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## PRAKTIKUM\_8

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## 1 TUGAS\_1

### 1.1 lib/repositories/repositories.dart

```
1 export 'user_repository.dart';
```

### 1.2 lib/repositories/user\_repository.dart

```
1 import 'package:sqflite/sqflite.dart';
2 import 'package:tugas_1/models/models.dart';
3 import 'package:tugas_1/services/services.dart';
4
5 class UserRepository {
6   final tableName = 'users';
7
8   Future<User?> getUserByUsername(String username) async {
9     final db = await DBService.getDatabase();
10    final result = await db.query(
11      tableName,
12      columns: [
13        'id',
14        'fullname',
15        'username',
16        'password',
17      ],
18      where: 'username = ?',
19      whereArgs: [username],
20    );
21
22    db.close();
23
24    if (result.isNotEmpty) {
25      return User.fromMap(result.first);
26    } else {
27      return null;
28    }
29  }
30
31  Future<void> addUser(User newUser) async {
32    final db = await DBService.getDatabase();
33    await db.insert(
34      tableName,
35      newUser.toMap(),
36      conflictAlgorithm: ConflictAlgorithm.replace,
37    );
38    db.close();
39  }
40 }
```

### 1.3 lib/models/user.dart

```
1 class User {
2   int? _id;
3   String? fullname;
4   String username;
5   String password;
6
7   User({
8     this.fullname,
9     required this.username,
10    required this.password,
11    int? id,
12  }) : _id = id;
13
14  int? get id => _id;
15
16  set id(int? id) {
17    if (_id == null) {
18      _id = id;
19    } else {
20      throw Exception('ID sudah diatur dan tidak bisa diubah lagi.');
```

### 1.4 lib/models/models.dart

```
1 export 'user.dart';
```

### 1.5 lib/main.dart

```
1 import 'package:flutter/material.dart';
2 import 'package:tugas_1/views/views.dart';
3
4 void main() {
5   runApp(const App());
6 }
7
8 class App extends StatelessWidget {
9   const App({super.key});
10
11   @override
12   Widget build(BuildContext context) {
13     return MaterialApp(
14       initialRoute: '/login',
15       routes: {
16         '/login': (context) => const LoginPage(),
17         '/register': (context) => const RegisterPage(),
18         '/main': (context) => const MainPage(),
19       },
20     );
21   }
22 }
```

### 1.6 lib/views/register\_page.dart

```
1 import 'package:flutter/material.dart';
2 import 'package:tugas_1/services/services.dart';
3
4 class RegisterPage extends StatefulWidget {
5   const RegisterPage({super.key});
6
7   @override
8   State<RegisterPage> createState() => _RegisterPageState();
9 }
10
11 class _RegisterPageState extends State<RegisterPage> {
12   final fullnameController = TextEditingController();
13   final usernameController = TextEditingController();
14   final passwordController = TextEditingController();
15   final auth = AuthService();
```

```
16
17 void _registerButtonAction() async {
18   final fullname = fullnameController.text.trim();
19   final username = usernameController.text.trim();
20   final password = passwordController.text.trim();
21   final success = await auth.register(fullname, username, password);
22   debugPrint(auth.currentUser.toString());
23
24   if (success && mounted) {
25     _showSnackBar(content: 'Registrasi berhasil. Mengalihkan ke
26       halaman home.');
```

Navigator.of(context).pushReplacementNamed('/main');

```
27   } else {
28     _showSnackBar(content: 'Register gagal.');
```

}

```
30 }
31
32 void _loginButtonAction() {
33   Navigator.pushReplacementNamed(context, '/login');
```

}

```
35
36 void _showSnackBar({required String content}) {
37   ScaffoldMessenger.of(context).showSnackBar(
38     SnackBar(content: Text(content)),
39   );
40 }
41
42 @override
43 Widget build(BuildContext context) {
44   return Scaffold(
45     appBar: AppBar(
46       title: const Text('Halaman Register'),
47     ),
48     body: SafeArea(
49       child: Padding(
50         padding: const EdgeInsets.all(16.0),
51         child: Column(
52           children: [
53             TextField(
54               controller: fullnameController,
55               decoration: const InputDecoration(
56                 labelText: 'Fullname',
57                 border: OutlineInputBorder(),
58               ),
59             ),
60             const SizedBox(height: 16),
61             TextField(
62               controller: usernameController,
63               decoration: const InputDecoration(
64                 labelText: 'Username',
65                 border: OutlineInputBorder(),
```

```
66         ),
67       ),
68       const SizedBox(height: 16),
69       TextField(
70         controller: passwordController,
71         obscureText: true,
72         decoration: const InputDecoration(
73           labelText: 'Password',
74           border: OutlineInputBorder(),
75         ),
76       ),
77       const SizedBox(height: 16),
78       ElevatedButton(
79         onPressed: _registerButtonAction,
80         child: const Text('Daftar'),
81       ),
82       const SizedBox(height: 16),
83       TextButton(
84         onPressed: _loginButtonAction,
85         child: const Text('Sudah punya akun? Login!'),
86       ),
87     ],
88   ),
89 ),
90 ),
91 );
92 }
93 }
```

