class="navbar-toggler" type="button"
data-bs-toggle="collapse" data-bs-target="#navbarNav" aria-
controls="navbarNav" aria-expanded="false" aria-
label="Toggle navigation">
62                 <span class="navbar-toggler-icon"></span>
63             </button>
64             <div class="collapse navbar-collapse"
id="navbarNav">
65                 <ul class="navbar-nav ms-auto">
66                     <li class="nav-item">
67

```

```

68         <a class="nav-link" href="{%=
base_url('logout') %}">Logout</a>
69     </li>
70 </ul>
71 </div>
72 </div>
73 </nav>
74
75 <div class="container">
76     <div class="row">
77         <div class="col-12 mb-4">
78             <h2>Tambah Data Buku</h2>
79         </div>
80
81         <div class="col-md-6 offset-md-3">
82             <form action="{%= base_url('/buku/create')
?}" method="post">
83                 <div class="mb-3">
84                     <label for="judul" class="form-
label">Judul</label>
85                     <input type="text" class="form-
control" id="judul" name="judul" required>
86                 </div>
87                 <div class="mb-3">
88                     <label for="penulis" class="form-
label">Penulis</label>
89                     <input type="text" class="form-
control" id="penulis" name="penulis" required>
90                 </div>
91                 <div class="mb-3">
92                     <label for="penerbit" class="form-
label">Penerbit</label>
93                     <input type="text" class="form-
control" id="penerbit" name="penerbit" required>
94                 </div>
95                 <div class="mb-3">
96                     <label for="tahun_terbit"
class="form-label">Tahun Terbit</label>
97                     <input type="number" class="form-
control" id="tahun_terbit" name="tahun_terbit" required>
98                 </div>
99                 <div class="mb-3 d-flex">
100                     <button type="submit" class="btn
btn-primary me-2">Tambah</button>
101                     <a href="{%= base_url('/buku') %}"
class="btn btn-info">Kembali</a>
102                 </div>

```

103	</form>
103	</div>
104	</div>
105	</div>
106	
107	<footer>
108	<div class="container">
109	<p>&copy; 2024 Perpustakaan. All rights reserved.</p>
110	</div>
111	</footer>
112	
113	<script
	src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0-alpha3/dist/js/bootstrap.bundle.min.js" integrity="sha384-ENjdO4Dr2bkBIFxQpeoTz1HIcje39Wm4jDKdf19U8gI4ddQ3GYNS7NTKfAdVQSZe" crossorigin="anonymous"></script>
114	</body>
115	
116	</html>

*Tabel 14. Source Code Edit.php*

1	<!DOCTYPE html>
2	<html lang="en">
3	
4	<head>
5	<meta charset="UTF-8">
6	<meta http-equiv="X-UA-Compatible" content="IE=edge">
7	<meta name="viewport" content="width=device-width, initial-scale=1.0">
8	<title>Edit Data</title>
9	<link
	href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0-alpha3/dist/css/bootstrap.min.css" rel="stylesheet" integrity="sha384-KK94CHFLLe+nY2dmCWGMq91rCGa5gtU4mk92HdvYe+M/SXH301p5ILy+dN9+nJOZ" crossorigin="anonymous">
10	<style>
11	body {
12	background-color: #f8f9fa;
13	font-family: 'Arial', sans-serif;
14	}
15	
16	.navbar {
17	margin-bottom: 20px;
18	}

