**Department of Information Technology**

**Academic Year: 2022-23 Name of Student:**

**Semester: VI Student ID:**

**Class / Branch / Div: TE- IT A/B Roll No.**

**Subject: MAD & PWA Lab Date of Submission:**

**Name of Instructor:**

**Experiment No.:7**

**Aim: To** Implement fireBase connectivity to connect with Flutter UI

**Prerequisites:** Android studio, flutter SDK**.**

**Software:** Android studio, flutter SDK**.**

**Problem Statement:** Implement firebase connectivity for Email-Password authentication.

**Code:**

1. **Main.dart**

import 'package:email\_password\_login/screens/login\_screen.dart';

import 'package:firebase\_core/firebase\_core.dart';

import 'package:flutter/material.dart';

/\*Future<void> main() async {

WidgetsFlutterBinding.ensureInitialized();

await Firebase.initializeApp();

runApp(MyApp());

}\*/

void main() async {

WidgetsFlutterBinding.ensureInitialized();

await Firebase.initializeApp(

options: FirebaseOptions(

apiKey: "AIzaSyAQVWkGN0uGA0RtsrCjd5aFahNxk5tHI9s", // Your apiKey

appId: "1:307784514935:android:e8a36c3599fa89c930b572", // Your appId

messagingSenderId: "307784514935", // Your messagingSenderId

projectId: "auth-flutter-4245e", // Your projectId

),

);

runApp(MyApp());

}

class MyApp extends StatelessWidget {

// This widget is the root of your application.

@override

Widget build(BuildContext context) {

return MaterialApp(

title: 'Email And Password Login',

theme: ThemeData(

primarySwatch: Colors.red,

),

debugShowCheckedModeBanner: false,

home: LoginScreen(),

);

}

}

**login\_screen.dart**

import 'package:email\_password\_login/screens/home\_screen.dart';

import 'package:firebase\_auth/firebase\_auth.dart';

import 'package:flutter/material.dart';

import 'package:fluttertoast/fluttertoast.dart';

class LoginScreen extends StatefulWidget {

const LoginScreen({Key? key}) : super(key: key);

@override

\_LoginScreenState createState() => \_LoginScreenState();

}

class \_LoginScreenState extends State<LoginScreen> {

// form key

final \_formKey = GlobalKey<FormState>();

// editing controller

final TextEditingController emailController = new TextEditingController();

final TextEditingController passwordController = new TextEditingController();

// firebase

final \_auth = FirebaseAuth.instance;

// string for displaying the error Message

String? errorMessage;

@override

Widget build(BuildContext context) {

//email field

final emailField = TextFormField(

autofocus: false,

controller: emailController,

keyboardType: TextInputType.emailAddress,

validator: (value) {

if (value!.isEmpty) {

return ("Please Enter Your Email");

}

// reg expression for email validation

if (!RegExp("^[a-zA-Z0-9+\_.-]+@[a-zA-Z0-9.-]+.[a-z]")

.hasMatch(value)) {

return ("Please Enter a valid email");

}

return null;

},

onSaved: (value) {

emailController.text = value!;

},

textInputAction: TextInputAction.next,

decoration: InputDecoration(

prefixIcon: Icon(Icons.mail),

contentPadding: EdgeInsets.fromLTRB(20, 15, 20, 15),

hintText: "Email",

border: OutlineInputBorder(

borderRadius: BorderRadius.circular(10),

),

));

//password field

final passwordField = TextFormField(

autofocus: false,

controller: passwordController,

obscureText: true,

validator: (value) {

RegExp regex = new RegExp(r'^.{6,}$');

if (value!.isEmpty) {

return ("Password is required for login");

}

if (!regex.hasMatch(value)) {

return ("Enter Valid Password(Min. 6 Character)");

}

},

onSaved: (value) {

passwordController.text = value!;

},

textInputAction: TextInputAction.done,

decoration: InputDecoration(

prefixIcon: Icon(Icons.vpn\_key),

contentPadding: EdgeInsets.fromLTRB(20, 15, 20, 15),

hintText: "Password",

border: OutlineInputBorder(

borderRadius: BorderRadius.circular(10),

),

));

final loginButton = Material(

elevation: 5,

borderRadius: BorderRadius.circular(30),

color: Colors.redAccent,

child: MaterialButton(

padding: EdgeInsets.fromLTRB(20, 15, 20, 15),

minWidth: MediaQuery.of(context).size.width,

onPressed: () {

signIn(emailController.text, passwordController.text);

},

child: Text(

"Login",

textAlign: TextAlign.center,

style: TextStyle(

fontSize: 20, color: Colors.white, fontWeight: FontWeight.bold),

)),

);

return Scaffold(

backgroundColor: Colors.white,

body: Center(

child: SingleChildScrollView(

child: Container(

color: Colors.white,

child: Padding(

padding: const EdgeInsets.all(36.0),

child: Form(

key: \_formKey,

child: Column(

mainAxisAlignment: MainAxisAlignment.center,

crossAxisAlignment: CrossAxisAlignment.center,

children: <Widget>[

SizedBox(

height: 200,

child: Image.asset(

"assets/logo.png",

fit: BoxFit.contain,

)),

SizedBox(height: 45),

emailField,

SizedBox(height: 25),

passwordField,

SizedBox(height: 35),

loginButton,

],

),

),

),

),

),

),

);

}

// login function

void signIn(String email, String password) async {

if (\_formKey.currentState!.validate()) {

try {

await \_auth

.signInWithEmailAndPassword(email: email, password: password)