### 1.7 lib/views/main\_page.dart

```
1 import 'package:flutter/material.dart';
2 import 'package:tugas_1/services/services.dart';
3
4 class MainPage extends StatefulWidget {
5   const MainPage({super.key});
6
7   @override
8   State<MainPage> createState() => _MainPageState();
9 }
10
11 class _MainPageState extends State<MainPage> {
12   final auth = AuthService();
13
14   void _logoutButtonAction() {
15     final success = auth.logout();
16     if (success) {
17       Navigator.pushReplacementNamed(context, '/login');
18     }
19   }
20 }
```

```
19   }
20
21   @override
22   Widget build(BuildContext context) {
23     return Scaffold(
24       body: Center(
25         child: Column(
26           mainAxisAlignment: MainAxisAlignment.center,
27           children: [
28             Text(
29               'Selamat datang ${auth.currentUser!.fullname}, Ini
                halaman home'),
30             ElevatedButton(
31               onPressed: _logoutButtonAction,
32               child: const Text('Logout'),
33             ),
34           ],
35         ),
36       ),
37     );
38   }
39 }
```

## 1.8 lib/views/login\_page.dart

```
1  import 'package:flutter/material.dart';
2  import 'package:tugas_1/services/services.dart';
3
4  class LoginPage extends StatefulWidget {
5    const LoginPage({super.key});
6
7    @override
8    State<LoginPage> createState() => _LoginPageState();
9  }
10
11  class _LoginPageState extends State<LoginPage> {
12    final usernameController = TextEditingController();
13    final passwordController = TextEditingController();
14    final auth = AuthService();
15
16    void _loginButtonAction() async {
17      final username = usernameController.text.trim();
18      final password = passwordController.text.trim();
19      final success = await auth.login(username, password);
20
21      if (success && mounted) {
22        Navigator.of(context).pushReplacementNamed('/main');
23      } else {
```



```
24     _showSnackBar(content: 'Login gagal. Periksa kembali kredensial
      Anda.');
```

```
25   }
26 }
27
28 void _registerButtonAction() {
29   Navigator.pushReplacementNamed(context, '/register');
30 }
31
32 void _showSnackBar({required String content}) {
33   ScaffoldMessenger.of(context).showSnackBar(
34     SnackBar(content: Text(content)),
35   );
36 }
37
38 @override
39 Widget build(BuildContext context) {
40   return Scaffold(
41     appBar: AppBar(
42       title: const Text('Halaman Login'),
43     ),
44     body: SafeArea(
45       child: Padding(
46         padding: const EdgeInsets.all(16.0),
47         child: Column(
48           children: [
49             TextField(
50               controller: usernameController,
51               decoration: const InputDecoration(
52                 labelText: 'Username',
53                 border: OutlineInputBorder(),
54               ),
55             ),
56             const SizedBox(height: 16),
57             TextField(
58               controller: passwordController,
59               obscureText: true,
60               decoration: const InputDecoration(
61                 labelText: 'Password',
62                 border: OutlineInputBorder(),
63               ),
64             ),
65             const SizedBox(height: 16),
66             ElevatedButton(
67               onPressed: _loginButtonAction,
68               child: const Text('Login'),
69             ),
70             const SizedBox(height: 16),
71             TextButton(
72               onPressed: _registerButtonAction,
73               child: const Text('Belum Punya Akun? Daftar!'),
```

```
74         ),
75       ],
76     ),
77   ),
78 ),
79 );
80 }
81 }
```

## 1.9 lib/views/views.dart

```
1 export 'login_page.dart';
2 export 'main_page.dart';
3 export 'register_page.dart';
```

## 1.10 lib/services/db\_service.dart

```
1 import 'package:sqflite/sqflite.dart';
2 import 'package:path/path.dart';
3
4 class DBService {
5   static Database? _database;
6
7   static Future<Database> getDatabase() async {
8     if (_database != null) return _database!;
9
10    _database = await _initDB();
11    return _database!;
12  }
13
14  static Future<Database> _initDB() async {
15    final dbPath = await getDatabasesPath();
16    final path = join(dbPath, 'app_database.db');
17
18    return await openDatabase(
19      path,
20      version: 1,
21      onCreate: _onCreate,
22    );
23  }
24
25  static Future<void> _onCreate(Database db, int version) async {
26    await db.execute('''
27      CREATE TABLE users(
28        id INTEGER PRIMARY KEY AUTOINCREMENT,
29        fullname TEXT,
30        username TEXT,
```

```
31         password TEXT
32     );
33     '''');
34 }
35
36 static Future<void> close() async {
37     final db = await getDatabase();
38     db.close();
39 }
40 }
```

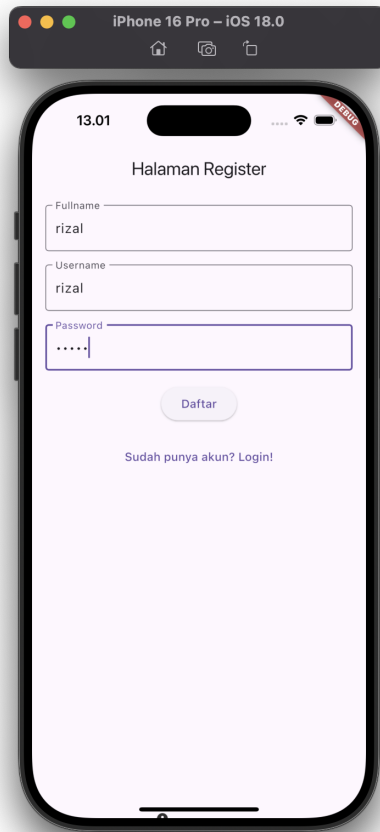
### 1.11 lib/services/auth\_service.dart