```

19
20     .card {
21         margin-bottom: 20px;
22     }
23
24     .btn-primary {
25         background-color: #007bff;
26         border: none;
27     }
28
29     .btn-primary:hover {
30         background-color: #0056b3;
31     }
32
33     .btn-danger {
34         background-color: #dc3545;
35         border: none;
36     }
37
38     .btn-danger:hover {
39         background-color: #c82333;
40     }
41
42     .btn-warning {
43         background-color: #ffc107;
44         border: none;
45     }
46
47     .btn-warning:hover {
48         background-color: #e0a800;
49     }
50
51     footer {
52         margin-top: 40px;
53         padding: 20px 0;
54         background-color: #343a40;
55         color: white;
56         text-align: center;
57     }
58     </style>
59 </head>
60
61 <body>
62     <nav class="navbar navbar-expand-lg navbar-dark bg-
63         dark">
        <div class="container-fluid">

```

64	<code>&lt;a class="navbar-brand"</code>
	<code>href="#"&gt;Perpustakaan&lt;/a&gt;</code>
65	<code>&lt;button class="navbar-toggler" type="button"</code>
	<code>data-bs-toggle="collapse" data-bs-target="#navbarNav" aria-</code>
	<code>controls="navbarNav" aria-expanded="false" aria-</code>
	<code>label="Toggle navigation"&gt;</code>
66	<code>&lt;span class="navbar-toggler-icon"&gt;&lt;/span&gt;</code>
67	<code>&lt;/button&gt;</code>
68	<code>&lt;div class="collapse navbar-collapse"</code>
	<code>id="navbarNav"&gt;</code>
69	<code>&lt;ul class="navbar-nav ms-auto"&gt;</code>
70	<code>&lt;li class="nav-item"&gt;</code>
71	<code>&lt;a class="nav-link" href="&lt;?=</code>
	<code>base_url('logout') ?&gt;"&gt;Logout&lt;/a&gt;</code>
72	<code>&lt;/li&gt;</code>
73	<code>&lt;/ul&gt;</code>
74	<code>&lt;/div&gt;</code>
75	<code>&lt;/div&gt;</code>
76	<code>&lt;/nav&gt;</code>
77	
78	<code>&lt;div class="container"&gt;</code>
79	<code>&lt;div class="row mb-4"&gt;</code>
80	<code>&lt;div class="col-12"&gt;</code>
81	<code>&lt;h2&gt;Edit Data Buku&lt;/h2&gt;</code>
82	<code>&lt;/div&gt;</code>
83	<code>&lt;/div&gt;</code>
84	
85	<code>&lt;div class="row"&gt;</code>
86	<code>&lt;div class="col-12 col-md-6"&gt;</code>
87	<code>&lt;form action="&lt;?= base_url('/buku/'</code>
	<code>\$buku['id'] . '/edit') ?&gt;" method="post"&gt;</code>
88	<code>&lt;div class="mb-3"&gt;</code>
89	<code>&lt;label for="judul" class="form-</code>
	<code>label"&gt;Judul&lt;/label&gt;</code>
90	<code>&lt;input type="text" class="form-</code>
	<code>control" id="judul" name="judul" value="&lt;?= \$buku['judul']</code>
	<code>?&gt;"&gt;</code>
91	<code>&lt;/div&gt;</code>
92	<code>&lt;div class="mb-3"&gt;</code>
93	<code>&lt;label for="penulis" class="form-</code>
	<code>label"&gt;Penulis&lt;/label&gt;</code>
94	<code>&lt;input type="text" class="form-</code>
	<code>control" id="penulis" name="penulis" value="&lt;?=</code>
	<code>\$buku['penulis'] ?&gt;"&gt;</code>
95	<code>&lt;/div&gt;</code>
96	<code>&lt;div class="mb-3"&gt;</code>



```

97         <label for="penerbit" class="form-
label">Penerbit</label>
98         <input type="text" class="form-
control" id="penerbit" name="penerbit" value="<?=$buku['penerbit'] ?>">
99     </div>
100     <div class="mb-3">
101         <label for="tahun_terbit"
class="form-label">Tahun Terbit</label>
102         <input type="text" class="form-
control" id="tahun_terbit" name="tahun_terbit" value="<?=$buku['tahun_terbit'] ?>">
103     </div>
104     <div class="mb-3 d-flex">
105         <button type="submit" class="btn
btn-primary me-2">Edit</button>
106         <a href="<?=$base_url('/buku') ?>"
class="btn btn-info">Kembali</a>
107     </div>
108 </form>
109 </div>
110 </div>
111 </div>
112
113 <footer>
114     <div class="container">
115         <p>&copy; 2024 Perpustakaan. All rights
reserved.</p>
116     </div>
117 </footer>
118
119     <script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0-
alpha3/dist/js/bootstrap.bundle.min.js" integrity="sha384-
ENjdO4Dr"></script>
120 </body>
121
122 </html>

```

Tabel 15. Source Code Index.php

1	<!DOCTYPE html>
2	<html lang="en">
3	
4	<head>
5	<meta charset="UTF-8">
6	<meta http-equiv="X-UA-Compatible" content="IE=edge">
7	<meta name="viewport" content="width=device-width, initial-scale=1.0">
8	<title>Home</title>
9	<link href="https://cdn.jsdelivrivr.net/npm/bootstrap@5.3.0- alpha3/dist/css/bootstrap.min.css" rel="stylesheet" integrity="sha384- KK94CHFLLe+nY2dmCWGMq91rCGa5gtU4mk92HdvYe+M/SXH301p5ILy+dN9 +nJOZ" crossorigin="anonymous">
10	<style>
11	body {
12	background-color: #f8f9fa;
13	font-family: 'Arial', sans-serif;
14	}
15	
16	.navbar {
17	margin-bottom: 20px;
18	}
19	
20	.card {
21	margin-bottom: 20px;
22	}
23	
24	.btn-primary {
25	background-color: #007bff;
26	border: none;
27	}
28	
29	.btn-primary:hover {
30	background-color: #0056b3;
31	}
32	
33	.btn-danger {
34	background-color: #dc3545;
35	border: none;
36	}
37	
38	.btn-danger:hover {
39	background-color: #c82333;
40	}

