

**Academic Year: 2024-25****Semester: VI****Class / Branch / Div: TE- IT A/B/C****Subject: MAD & PWA Lab****Name of Instructor: Prof. Sujata Oak**

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: "AIzaSyAQVWkGN0uGA0RtsrCjd5aFahNxxk5tHI9s", // 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);

}

}

}

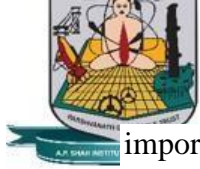
}

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:**

