***Android Firebase Tutorial Document by Adib***

**## Add Data Using Firebase: Basic one!**

**XML: -------**

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout 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"  
 android:orientation="vertical"  
 android:layout\_margin="10dp"  
 android:padding="10dp"  
 tools:context=".MainActivity">  
  
 <EditText  
 android:id="@+id/write"  
 android:textStyle="bold"  
 android:textSize="20sp"  
 android:textAlignment="center"  
 android:hint="Write Here.."  
 android:layout\_margin="5dp"  
 android:padding="5dp"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:background="#eee"/>  
  
 <Button  
 android:onClick="SendData"  
 android:layout\_gravity="center"  
 android:text="Ok"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content" />  
  
  
  
</LinearLayout>

**Java Code model 1 MyUserData: -------**

package com.example.mynewfirebaselesson;  
  
public class MyUserData {  
  
 String data;  
  
 public MyUserData(String data) {  
 this.data = data;  
 }  
  
 public MyUserData() {  
 }  
  
 public String getData() {  
 return data;  
 }  
  
 public void setData(String data) {  
 this.data = data;  
 }  
}

**Java Code model 2 UserData: -------**

package com.example.mynewfirebaselesson;  
  
public class UserData {  
  
 String name;  
 String age;  
  
 public UserData(String name, String age) {  
 this.name = name;  
 this.age = age;  
 }  
  
 public UserData() {  
  
 }  
  
 public String getName() {  
 return name;  
 }  
  
 public void setName(String name) {  
 this.name = name;  
 }  
  
 public String getAge() {  
 return age;  
 }  
  
 public void setAge(String age) {  
 this.age = age;  
 }  
}

**MainActivity.Java:-------------**

package com.example.mynewfirebaselesson;  
  
import android.support.v7.app.AppCompatActivity;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.EditText;  
  
import com.google.firebase.database.DatabaseReference;  
import com.google.firebase.database.FirebaseDatabase;  
  
import java.util.ArrayList;  
import java.util.HashMap;  
  
public class MainActivity extends AppCompatActivity {  
  
 private DatabaseReference databaseReference;

EditText editText;  
   
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);

editText = findViewById(R.id.write);  
  
 databaseReference = FirebaseDatabase.*getInstance*().getReference().child("User");  
   
   
 }

public void SendData(View view) {  
  
String data = editText.getText().toString();  
  
MyUserData myUserData = new MyUserData(data);  
  
databaseReference.child("object").setValue(myUserData);  
  
  
  
//HashMap<String,String> hashMap = new HashMap<>();  
//hashMap.put("userdata",data);  
//databaseReference.setValue(hashMap); // for storing data in main root Info  
//databaseReference.child("user1").setValue(hashMap); // store data in child of root  
  
 //}  
  
  
}  
  
  
  
// xml: // EditText editText  
  
//editText = findViewById(R.id.write);  
  
  
//public void SendData(View view) {  
  
//String data = editText.getText().toString();  
  
//MyUserData myUserData = new MyUserData(data);  
  
//databaseReference.child("object").setValue(myUserData);  
  
  
  
//HashMap<String,String> hashMap = new HashMap<>();  
//hashMap.put("userdata",data);  
//databaseReference.setValue(hashMap); // for storing data in main root Info  
//databaseReference.child("user1").setValue(hashMap); // store data in child of root  
  
 //}  
  
  
  
  
  
  
  
  
  
// see this code if you want to store value using object  
  
// UserData userData = new UserData("Mr Kabir","32");  
// databaseReference.setValue(userData);  
  
 /\*HashMap<String,String> hashMap = new HashMap<>();  
 hashMap.put("like","Facebook");  
 hashMap.put("hobby","Programming");  
 databaseReference.setValue(hashMap);  
  