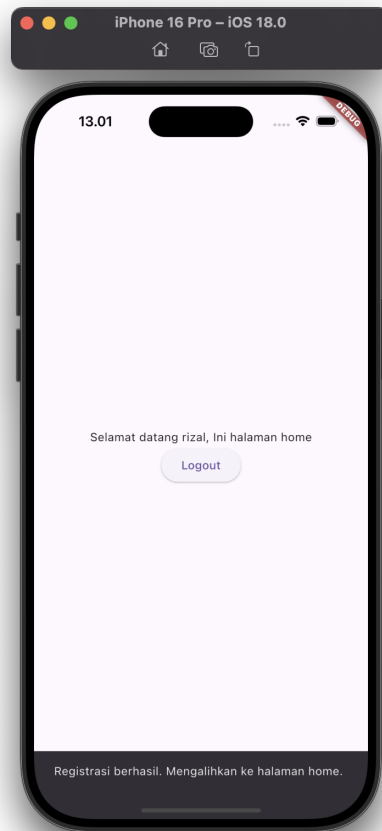
```
1 import 'dart:convert';
2 import 'package:crypto/crypto.dart';
3 import 'package:tugas_1/repositories/repositories.dart';
4 import 'package:tugas_1/models/models.dart';
5
6 class AuthService {
7     static final AuthService _instance = AuthService._internal();
8     factory AuthService() => _instance;
9     AuthService._internal();
10
11     final UserRepository _userRepository = UserRepository();
12
13     User? _currentUser;
14
15     User? get currentUser => _currentUser;
16
17     String _hashPassword(String password) {
18         final bytes = utf8.encode(password);
19         final digest = sha256.convert(bytes);
20         return digest.toString();
21     }
22
23     Future<bool> login(String username, String password) async {
24         final hashedPassword = _hashPassword(password);
25         final user = await _userRepository.getUserByUsername(username);
26
27         if (user != null && user.password == hashedPassword) {
28             _currentUser = user;
29             return true;
30         }
31
32         return false;
33     }
34
35     Future<bool> register(
36         String fullname,
```

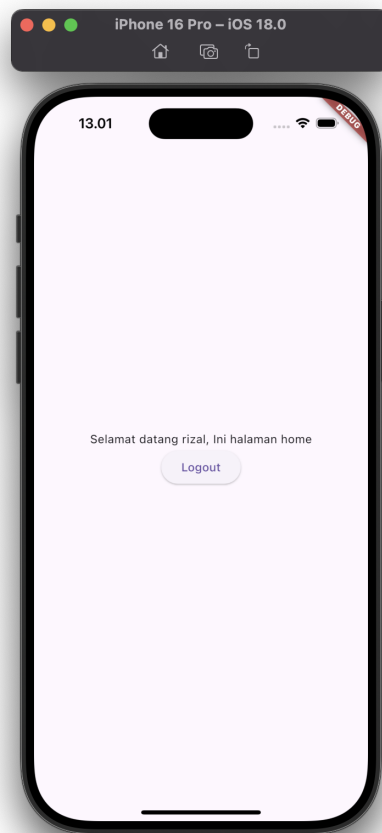
```
37   String username,  
38   String password,  
39 ) async {  
40   final existingUser = await _userRepository.getUserByUsername(  
41     username);  
42   existingUser ?? false;  
43  
44   final newUser = User(  
45     fullname: fullname,  
46     username: username,  
47     password: _hashPassword(password),  
48   );  
49   await _userRepository.addUser(newUser);  
50   _currentUser = newUser;  
51  
52   return true;  
53 }  
54  
55 bool logout() {  
56   _currentUser = null;  
57   return true;  
58 }  
59  
60 bool isLoggedIn() {  
61   return _currentUser != null;  
62 }  
63 }
```

### 1.12 lib/services/services.dart

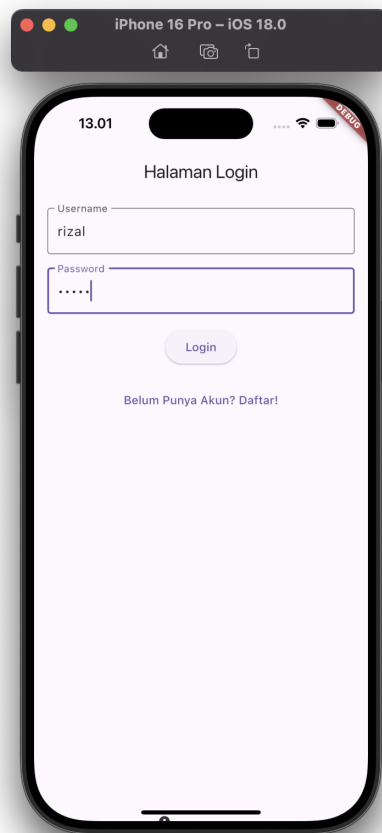
```
1 export 'auth_service.dart';  
2 export 'db_service.dart';
```