```

41
42     .btn-warning {
43         background-color: #ffc107;
44         border: none;
45     }
46
47     .btn-warning:hover {
48         background-color: #e0a800;
49     }
50
51     footer {
52         margin-top: 40px;
53         padding: 20px 0;
54         background-color: #343a40;
55         color: white;
56         text-align: center;
57     }
58 </style>
59 </head>
60
61 <body>
62     <nav class="navbar navbar-expand-lg navbar-dark bg-
63     dark">
64         <div class="container-fluid">
65             <a class="navbar-brand"
66 href="#">Perpustakaan</a>
67             <button class="navbar-toggler" type="button"
68 data-bs-toggle="collapse" data-bs-target="#navbarNav" aria-
69 controls="navbarNav" aria-expanded="false" aria-
70 label="Toggle navigation">
71                 <span class="navbar-toggler-icon"></span>
72             </button>
73             <div class="collapse navbar-collapse"
74 id="navbarNav">
75                 <ul class="navbar-nav ms-auto">
76                     <li class="nav-item">
77                         <a class="nav-link" href="{%
78 base_url('logout') %}">Logout</a>
79                     </li>
80                 </ul>
81             </div>
82         </div>
83     </nav>
84
85     <div class="container">
86         <div class="row mb-4">
87             <div class="col text-center">

```

```

81         <h1>Selamat Datang di Perpustakaan</h1>
82     </div>
83 </div>
84
85     <!-- create list of books -->
86     <div class="row mb-4">
87         <div class="col-12 d-flex justify-content-
between align-items-center">
88             <h2>Daftar Buku</h2>
89             <a class="btn btn-info" href="<?=
base_url('/buku/create') ?>">Tambah Data</a>
90         </div>
91     </div>
92
93     <div class="row">
94         <?php foreach ($buku as $key => $value) : ?>
95             <div class="col-md-4">
96                 <div class="card">
97                     <div class="card-body">
98                         <h5 class="card-title"><?=
$value['judul'] ?></h5>
99                         <h6 class="card-subtitle mb-2
text-muted"><?= $value['penulis'] ?></h6>
100                        <p class="card-
text"><strong>Penerbit:</strong> <?= $value['penerbit']
?></p>
101                        <p class="card-
text"><strong>Tahun Terbit:</strong> <?=
$value['tahun_terbit'] ?></p>
102                        <a href="<?= base_url('/buku/' .
$value['id'] . '/edit') ?>" class="btn btn-warning btn-
sm">Edit</a>
103                        <form action="<?=
base_url('/buku/' . $value['id'] . '/delete') ?>"
method="POST" style="display: inline-block;">
104                            <input type="hidden"
name="_method" value="DELETE">
105                            <button type="submit"
onclick="return confirm('Are you sure you want to delete this
item?')" class="btn btn-danger btn-sm">Hapus</button>
106                        </form>
107                    </div>
108                </div>
109            </div>
110        <?php endforeach; ?>
111    </div>
112 </div>

```

113	
114	<footer>
115	<div class="container">
116	<p>&copy; 2024 Perpustakaan. All rights reserved.</p>
117	</div>
118	</footer>
119	
120	<script
	src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0-alpha3/dist/js/bootstrap.bundle.min.js" integrity="sha384-ENjdO4Dr2bkBIFxQpeoTz1Hicje39Wm4jDKdf19U8gI4ddQ3GYNS7NTKfAdVQSZe" crossorigin="anonymous"></script>
121	</body>
122	
123	</html>

*Tabel 16. Source Code Login.php*

1	<!DOCTYPE html>
2	<html lang="en">
3	
4	<head>
5	<meta charset="UTF-8">
6	<meta http-equiv="X-UA-Compatible" content="IE=edge">
7	<meta name="viewport" content="width=device-width, initial-scale=1.0">
8	<title>Login</title>
9	<link
	href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0-alpha3/dist/css/bootstrap.min.css" rel="stylesheet" integrity="sha384-KK94CHFLLe+nY2dmCWGMq91rCGa5gtU4mk92HdvYe+M/SXH301p5ILy+dN9+nJOZ" crossorigin="anonymous">
10	<style>
11	body {
12	background-color: #f8f9fa;
13	font-family: 'Arial', sans-serif;
14	display: flex;
15	align-items: center;
16	justify-content: center;
17	height: 100vh;
18	margin: 0;
19	}
20	
21	.container {
22	max-width: 400px;