 // I have done this using Hashmap\*/

**## Add Data Using Firebase: Basic List of data same time entry in database!**

**ListModel.java:--------------**

package com.example.mynewfirebaselesson;  
  
public class DataList {  
  
 String name;  
  
 public DataList(String name) {  
 this.name = name;  
 }  
  
 public DataList() {  
 }  
  
 public String getName() {  
 return name;  
 }  
  
 public void setName(String name) {  
 this.name = name;  
 }  
}

**MainActivity.java file only: -------------------**

package com.example.mynewfirebaselesson;  
  
import android.support.v7.app.AppCompatActivity;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.EditText;  
  
import com.google.firebase.database.DatabaseReference;  
import com.google.firebase.database.FirebaseDatabase;  
  
import java.util.ArrayList;  
import java.util.HashMap;  
  
public class MainActivity extends AppCompatActivity {  
  
 String[] name = {"rocky","nabila","fariha","tonmoy","jihan","kawsar","niloy","rima","sefa"};  
 private DatabaseReference databaseReference;  
 ArrayList<DataList> arrayList;  
  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 databaseReference = FirebaseDatabase.*getInstance*().getReference().child("User");  
 arrayList = new ArrayList<DataList>();  
  
 int i = 0;  
  
 while(i<name.length){  
  
 DataList dataList = new DataList(name[i]);  
 arrayList.add(dataList);  
 i++;  
  
 }  
  
 databaseReference.child("list").setValue(arrayList);  
  
 }  
  
  
}

**## Add Data Using Push method Firebase: Basic push data by unique key----------**

**Main Java file-----------------**

package com.example.mynewfirebaselesson;  
  
import android.os.Bundle;  
import android.support.v7.app.AppCompatActivity;  
  
import com.google.firebase.database.DatabaseReference;  
import com.google.firebase.database.FirebaseDatabase;  
  
import java.util.HashMap;  
  
public class MainActivity extends AppCompatActivity {  
  
 private DatabaseReference databaseReference;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 databaseReference = FirebaseDatabase.*getInstance*().getReference().child("Test");  
  
 HashMap<String,String> hashMap = new HashMap<>();  
 hashMap.put("Name","GreatAdib");  
  
 databaseReference.child("user1").push().setValue(hashMap); // for child  
  
 //databaseReference.push().setValue(hashMap); for single root  
  
 }  
  
}

**### How to Store Image in Firebase Storage:---------------------------------------------**

**1. XML:-----**

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout 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"  
 android:orientation="vertical"  
 android:layout\_margin="10dp"  
 android:padding="10dp"  
 android:gravity="center"  
 tools:context=".MainActivity">  
  
 <Button  
  
 android:onClick="UploadImage"  
 android:text="Upload"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content" />  
  
  
</LinearLayout>

**2. MainActivity:-----------**

package com.example.mynewfirebaselesson;  
  
import android.content.Intent;  
import android.net.Uri;  
import android.os.Bundle;  
import android.support.annotation.Nullable;  
import android.support.v7.app.AppCompatActivity;  
import android.view.View;  
import android.widget.Toast;  
  
import com.google.android.gms.tasks.OnSuccessListener;  
import com.google.firebase.database.DatabaseReference;  
import com.google.firebase.database.FirebaseDatabase;  
import com.google.firebase.storage.FirebaseStorage;  
import com.google.firebase.storage.StorageReference;  
import com.google.firebase.storage.UploadTask;  
  
import java.util.HashMap;  
  
public class MainActivity extends AppCompatActivity {  
  
 private StorageReference Folder;  
 private static final int *ImageBack* = 1;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 Folder = FirebaseStorage.*getInstance*().getReference().child("ImageFolder");  
  
 }  
  
 public void UploadImage(View view) {  
  
 Intent intent = new Intent(Intent.*ACTION\_GET\_CONTENT*);  
 intent.setType("image/\*");  
 startActivityForResult(intent,*ImageBack*);  
 }  
  
 @Override  
 protected void onActivityResult(int requestCode, int resultCode, @Nullable Intent data) {  
 super.onActivityResult(requestCode, resultCode, data);  
  
 if(requestCode == *ImageBack*){  
 if(resultCode == *RESULT\_OK*){  
  
 Uri ImageData = data.getData();  
  
  
 final StorageReference Imagename = Folder.child("image"+ImageData.getLastPathSegment());  
  
