

PRACTICAL: 10

AIM:

Create an application with the help of database.

THEORY:

- Firebase is a backend platform for building Web, Android and IOS applications. It offers real time database, different APIs, multiple authentication types and hosting platform.
- **Firestore Features**
 - Real-time Database – Firestore supports JSON data and all users connected to it receive live updates after every change.
 - Authentication – We can use anonymous, password or different social authentications.
 - Hosting – The applications can be deployed over secured connection to Firestore servers.
- **Firestore Advantages**
 - It is simple and user friendly. No need for complicated configuration.
 - The data is real-time, which means that every change will automatically update connected clients.
 - Firestore offers simple control dashboard.
 - There are a number of useful services to choose.

CODE:

```
//activity_main.xml
<?xml version="1.0" encoding="utf-8"?>
<android.support.constraint.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
tools:context=".MainActivity">

<EditText
    android:id="@+id/username"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="8dp"
    android:layout_marginTop="32dp"
    android:layout_marginEnd="8dp"
    android:ems="10"
    android:hint="Enter Name"
    android:inputType="textPersonName"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

```
<EditText
    android:id="@+id/password"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="8dp"
    android:layout_marginTop="8dp"
    android:layout_marginEnd="8dp"
    android:ems="10"
    android:hint="Enter Password"
    android:inputType="textPassword"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/username" />

<Button
    android:id="@+id/signup"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="8dp"
    android:layout_marginTop="16dp"
    android:layout_marginEnd="8dp"
    android:text="Sign Up"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/password" />

<TextView
    android:id="@+id/data"
    android:layout_width="wrap_content"
    android:layout_height="15dp"
    android:layout_marginStart="8dp"
    android:layout_marginTop="8dp"
    android:layout_marginEnd="8dp"
    android:layout_marginBottom="8dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/login" />

<Button
    android:id="@+id/login"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="8dp"
    android:layout_marginTop="32dp"
    android:layout_marginEnd="8dp"
    android:text="Log In"
    app:layout_constraintEnd_toEndOf="parent"
```

```
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/signup" />
</android.support.constraint.ConstraintLayout>

//MainActivity.java
package com.example.prac9;

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;

import com.google.firebase.database.DataSnapshot;
import com.google.firebase.database.DatabaseError;
import com.google.firebase.database.DatabaseReference;
import com.google.firebase.database.FirebaseDatabase;
import com.google.firebase.database.ValueEventListener;
import org.w3c.dom.Text;

public class MainActivity extends AppCompatActivity {
    private TextView data;
    private EditText username, password;
    private Button signup, login;

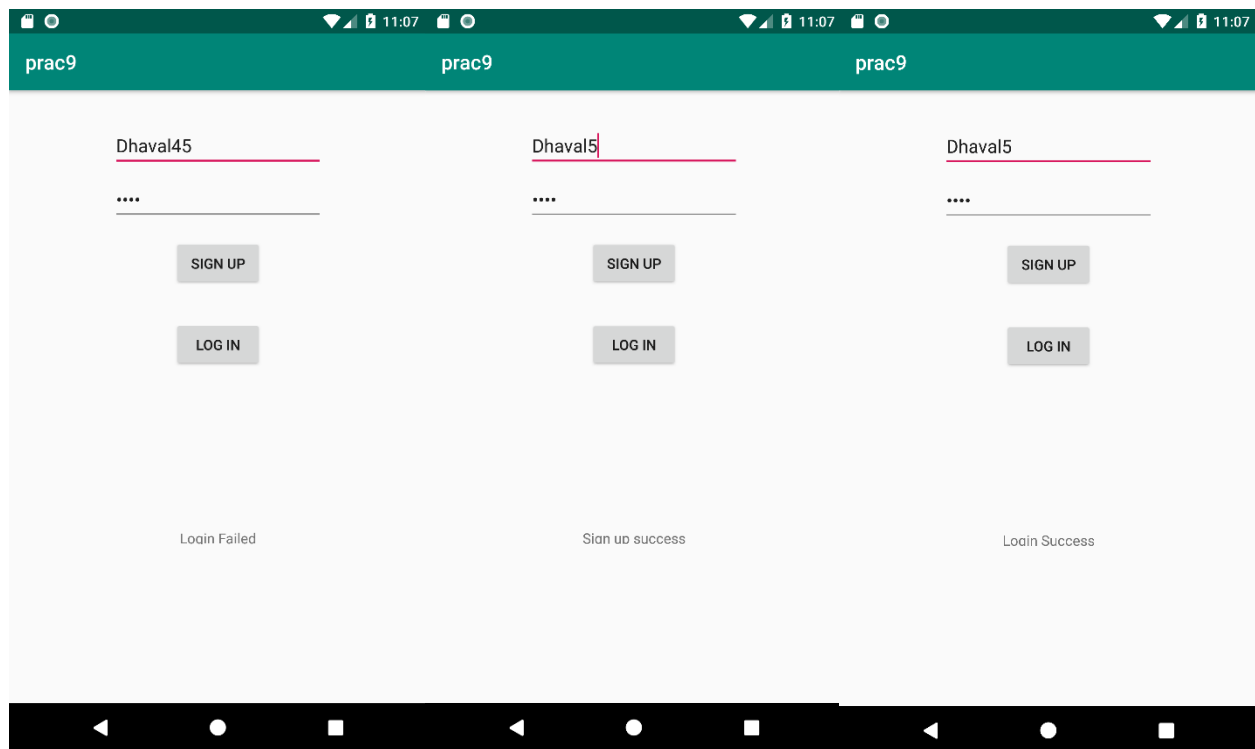
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        FirebaseDatabase database = FirebaseDatabase.getInstance();
        final DatabaseReference myRef = database.getReference("userdata");

        data = (TextView)findViewById(R.id.data);
        username = (EditText)findViewById(R.id.username);
        password = (EditText)findViewById(R.id.password);
        signup = (Button) findViewById(R.id.signup);
        login = (Button) findViewById(R.id.login);

        signup.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                myRef.child(username.getText().toString()).setValue(password.getText().toString());
                data.setText("Sign up success");
            }
        });
    }
}
```

```
login.setOnClickListener(new View.OnClickListener() {  
    @Override  
    public void onClick(View v) {  
        myRef.addValueEventListener(new ValueEventListener() {  
            @Override  
            public void onDataChange(DataSnapshot dataSnapshot) {  
                // This method is called once with the initial value and again  
                // whenever data at this location is updated.  
                for (DataSnapshot d : dataSnapshot.getChildren()) {  
                    if(d.getKey().equals(username.getText().toString()) &&  
d.getValue().equals(password.getText().toString()))  
                        data.setText("Login Success");  
                    else  
                        data.setText("Login Failed");  
                }  
            }  
  
            @Override  
            public void onCancelled(DatabaseError error) {  
                // Failed to read value  
            }  
        });  
    }  
});  
}
```

OUTPUT:



prac9-1981f

```
message: "Hell"
userdata
  Dhaval: "1234"
  Dhaval5: "1234"
```

CONCLUSION: We have successfully created android application which inserts data into firebase database and retrieve data from it.