```

23         padding: 20px;
24         background: white;
25         border-radius: 8px;
26         box-shadow: 0 4px 8px rgba(0, 0, 0, 0.1);
27     }
28
29     .form-outline {
30         margin-bottom: 16px;
31     }
32
33     .form-label {
34         font-weight: bold;
35     }
36
37     .btn-primary {
38         background-color: #007bff;
39         border: none;
40     }
41
42     .btn-primary:hover {
43         background-color: #0056b3;
44     }
45
46     .alert {
47         margin-bottom: 16px;
48     }
49     </style>
50 </head>
51
52 <body>
53     <div class="container">
54         <?php if (!empty(session()->getFlashdata('pesan'))>
55 : ?>
56         <div class="alert alert-warning alert-dismissible fade show" role="alert">
57             <?php echo session()->getFlashdata('pesan');
58             ?>
59             <button type="button" class="btn-close"
60 data-bs-dismiss="alert" aria-label="Close"></button>
61         </div>
62         <?php endif; ?>
63         <div class="row justify-content-center">
64             <form action="<?= base_url('/login') ?>"
method="post">
65                 <h3 class="text-center mb-4">Sign In</h3>
66                 <!-- Email input -->
67                 <div class="form-outline mb-4">

```

65	<code>&lt;label class="form-label"</code>
	<code>for="email"&gt;Username/Email address&lt;/label&gt;</code>
66	<code>&lt;input id="email" class="form-control"</code>
	<code>name="username" value="&lt;?= old('username') ?&gt;" /&gt;</code>
67	<code>&lt;/div&gt;</code>
68	
69	<code>&lt;!-- Password input --&gt;</code>
70	<code>&lt;div class="form-outline mb-4"&gt;</code>
71	<code>&lt;label class="form-label"</code>
	<code>for="password"&gt;Password&lt;/label&gt;</code>
72	<code>&lt;input type="password" id="password"</code>
	<code>name="password" class="form-control" /&gt;</code>
73	<code>&lt;/div&gt;</code>
74	
75	<code>&lt;button type="submit" class="btn btn-primary</code>
	<code>btn-block mb-4 w-100"&gt;Sign in&lt;/button&gt;</code>
76	<code>&lt;/form&gt;</code>
77	<code>&lt;/div&gt;</code>
78	<code>&lt;/div&gt;</code>
79	<code>&lt;script</code>
	<code>src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0-</code>
	<code>alpha3/dist/js/bootstrap.bundle.min.js" integrity="sha384-</code>
	<code>ENjdo4Dr2bkBIFxQpeoTz1Hicje39Wm4jDKdf19U8gI4ddQ3GYNS7NTKfAd</code>
	<code>VQSZe" crossorigin="anonymous"&gt;&lt;/script&gt;</code>
80	<code>&lt;/body&gt;</code>
81	
82	<code>&lt;/html&gt;</code>

*Tabel 17. Source Code .env*

1	<code>#-----</code>
	<code>-----</code>
2	<code># Example Environment Configuration file</code>
3	<code>#</code>
4	<code># This file can be used as a starting point for your own</code>
5	<code># custom .env files, and contains most of the possible</code>
	<code>settings</code>
6	<code># available in a default install.</code>
7	<code>#</code>
8	<code># By default, all of the settings are commented out. If you</code>
	<code>want</code>
9	<code># to override the setting, you must un-comment it by removing</code>
	<code>the '#'</code>
10	<code># at the beginning of the line.</code>
11	<code>#-----</code>
	<code>-----</code>
12	

```

13  #-----
14  # ENVIRONMENT
15  #-----
16
17  CI_ENVIRONMENT = development
18
19  #-----
20  # APP
21  #-----
22
23  # app.baseURL = ''
24  # If you have trouble with `.` , you could also use `_`.
25  # app_baseURL = ''
26  # app.forceGlobalSecureRequests = false
27  # app.CSPEnabled = false
28
29  #-----
30  # DATABASE
31  #-----
32
33  database.default.hostname = localhost
34  database.default.database = prak6
35  database.default.username = root
36  database.default.password =
37  database.default.DBDriver = MySQLi
38  database.default.DBPrefix =
39  database.default.port = 3306
40
41  # database.tests.hostname = localhost
42  # database.tests.database = ci4_test
43  # database.tests.username = root
44  # database.tests.password = root
45  # database.tests.DBDriver = MySQLi
46  # database.tests.DBPrefix =
47  # database.tests.port = 3306
48
49  #-----
50  # CONTENT SECURITY POLICY
51  #-----

```