**1.13 screenshot****Screenshot 1:** screenshot-4

**Screenshot 2:** screenshot-2



**Screenshot 3:** screenshot-3

**Screenshot 4:** screenshot-1



## 2 LATIHAN\_SQLITE

### 2.1 lib/database/db\_helper.dart

```
1 import 'package:flutter_aplication_sqlite/models/contact.dart';
2 import 'package:sqflite/sqflite.dart';
3 import 'package:path/path.dart' as p;
4
5 class DbHelper {
6   static final DbHelper _instance = DbHelper._internal();
7   static Database? _database;
8
9   final String tableName = 'tablecontact';
10  final String columnId = 'id';
11  final String columnName = 'name';
12  final String columnPhone = 'phone';
13  final String columnEmail = 'email';
14  final String columnCompany = 'company';
15  DbHelper._internal();
16  factory DbHelper() => _instance;
17
18  Future<Database?> get _db async {
19    if (_database != null) {
20      return _database;
21    }
22    _database = await _initDb();
23    return _database;
24  }
25
26  Future<Database?> _initDb() async {
27    String databasePath = await getDatabasesPath();
28    String path = p.join(databasePath, 'contact.db');
29    return await openDatabase(path, version: 1, onCreate: _onCreate);
30  }
31
32  Future<void> _onCreate(Database db, int version) async {
33    var sql = "CREATE TABLE $tableName($columnId INTEGER PRIMARY KEY, "
34              "$columnName TEXT,"
35              "$columnPhone TEXT,"
36              "$columnEmail TEXT,"
37              "$columnCompany TEXT)";
38    await db.execute(sql);
39  }
40
41  Future<int?> savecontact(Contact contact) async {
42    var dbClient = await _db;
43    return await dbClient!.insert(tableName, contact.toMap());
44  }
45
46  Future<List?> getAllcontact() async {
```

```
47     var dbClient = await _db;
48     var result = await dbClient!.query(tableName, columns: [
49         columnId,
50         columnName,
51         columnCompany,
52         columnPhone,
53         columnEmail
54     ]);
55     return result.toList();
56 }
57
58 Future<int?> updatecontact(Contact contact) async {
59     var dbClient = await _db;
60     return await dbClient!.update(tableName, contact.toMap(),
61         where: '$columnId = ?', whereArgs: [contact.id]);
62 }
63
64 Future<int?> deletecontact(int id) async {
65     var dbClient = await _db;
66     return await dbClient!
67         .delete(tableName, where: '$columnId = ?', whereArgs: [id]);
68 }
69 }
```

## 2.2 lib/models/contact.dart

```
1  class Contact {
2      int? id;
3      String? name;
4      String? phone;
5      String? email;
6      String? company;
7
8      Contact({
9          this.id,
10         this.name,
11         this.phone,
12         this.email,
13         this.company,
14     });
15
16     Map<String, dynamic> toMap() {
17         var map = <String, dynamic>{};
18         if (id != null) {
19             map['id'] = id;
20         }
21         map['name'] = name;
22         map['phone'] = phone;
23         map['email'] = email;
```

```
24     map['company'] = company;
25     return map;
26   }
27
28   Contact.fromMap(Map<String, dynamic> map) {
29     id = map['id'];
30     name = map['name'];
31     phone = map['phone'];
32     email = map['email'];
33     company = map['company'];
34   }
35 }
```

## 2.3 lib/main.dart

```
1  import 'package:flutter/material.dart';
2  import 'package:flutter_aplication_sqlite/contact_page.dart';
3
4  void main() {
5    runApp(const MyApp());
6  }
7
8  class MyApp extends StatelessWidget {
9    const MyApp({super.key});
10   @override
11   Widget build(BuildContext context) {
12     return const MaterialApp(
13       debugShowCheckedModeBanner: false,
14       title: 'Flutter Demo',
15       home: ContactPage(),
16     );
17   }
18 }
```