 Imagename.putFile(ImageData).addOnSuccessListener(new OnSuccessListener<UploadTask.TaskSnapshot>() {  
 @Override  
 public void onSuccess(UploadTask.TaskSnapshot taskSnapshot) {  
  
 Imagename.getDownloadUrl().addOnSuccessListener(new OnSuccessListener<Uri>() {  
 @Override  
 public void onSuccess(Uri uri) {  
  
 DatabaseReference imagestore = FirebaseDatabase.*getInstance*().getReference().child("Image");  
  
 HashMap<String,String> hashMap = new HashMap<>();  
 hashMap.put("imageurl", String.*valueOf*(uri));  
  
 imagestore.setValue(hashMap).addOnSuccessListener(new OnSuccessListener<Void>() {  
 @Override  
 public void onSuccess(Void aVoid) {  
  
 Toast.*makeText*(MainActivity.this,"Totally completed!",Toast.*LENGTH\_SHORT*).show();  
  
 }  
 });  
  
 }  
 });  
  
 }  
 });  
  
  
 }  
 }  
 }  
}

**### Upload Multiple Images in Firebase Storage------------------------------**

**XML:--**

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout 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"  
 android:orientation="vertical"  
 android:layout\_margin="10dp"  
 android:padding="10dp"  
 android:gravity="center"  
 tools:context=".MainActivity">  
  
 <Button  
 android:id="@+id/chooser"  
 android:text="Choose Image"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content" />  
  
 <Button  
 android:id="@+id/uploader"  
 android:text="Upload Image"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content" />  
  
 <TextView  
 android:layout\_marginTop="50dp"  
 android:textSize="20sp"  
 android:textAlignment="center"  
 android:textColor="@color/colorAccent"  
 android:id="@+id/alert"  
 android:text="Here will be alert"  
 android:visibility="gone"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content" />  
  
  
</LinearLayout>

**MainActivity:-------------------------------------------**

package com.example.mynewfirebaselesson;  
  
import android.annotation.SuppressLint;  
import android.app.ProgressDialog;  
import android.content.Intent;  
import android.net.Uri;  
import android.os.Bundle;  
import android.support.annotation.Nullable;  
import android.support.v7.app.AppCompatActivity;  
import android.view.View;  
import android.widget.Button;  
import android.widget.TextView;  
import android.widget.Toast;  
  
import com.google.android.gms.tasks.OnSuccessListener;  
import com.google.firebase.database.DatabaseReference;  
import com.google.firebase.database.FirebaseDatabase;  
import com.google.firebase.storage.FirebaseStorage;  
import com.google.firebase.storage.StorageReference;  
import com.google.firebase.storage.UploadTask;  
  
import java.util.ArrayList;  
import java.util.HashMap;  
  
public class MainActivity extends AppCompatActivity {  
  
 private static final int *PICK\_IMAGE* = 1;  
 Button upload,choose;  
 TextView alert;  
  
 ArrayList<Uri> ImageList = new ArrayList<Uri>();  
 private Uri ImageUri;  
 private ProgressDialog progressDialog;  
 private int upload\_count = 0;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 upload = findViewById(R.id.*uploader*);  
 choose = findViewById(R.id.*chooser*);  
 alert = findViewById(R.id.*alert*);  
 progressDialog = new ProgressDialog(this);  
 progressDialog.setMessage("ImageUploading...");  
  
 choose.setOnClickListener(new View.OnClickListener() {  
  
 @Override  
 public void onClick(View v) {  
  
 Intent intent = new Intent(Intent.*ACTION\_GET\_CONTENT*);  
 intent.setType("image/\*");  
 intent.putExtra(Intent.*EXTRA\_ALLOW\_MULTIPLE*,true);  
 startActivityForResult(intent,*PICK\_IMAGE*);  
  
 }  
 });  
  
  
 upload.setOnClickListener(new View.OnClickListener() {  
 @SuppressLint("SetTextI18n")  
 @Override  
 public void onClick(View v) {  
  
 progressDialog.show();  
 alert.setText("if loading takes too long time press button again");  
  