```

52
53 # contentsecuritypolicy.reportOnly = false
54 # contentsecuritypolicy.defaultSrc = 'none'
55 # contentsecuritypolicy.scriptSrc = 'self'
56 # contentsecuritypolicy.styleSrc = 'self'
57 # contentsecuritypolicy.imageSrc = 'self'
58 # contentsecuritypolicy.baseURI = null
59 # contentsecuritypolicy.childSrc = null
60 # contentsecuritypolicy.connectSrc = 'self'
61 # contentsecuritypolicy.fontSrc = null
62 # contentsecuritypolicy.formAction = null
63 # contentsecuritypolicy.frameAncestors = null
64 # contentsecuritypolicy.frameSrc = null
65 # contentsecuritypolicy.mediaSrc = null
66 # contentsecuritypolicy.objectSrc = null
67 # contentsecuritypolicy.pluginTypes = null
68 # contentsecuritypolicy.reportURI = null
69 # contentsecuritypolicy.sandbox = false
70 # contentsecuritypolicy.upgradeInsecureRequests = false
71 # contentsecuritypolicy.styleNonceTag = '{csp-style-nonce}'
72 #   contentsecuritypolicy.scriptNonceTag   = '{csp-script-
nonce}'
73 # contentsecuritypolicy.autoNonce = true
74
75 #-----
-----
76 # COOKIE
77 #-----
-----
78
79 # cookie.prefix = ''
80 # cookie.expires = 0
81 # cookie.path = '/'
82 # cookie.domain = ''
83 # cookie.secure = false
84 # cookie.httponly = false
85 # cookie.samesite = 'Lax'
86 # cookie.raw = false
87
88 #-----
-----
89 # ENCRYPTION
90 #-----
-----
91

```

```

92      #                                     encryption.key                                     =
      hex2bin:8b4a27f482c539a5d3722d335972db7c8165203bcd7176c7292
      8e01aa0a6d33c
93      # encryption.driver = OpenSSL
94      # encryption.blockSize = 16
95      # encryption.digest = SHA512
96
97      #-----
      -----
98      # HONEYPOT
99      #-----
      -----
100
101     # honeypot.hidden = 'true'
102     # honeypot.label = 'Fill This Field'
103     # honeypot.name = 'honeypot'
      #     honeypot.template     =     '<label>{label}</label><input
104 type="text" name="{name}" value=""/>'
      #     honeypot.container           =           '<div
105 style="display:none">{template}</div>'
106
      #-----
107     -----
108     # SECURITY
      #-----
109     -----
110
111     # security.csrfProtection = 'cookie'
112     # security.tokenRandomize = false
113     # security.tokenName = 'csrf_token_name'
114     # security.headerName = 'X-CSRF-TOKEN'
115     # security.cookieName = 'csrf_cookie_name'
116     # security.expires = 7200
117     # security.regenerate = true
118     # security.redirect = false
119     # security.samesite = 'Lax'
120
      #-----
121     -----
122     # SESSION
      #-----
123     -----
124
      #                                     session.driver                                     =
125     'CodeIgniter\Session\Handlers\FileHandler'
126     # session.cookieName = 'ci_session'
127     # session.expiration = 7200