## 2.4 lib/add\_contact\_page.dart

```
1  // ignore_for_file: prefer_const_constructors_in_immutables
2  import 'package:flutter/material.dart';
3  import 'package:flutter_aplication_sqlite/database/db_helper.dart';
4  import 'package:flutter_aplication_sqlite/models/contact.dart';
5
6  class AddContactPage extends StatefulWidget {
7    final Contact? contact;
8
9    AddContactPage({super.key, this.contact});
10
11   @override
```

```
12   State<AddContactPage> createState() => _AddContactPageState();
13 }
14
15 class _AddContactPageState extends State<AddContactPage> {
16   final DbHelper db = DbHelper();
17
18   late TextEditingController nameController;
19   late TextEditingController phoneController;
20   late TextEditingController emailController;
21   late TextEditingController companyController;
22
23   @override
24   void initState() {
25     super.initState();
26     nameController = TextEditingController(
27       text: widget.contact == null ? '' : widget.contact!.name);
28     phoneController = TextEditingController(
29       text: widget.contact == null ? '' : widget.contact!.phone);
30     emailController = TextEditingController(
31       text: widget.contact == null ? '' : widget.contact!.email);
32     companyController = TextEditingController(
33       text: widget.contact == null ? '' : widget.contact!.company);
34   }
35
36   @override
37   void dispose() {
38     nameController.dispose();
39     phoneController.dispose();
40     emailController.dispose();
41     companyController.dispose();
42     super.dispose();
43   }
44
45   @override
46   Widget build(BuildContext context) {
47     return Scaffold(
48       appBar: AppBar(
49         title: const Text('Form Contact'),
50       ),
51       body: ListView(
52         padding: const EdgeInsets.all(16.0),
53         children: [
54           Padding(
55             padding: const EdgeInsets.only(top: 20),
56             child: TextField(
57               controller: nameController,
58               decoration: InputDecoration(
59                 labelText: 'Name',
60                 border: OutlineInputBorder(
61                   borderRadius: BorderRadius.circular(8),
62                 ),
```

```
63         ),
64       ),
65     ),
66     Padding(
67       padding: const EdgeInsets.only(top: 20),
68       child: TextField(
69         controller: phoneController,
70         decoration: InputDecoration(
71           labelText: 'Mobile No',
72           border: OutlineInputBorder(
73             borderRadius: BorderRadius.circular(8),
74           ),
75         ),
76       ),
77     ),
78     Padding(
79       padding: const EdgeInsets.only(top: 20),
80       child: TextField(
81         controller: emailController,
82         decoration: InputDecoration(
83           labelText: 'Email',
84           border: OutlineInputBorder(
85             borderRadius: BorderRadius.circular(8),
86           ),
87         ),
88       ),
89     ),
90     Padding(
91       padding: const EdgeInsets.only(top: 20),
92       child: TextField(
93         controller: companyController,
94         decoration: InputDecoration(
95           labelText: 'Company',
96           border: OutlineInputBorder(
97             borderRadius: BorderRadius.circular(8),
98           ),
99         ),
100     ),
101   ),
102   Padding(
103     padding: const EdgeInsets.only(top: 20),
104     child: ElevatedButton(
105       onPressed: () => _upsertContact(),
106       child: Text(widget.contact == null ? 'Add' : 'Update'),
107     ),
108   ),
109 ],
110 ),
111 );
112 }
113
```

```
114 Future<void> _upsertContact() async {
115   if (widget.contact != null) {
116     // Update contact
117     await db.updatecontact(Contact(
118       id: widget.contact!.id,
119       name: nameController.text,
120       phone: phoneController.text,
121       email: emailController.text,
122       company: companyController.text,
123     ));
124
125     if (mounted) {
126       // Gunakan context jika widget masih aktif
127       Navigator.pop(context, 'update');
128     }
129   } else {
130     // Add new contact
131     await db.savecontact(Contact(
132       name: nameController.text,
133       phone: phoneController.text,
134       email: emailController.text,
135       company: companyController.text,
136     ));
137
138     if (mounted) {
139       // Gunakan context jika widget masih aktif
140       Navigator.pop(context, 'save');
141     }
142   }
143 }
144
145 }
```

## 2.5 lib/contact\_page.dart

```
1 import 'package:flutter/material.dart';
2 import 'package:flutter_aplication_sqlite/add_contact_page.dart';
3 import 'package:flutter_aplication_sqlite/database/db_helper.dart';
4 import 'package:flutter_aplication_sqlite/models/contact.dart';
5
6 class ContactPage extends StatefulWidget {
7   const ContactPage({super.key});
8
9   @override
10  State<ContactPage> createState() => _ContactPageState();
11 }
12
13 class _ContactPageState extends State<ContactPage> {
14   List<Contact> listContact = [];
```

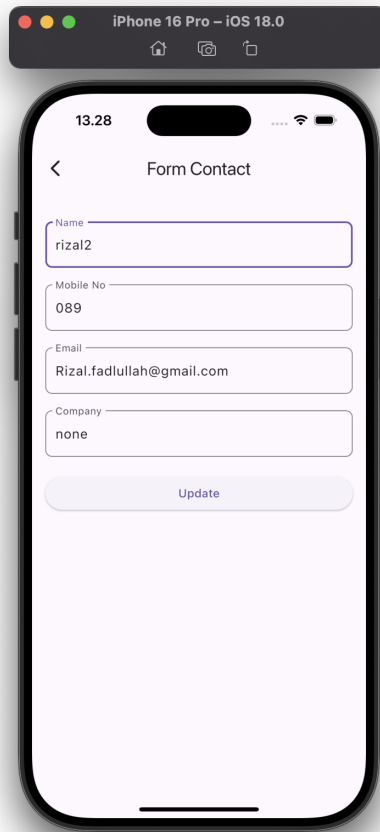
```
15  final DBHelper db = DBHelper();
16
17  @override
18  void initState() {
19    super.initState();
20    // Menjalankan fungsi getAllContact saat pertama kali dimuat
21    _getAllContact();
22  }
23
24  @override
25  Widget build(BuildContext context) {
26    return Scaffold(
27      appBar: AppBar(
28        title: const Center(
29          child: Text("Contact App"),
30        ),
31      ),
32      body: ListView.builder(
33        itemCount: listContact.length,
34        itemBuilder: (context, index) {
35          Contact contact = listContact[index];
36          return Padding(
37            padding: const EdgeInsets.only(top: 20),
38            child: ListTile(
39              leading: const Icon(
40                Icons.person,
41                size: 50,
42              ),
43              title: Text(contact.name ?? ''),
44              subtitle: Column(
45                crossAxisAlignment: CrossAxisAlignment.start,
46                children: [
47                  const SizedBox(height: 8),
48                  Text("Email: ${contact.email ?? '-'}"),
49                  const SizedBox(height: 8),
50                  Text("Phone: ${contact.phone ?? '-'}"),
51                  const SizedBox(height: 8),
52                  Text("Company: ${contact.company ?? '-'}"),
53                ],
54              ),
55              trailing: FittedBox(
56                fit: BoxFit.fill,
57                child: Row(
58                  children: [
59                    // Button edit
60                    IconButton(
61                      onPressed: () {
62                        _openFormEdit(contact);
63                      },
64                      icon: const Icon(Icons.edit),
65                    ),
66                  ],
67                ),
68            ),
69          );
70        },
71      ),
72    );
73  }
```

```
66         // Button hapus
67         IconButton(
68             icon: const Icon(Icons.delete),
69             onPressed: () {
70                 _showDeleteConfirmation(contact, index);
71             },
72         ),
73     ],
74 ),
75 ),
76 ),
77 );
78 },
79 ),
80 // Membuat button mengapung di bagian bawah kanan layar
81 floatingActionButton: FloatingActionButton(
82     onPressed: _openFormCreate,
83     child: const Icon(Icons.add),
84 ),
85 );
86 }
87
88 Future<void> _getAllContact() async {
89     var list = await db.getAllcontact();
90     setState(() {
91         listContact.clear();
92         for (var contact in list ?? []) {
93             listContact.add(Contact.fromMap(contact));
94         }
95     });
96 }
97
98 Future<void> _deleteContact(Contact contact, int position) async {
99     await db.deletecontact(contact.id!);
100     setState(() {
101         listContact.removeAt(position);
102     });
103 }
104
105 Future<void> _openFormCreate() async {
106     var result = await Navigator.push(
107         context,
108         MaterialPageRoute(builder: (context) => AddContactPage()),
109     );
110     if (result == 'save') {
111         await _getAllContact();
112     }
113 }
114
115 Future<void> _openFormEdit(Contact contact) async {
116     var result = await Navigator.push(
```