.then((uid) => {

Fluttertoast.showToast(msg: "Login Successful"),

Navigator.of(context).pushReplacement(

MaterialPageRoute(builder: (context) => HomeScreen())),

});

} on FirebaseAuthException catch (error) {

switch (error.code) {

case "invalid-email":

errorMessage = "Your email address appears to be malformed.";

break;

case "wrong-password":

errorMessage = "Your password is wrong.";

break;

case "user-not-found":

errorMessage = "User with this email doesn't exist.";

break;

case "user-disabled":

errorMessage = "User with this email has been disabled.";

break;

case "too-many-requests":

errorMessage = "Too many requests";

break;

case "operation-not-allowed":

errorMessage = "Signing in with Email and Password is not enabled.";

break;

default:

errorMessage = "An undefined Error happened.";

}

Fluttertoast.showToast(msg: errorMessage!);

print(error.code);

}

}

}

}

**home\_screen.dart**

import 'package:cloud\_firestore/cloud\_firestore.dart';

import 'package:firebase\_auth/firebase\_auth.dart';

import 'package:flutter/material.dart';

import 'login\_screen.dart';

class HomeScreen extends StatefulWidget {

const HomeScreen({Key? key}) : super(key: key);

@override

\_HomeScreenState createState() => \_HomeScreenState();

}

class \_HomeScreenState extends State<HomeScreen> {

User? user = FirebaseAuth.instance.currentUser;

@override

void initState() {

super.initState();

FirebaseFirestore.instance.collection("users").doc(user!.uid).get().then((value) {

setState(() {});

});

}

@override

Widget build(BuildContext context) {

return Scaffold(

appBar: AppBar(

title: const Text("Welcome"),

centerTitle: true,

),

body: Center(

child: Padding(

padding: EdgeInsets.all(20),

child: Column(

mainAxisAlignment: MainAxisAlignment.center,

crossAxisAlignment: CrossAxisAlignment.center,

children: <Widget>[

SizedBox(

height: 150,

child: Image.asset("assets/logo.png", fit: BoxFit.contain),

),

Text(

"Welcome Back",

style: TextStyle(fontSize: 20, fontWeight: FontWeight.bold),

),

SizedBox(

height: 10,

),

SizedBox(

height: 15,

),

ActionChip(

label: Text("Logout"),

onPressed: () {

logout(context);

}),

],

),

),

),

);

}

// the logout function

Future<void> logout(BuildContext context) async {

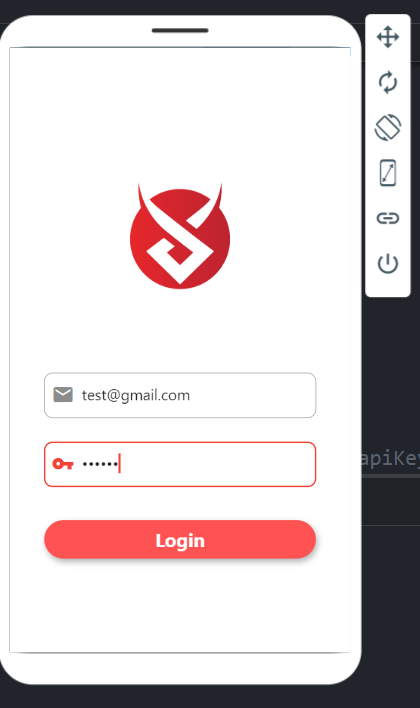
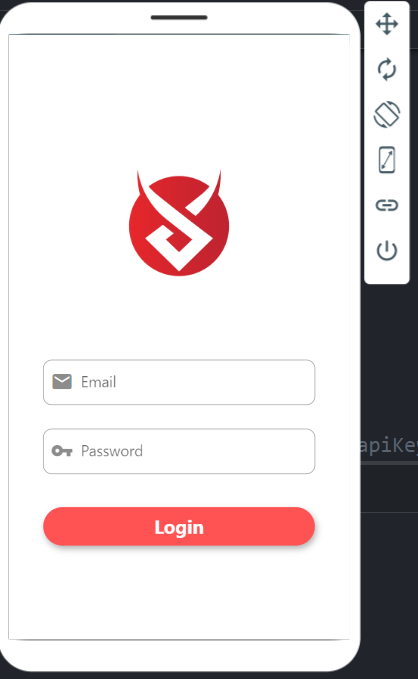
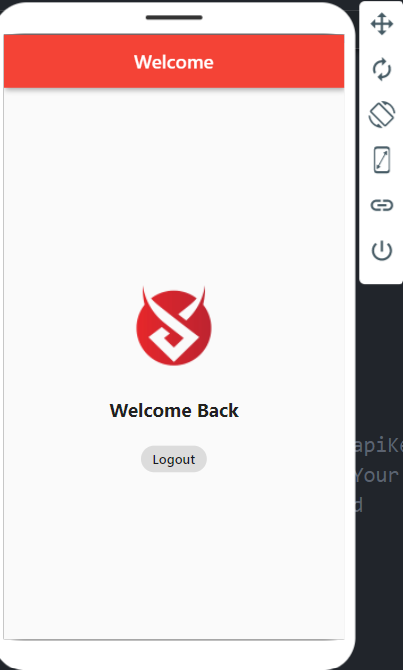
await FirebaseAuth.instance.signOut();

Navigator.of(context).pushReplacement(MaterialPageRoute(builder: (context) => LoginScreen()));

}

}

**Output:**

**Conclusion:** In this experiment we have Implemented fireBase connectivity to connect with Flutter UI