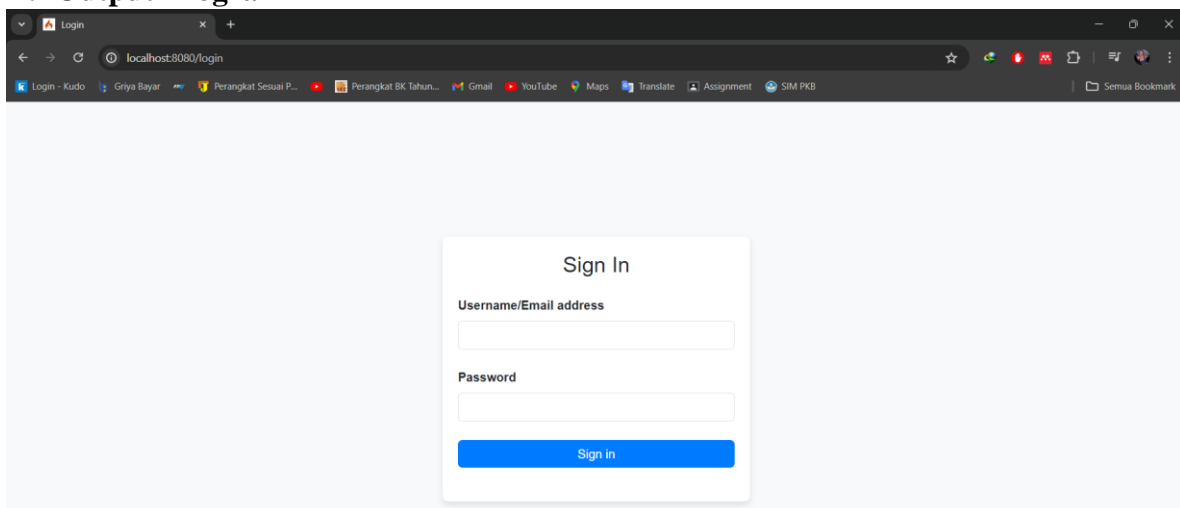
```

```

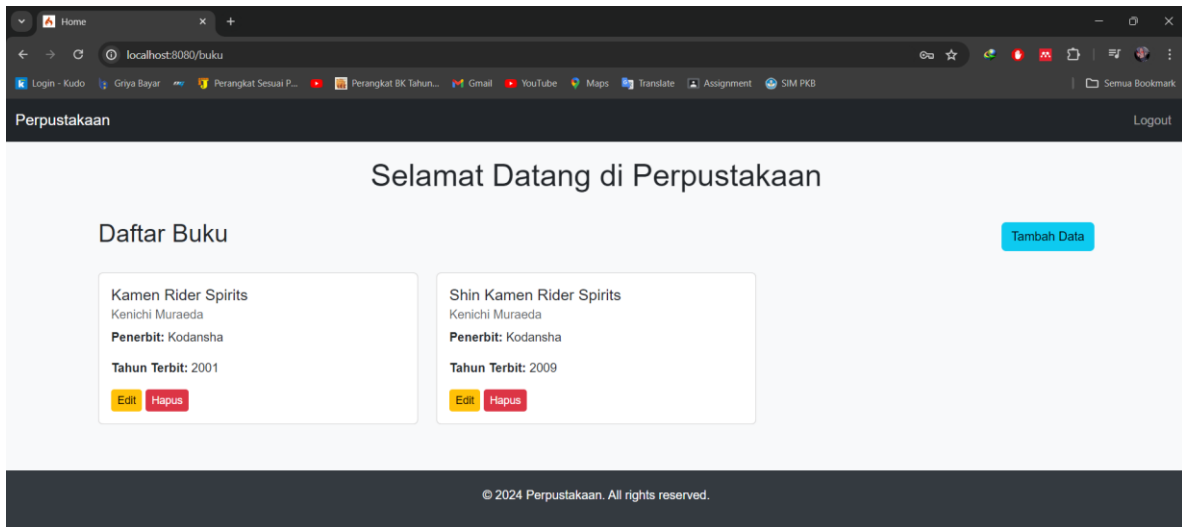
128 # session.savePath = null
129 # session.matchIP = false
130 # session.timeToUpdate = 300
131 # session.regenerateDestroy = false
132
133 -----
134 #  LOGGER
135 -----
136
137 # logger.threshold = 4
138
139 -----
140 #  CURLRequest
141 -----
142
143 # curlrequest.shareOptions = true

```

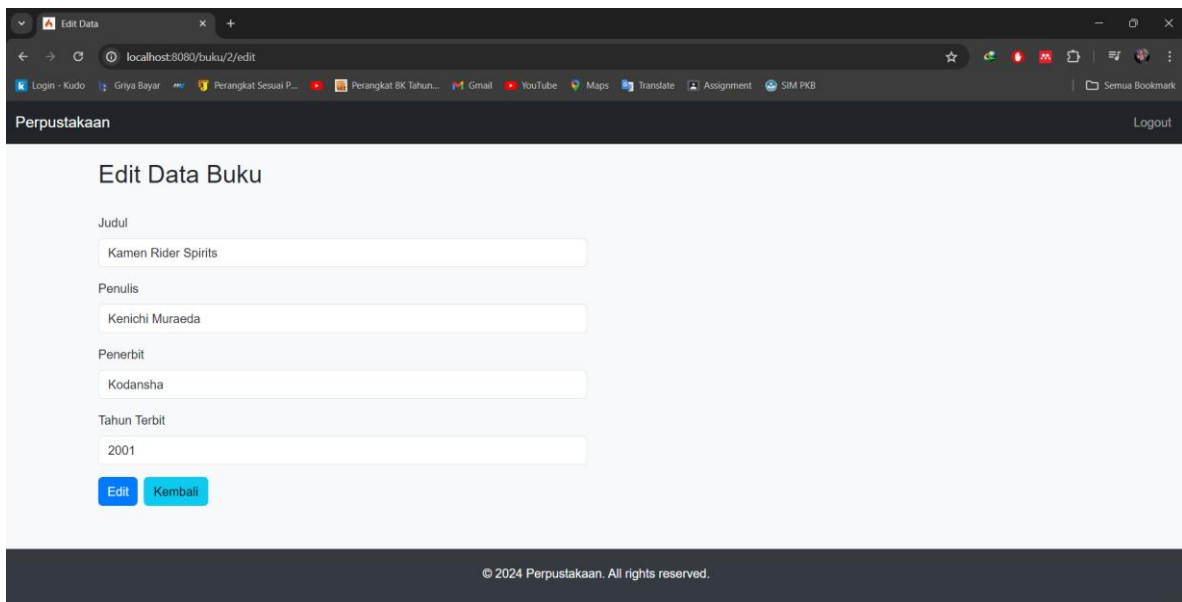
## B. Output Program



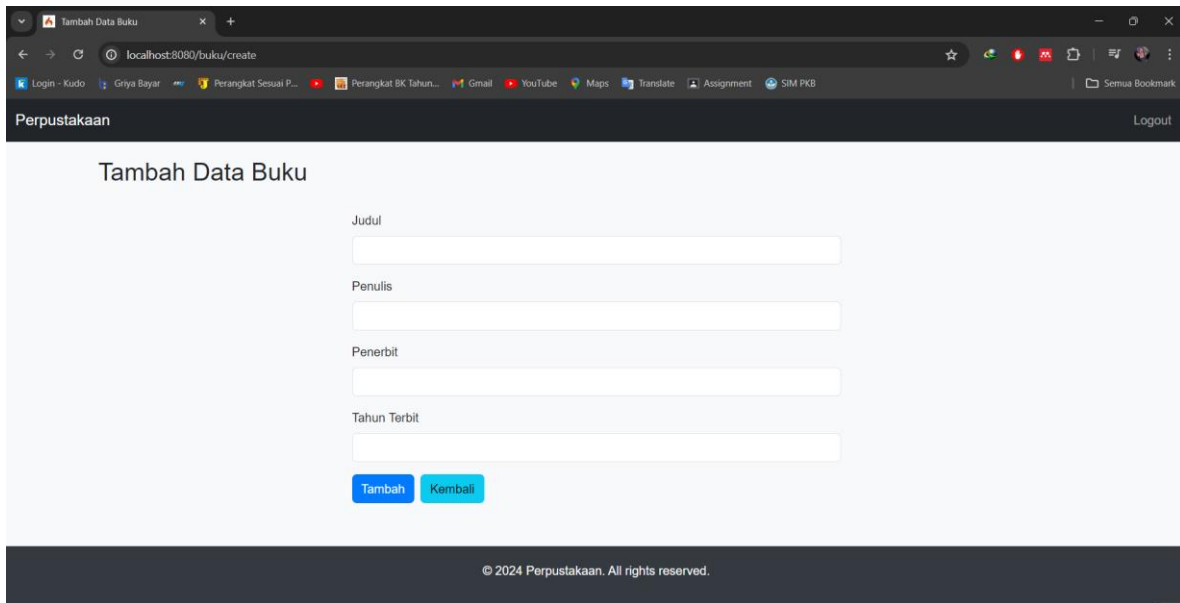
*Gambar 1. Screenshoot Halaman Login*



*Gambar 2. Screenshoot Halaman Buku*



*Gambar 3. Screenshoot Halaman Edit Data*



*Gambar 4. Screenshoot Halaman Tambah Buku*

### C. Pembahasan

#### 1. Routes.php

Pada bagian konfigurasi router terdapat pengaturan default untuk namespace controller dan method yang akan digunakan apabila tidak ada yang ditentukan dalam URL. Definisi rute-rute pengaturan lain dengan menggunakan metode HTTP seperti GET, POST, DELETE, dan parameter yang diterima, rute ini akan dipetakan ke controller dan method yang sesuai.

#### 2. BaseController.php

Pada kelas BaseController terdapat `$request` yang mewakili request utama untuk mengakses request yang masuk. Properti ini dapat berupa objek `CLIRequest` atau `IncomingRequest` tergantung pada jenis permintaan yang diterima. Terdapat `$helper` yang merupakan sebuah array, properti ini digunakan untuk mendeklarasikan helper yang akan dimuat secara otomatis ketika objek controller yang meng-extend BaseController dibuat.

#### 3. BukuController.php

Pada kelas BukuController memiliki beberapa metode yang mendefinisikan berbagai aksi yang dapat dilakukan. Metode `index()` digunakan untuk menampilkan daftar buku dengan menggunakan model “BukuModel” dan mengirimkan ke tampilan “index”. Metode `create()` digunakan untuk menampilkan formulir pembuatan buku melalui tampilan “create”. Metode `store()` mengambil data yang dikirim melalui metode POST dan menggunakan “BukuModel” untuk menyimpan data buku yang baru ke dalam database.