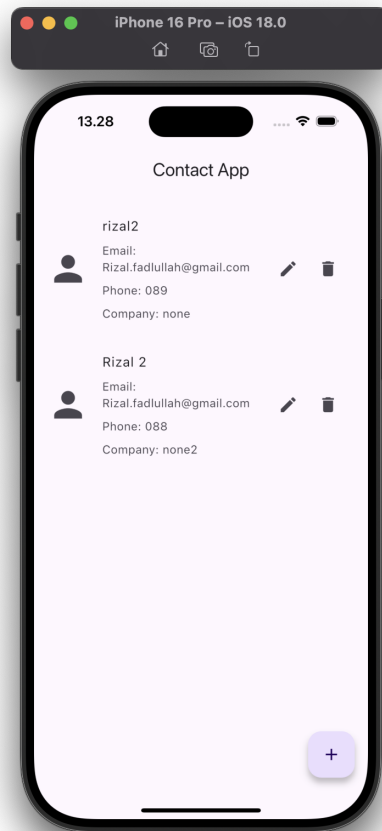


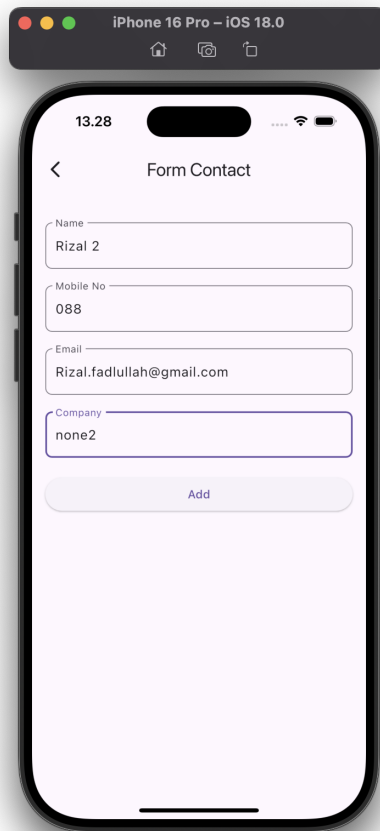
```
117     context,
118     MaterialPageRoute(
119       builder: (context) => AddContactPage(contact: contact),
120     ),
121   );
122   if (result == 'update') {
123     await _getAllContact();
124   }
125 }
126
127 void _showDeleteConfirmation(Contact contact, int index) {
128   showDialog(
129     context: context,
130     builder: (context) {
131       return AlertDialog(
132         title: const Text("Information"),
133         content: Text("Yakin ingin menghapus data\n\n${contact.name}?"),
134         actions: [
135           TextButton(
136             onPressed: () {
137               _deleteContact(contact, index);
138               Navigator.pop(context);
139             },
140             child: const Text("Ya"),
141           ),
142           TextButton(
143             onPressed: () {
144               Navigator.pop(context);
145             },
146             child: const Text("Tidak"),
147           ),
148         ],
149       );
150     },
151   );
152 }
153 }
```