4. UserController.php

Pada kelas UserController memiliki beberapa metode. Metode index () digunakan untuk menampilkan tampilan login. Metode login() digunakan untuk memproses informasi login pengguna melalui metode POST.

5. Home.php

Pada kelas home memiliki metode index() yang digunakan untuk menampilkan “welcome\_message”. Selain itu, metode ini juga dapat digunakan untuk memuat data dari model atau sumber data lainnya.

6. 2024-06-10-071037\_Buku.php

Kelas Buku merupakan turunan dari kelas migration yang disediakan oleh CodeIgniter. Metode up() digunakan untuk mendefinisikan skema pembuatan table “buku”.

7. 2024-06-10-071057\_User.php

Kelas User merupakan turunan dari kelas migration yang disediakan oleh CodeIgniter. Metode up() digunakan untuk mendefinisikan skema pembuatan table “user”.

8. Buku.php

Kelas Buku adalah turunan dari kelas seeder yang disediakan oleh CodeIgniter. Metode run() digunakan untuk menjalankan seeder yaitu memasukkan data awal ke dalam table “buku”.

9. UserSeeder.php

Kelas UserSeeder adalah turunan dari kelas seeder yang disediakan oleh CodeIgniter. Metode run() digunakan untuk menjalankan seeder yaitu memasukkan data awal ke dalam table “user”.

10. AuthFilter.php

Kelas AuthFilter berfungsi untuk memastikan bahwa pengguna sudah login sebelum mengakses bagian tertentu dari aplikasi. Jika pengguna belum login, mereka akan diarahkan ke halaman login dan diberikan pesan untuk login terlebih dahulu.

11. BukuModel.php

Kelas BukuModel merupakan turunan dari kelas Model yang disediakan oleh CodeIgniter. Di dalam kelas ini terdapat beberapa properti yang mendefinisikan konfigurasi dari perilaku model. Dalam properti \$allowedFields terdapat field yang diizinkan untuk diakses dalam model ini yaitu judul, penulis, penerbit, dan tahun\_terbit.

#### 12. UserModel.php

Kelas UserModel merupakan turunan dari kelas Model yang disediakan oleh CodeIgniter. Model ini digunakan untuk mengelola table “user dalam database. Model ini menentukan struktur table, properti yang diizinkan, pengaturan tanggal, validasi data, dan callback yang dapat digunakan sebelum atau sesudah operasi database.

#### 13. Create.php

File ini digunakan untuk menambahkan data buku melalui formulir. Halaman HTML ini memiliki sebuah form yang mengirimkan data ke URL “/buku/create” menggunakan metode POST.

#### 14. Edit.php

File ini digunakan untuk mengedit data buku melalui formulir. Halaman HTML ini memiliki sebuah form yang mengirimkan data ke URL “/buku/{id}/edit” yang mana “{id}” adalah ID dari buku yang akan diedit. Form ini menggunakan metode POST.

#### 15. Index.php

File ini adalah halaman utama (home) dari sebuah aplikasi perpustakaan. Halaman HTML ini memiliki tampilan yang terbagi menjadi dua kolom. Kolom yang pertama berisi judul “Selamat Datang di Perpustakaan” dan deskripsi singkat. Kolom yang kedua berisikan tombol “LOGOUT” yang mengarahkan pengguna ke URL “/logout” untuk proses logout. Lalu, pada halaman ini menampilkan daftar buku dengan judul “Daftar Buku” diikuti oleh tombol “Tambah Data” yang mengarahkan pengguna ke URL “/buku/create” untuk menambahkan data buku baru.

#### 16. Login.php

Halaman HTML ini memiliki judul “Login” dan menggunakan class “container dari Bootstrap untuk mengatur tata letak elemen-elemen yang ada di dalamnya. Terdapat sebuah kondisional PHP untuk menampilkan pesan flash jika ada, jika pesan tidak kosong maka akan ditampilkan sebuah div dengan class “alert alert-warning alert-dismissible” yang berisi isi pesan flash.

#### 17. File .env

File yang diberikan adalah file konfigurasi lingkungan untuk suatu Aplikasi. File ini berisikan pengaturan-pengaturan yang dapat dikonfigurasi sesuai kebutuhan dari Aplikasi. Pada file ini menyimpan pengaturan untuk koneksi terhadap database.

### **TAUTAN GIT**

[https://github.com/r2hid/Pemrograman\\_Web\\_2.git](https://github.com/r2hid/Pemrograman_Web_2.git)