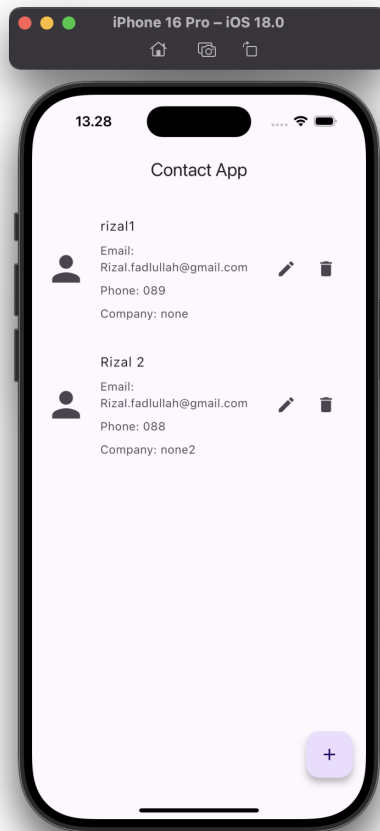
## 2.6 screenshot

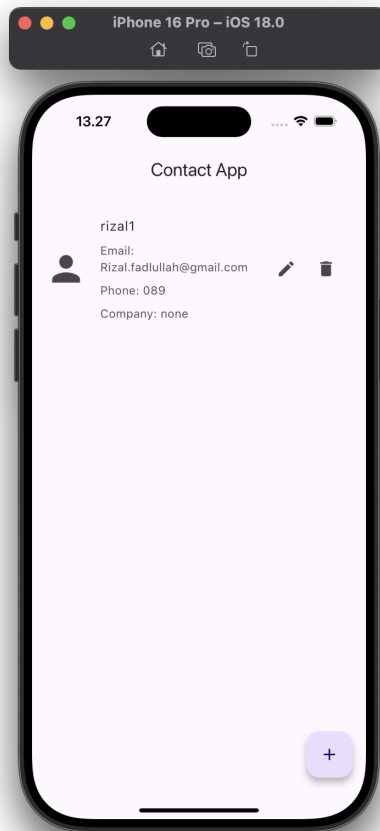


**Screenshot 5:** screenshot-4

**Screenshot 6:** screenshot-5

**Screenshot 7:** screenshot-2

**Screenshot 8:** screenshot-3

**Screenshot 9:** screenshot-1

## 3 TUGAS\_2

### 3.1 lib/repositories/repositories.dart

```
1 export 'product_repository.dart';
```

### 3.2 lib/repositories/product\_repository.dart

```
1 import 'package:inventory_app/services/services.dart';
2 import 'package:inventory_app/models/models.dart';
3 import 'package:sqflite/sqflite.dart';
4
5 class ProductRepository {
6   final tableName = 'products';
7
8   Future<void> addProduct(Product newProduct) async {
9     final db = await DBService.getDatabase();
10    final id = await db.insert(
11      tableName,
12      newProduct.toMap(),
13      conflictAlgorithm: ConflictAlgorithm.replace,
14    );
15    db.close();
16    newProduct.id = id;
17  }
18
19   Future<List<Product>?> getAllProduct() async {
20     final db = await DBService.getDatabase();
21     final result = await db.query(tableName, columns: [
22       'id',
23       'name',
24       'purchase_price',
25       'selling_price',
26       'stock',
27     ]);
28     db.close();
29
30     if (result.isNotEmpty) {
31       return result.map((productMap) => Product.fromMap(productMap)).
32         toList();
33     } else {
34       return null;
35     }
36   }
37
38   Future<int?> updateProduct(Product product) async {
39     final db = await DBService.getDatabase();
40     final result = await db.update(
```

```
40     tableName,
41     product.toMap(),
42     where: 'id = ?',
43     whereArgs: [product.id.toString()],
44   );
45   db.close();
46
47   return result;
48 }
49
50 Future<int?> deleteProduct(Product product) async {
51   final db = await DBService.getDatabase();
52   final result = await db.delete(
53     tableName,
54     where: 'id = ?',
55     whereArgs: [product.id.toString()],
56   );
57   db.close();
58
59   return result;
60 }
61 }
```

### 3.3 lib/models/product.dart

```
1 class Product {
2   int? _id;
3   String name;
4   int purchasePrice;
5   int sellingPrice;
6   int stock;
7
8   Product({
9     int? id,
10    required this.name,
11    required this.purchasePrice,
12    required this.sellingPrice,
13    required this.stock,
14  }) : _id = id;
15
16   int? get id => _id;
17
18   set id(int? id) {
19     if (_id == null) {
20       _id = id;
21     } else {
22       throw Exception('ID sudah diatur dan tidak bisa dirubah lagi');
23     }
24   }
25 }
```



```
25
26 Map<String, dynamic> toMap() {
27   return {
28     'id': _id,
29     'name': name,
30     'purchase_price': purchasePrice,
31     'selling_price': sellingPrice,
32     'stock': stock,
33   };
34 }
35
36 factory Product.fromMap(Map<String, dynamic> map) {
37   return Product(
38     name: map['name'],
39     purchasePrice: map['purchase_price'],
40     sellingPrice: map['selling_price'],
41     stock: map['stock'],
42     id: map['id'],
43   );
44 }
45 }
```

### 3.4 lib/models/models.dart

```
1 export 'product.dart';
```

### 3.5 lib/main.dart

```
1 import 'package:flutter/material.dart';
2 import 'package:inventory_app/views/views.dart';
3
4 void main() {
5   runApp(const App());
6 }
7
8 class App extends StatefulWidget {
9   const App({super.key});
10
11   @override
12   State<App> createState() => _AppState();
13 }
14
15 class _AppState extends State<App> {
16   @override
17   Widget build(BuildContext context) {
18     return MaterialApp(
19       home: HomePage(),
```

```
20     theme: ThemeData(  
21         colorScheme: ColorScheme.fromSeed(seedColor: Colors.deepPurple)  
22         ,  
23         useMaterial3: true,  
24     ),  
25 );  
26 }
```

### 3.6 lib/views/home\_page.dart

```
1  import 'package:flutter/material.dart';  
2  import 'package:inventory_app/models/models.dart';  
3  import 'package:inventory_app/repositories/repositories.dart';  
4  import 'package:inventory_app/views/views.dart';  
5  
6  class HomePage extends StatelessWidget {  
7      final productRepository = ProductRepository();  
8  
9      HomePage({super.key});  
10  
11     void _updateProduct(BuildContext context, Product product) {  
12         Navigator.push(  
13             context,  
14             MaterialPageRoute(  
15                 builder: (context) => ProductFormPage(product: product),  
16             ),  
17         );  
18     }  
19  
20     @override  
21     Widget build(BuildContext context) {  
22         final product = Product(  
23             name: 'Barang 1',  
24             purchasePrice: 10,  
25             sellingPrice: 10,  
26             stock: 10,  
27         );  
28  
29         return Scaffold(  
30             appBar: AppBar(title: const Text('Inventory App')),  
31             floatingActionButton: FloatingActionButton(  
32                 onPressed: () => _updateProduct(context, product),  
33                 tooltip: 'Tambah Barang',  
34                 child: const Icon(Icons.add),  
35             ),  
36             body: FutureBuilder<List<Product>?>(  
37                 future: productRepository.getAllProduct(),  
38                 builder: (context, snapshot) {
```

```
39     final connection = snapshot.connectionState;
40     if (connection == ConnectionState.waiting) {
41       return const Center(
42         child: CircularProgressIndicator(),
43       );
44     }
45     if (snapshot.hasError) {
46       return Center(
47         child: Text('Terjadi kesalahan: ${snapshot.error}'),
48       );
49     }
50     if (snapshot.hasData && snapshot.data!.isNotEmpty) {
51       final products = snapshot.data!;
52       return ListView.builder(
53         itemCount: products.length,
54         itemBuilder: (context, index) {
55           final currentProduct = products.elementAt(index);
56           return Card(
57             elevation: 5,
58             margin:
59               const EdgeInsets.symmetric(horizontal: 16,
60                 vertical: 8),
61             child: Padding(
62               padding: const EdgeInsets.all(12),
63               child: Row(
64                 children: [
65                   CircleAvatar(
66                     backgroundColor: Colors.blueAccent,
67                     child: Text(
68                       currentProduct.name[0].toUpperCase(),
69                       style: const TextStyle(
70                         color: Colors.white,
71                         fontWeight: FontWeight.bold,
72                       ),
73                     ),
74                     const SizedBox(width: 16),
75                     Expanded(
76                       child: Column(
77                         crossAxisAlignment: CrossAxisAlignment.start,
78                         children: [
79                           Text(
80                             currentProduct.name,
81                             style: const TextStyle(
82                               fontSize: 18,
83                               fontWeight: FontWeight.bold,
84                             ),
85                         ),
86                       const SizedBox(height: 4),
87                       Text('ID: ${currentProduct.id}'),
```

```
88         Text(  
89             'Purchase Price: ${currentProduct.  
90                 purchasePrice}'),  
91         Text(  
92             'Selling Price: ${currentProduct.  
93                 sellingPrice}'),  
94         Text('Stock: ${currentProduct.stock}'),  
95     ],  
96 ),  
97 ),  
98 IconButton(  
99     icon: const Icon(Icons.edit, color: Colors.  
100         blue),  
101     onPressed: () =>  
102         _updateProduct(context, currentProduct),  
103 ),  
104 ],  
105 ),  
106 );  
107 },  
108 );  
109 return const Center(  
110     child: Text('Tidak ada produk tersedia'),  
111 );  
112 },  
113 );  
114 }  
115 }
```

### 3.7 lib/views/product\_form\_page.dart

```
1 import 'package:flutter/material.dart';  
2 import 'package:inventory_app/models/models.dart';  
3  
4 class ProductFormPage extends StatelessWidget {  
5     final Product product;  
6  
7     const ProductFormPage({super.key, required this.product});  
8  
9     @override  
10    Widget build(BuildContext context) {  
11        return Scaffold(  
12            appBar: AppBar(),  
13            body: Center(  
14                child: Text('Data berhasil dikirim, ${product.name}'),  
15            ),  
16        ),  
17    },  
18 }
```

```
16     );  
17   }  
18 }
```

### 3.8 lib/views/views.dart

```
1 export 'home_page.dart';  
2 export 'product_form_page.dart';
```

### 3.9 lib/services/db\_service.dart

```
1 import 'dart:developer';  
2  
3 import 'package:sqflite/sqflite.dart';  
4 import 'package:path/path.dart';  
5  
6 class DBService {  
7   static Database? _database;  
8  
9   static Future<Database> getDatabase() async {  
10     if (_database != null) return _database!;  
11  
12     _database = await _initDB();  
13     return _database!;  
14   }  
15  
16   static Future<Database> _initDB() async {  
17     final dbPath = await getDatabasesPath();  
18     final path = join(dbPath, 'app_database.db');  
19  
20     log('SQLite Location: $path');  
21  
22     return await openDatabase(  
23       path,  
24       version: 1,  
25       onCreate: _onCreate,  
26     );  
27   }  
28  
29   static Future<void> _onCreate(Database db, int version) async {  
30     await db.execute('''  
31       CREATE TABLE products(  
32         id INTEGER PRIMARY KEY AUTOINCREMENT,  
33         name TEXT,  
34         purchase_price INTEGER,  
35         selling_price INTEGER,  
36         stock INTEGER
```

```
37     )
38     '''');
39   }
40
41   static Future<void> close() async {
42     final db = await getDatabase();
43     db.close();
44   }
45 }
```

### 3.10 lib/services/services.dart

```
1 export 'db_service.dart';
```

### 3.11 screenshot