 StorageReference ImageFolder = FirebaseStorage.*getInstance*().getReference().child("ImageFolder");  
  
 for(upload\_count = 0; upload\_count < ImageList.size(); upload\_count++){  
  
 Uri IndividualImage = ImageList.get(upload\_count);  
 final StorageReference Imagename = ImageFolder.child("Image"+IndividualImage.getLastPathSegment());  
  
 Imagename.putFile(IndividualImage).addOnSuccessListener(new OnSuccessListener<UploadTask.TaskSnapshot>() {  
 @Override  
 public void onSuccess(UploadTask.TaskSnapshot taskSnapshot) {  
  
  
 Imagename.getDownloadUrl().addOnSuccessListener(new OnSuccessListener<Uri>() {  
 @Override  
 public void onSuccess(Uri uri) {  
  
 String url = String.*valueOf*(uri);  
  
 StoreLink(url);  
  
 }  
 });  
  
  
 }  
 });  
  
 }  
  
 }  
  
  
 });  
  
  
  
  
 }  
  
 private void StoreLink(String url) {  
  
 DatabaseReference databaseReference = FirebaseDatabase.*getInstance*().getReference().child("UserOne");  
 HashMap<String,String> hashMap = new HashMap<>();  
 hashMap.put("imagelink",url);  
 databaseReference.push().setValue(hashMap);  
  
 progressDialog.dismiss();  
 alert.setText("Image Uploaded Succesfully");  
 upload.setVisibility(View.*GONE*);  
  
 }  
  
  
 @SuppressLint("SetTextI18n")  
 @Override  
 protected void onActivityResult(int requestCode, int resultCode, @Nullable Intent data) {  
 super.onActivityResult(requestCode, resultCode, data);  
  
  
 if(requestCode == *PICK\_IMAGE*){  
  
 if(resultCode == *RESULT\_OK*){  
  
 if(data.getClipData()!=null){  
  
  
 int countClipData = data.getClipData().getItemCount();  
  
 int currentImageSelect = 0;  
  
 while(currentImageSelect < countClipData){  
  
  
 ImageUri = data.getClipData().getItemAt(currentImageSelect).getUri();  
  
 ImageList.add(ImageUri);  
  
 currentImageSelect = currentImageSelect+1;  
  
 }  
  
 alert.setVisibility(View.*VISIBLE*);  
 alert.setText("you have selected " + ImageList.size()+ " Images");  
 choose.setVisibility(View.*GONE*);  
  
  
  
 }  
 else {  
  
 Toast.*makeText*(MainActivity.this,"Please select multiple image",Toast.*LENGTH\_SHORT*).show();  
  
  
 }  
  
 }  
 }  
  
 }  
}

**## How to Upload Files in Firebase Storage-------**

**XML:------**

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout 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"  
 android:orientation="vertical"  
 android:layout\_margin="10dp"  
 android:padding="10dp"  
 android:gravity="center"  
 tools:context=".MainActivity">  
  
 <Button  
 android:onClick="FileUpload"  
 android:text="Upload File"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content" />  
  
  
  
</LinearLayout>

**MainActivity :------**

package com.example.mynewfirebaselesson;  
  
import android.content.Intent;  
import android.net.Uri;  
import android.os.Bundle;  
import android.support.annotation.Nullable;  
import android.support.v7.app.AppCompatActivity;  
import android.view.View;  
import android.widget.Toast;  
  
import com.google.android.gms.tasks.OnSuccessListener;  
import com.google.firebase.database.DatabaseReference;  
import com.google.firebase.database.FirebaseDatabase;  
import com.google.firebase.storage.FirebaseStorage;  
import com.google.firebase.storage.StorageReference;  
import com.google.firebase.storage.UploadTask;  
  
import java.util.HashMap;  
  
public class MainActivity extends AppCompatActivity {  
  
 private static final int *PICK\_FILE* = 1;  
 private DatabaseReference databaseReference;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 databaseReference = FirebaseDatabase.*getInstance*().getReference().child("User1one");  
  
 }  
  
  
 public void FileUpload(View view) {  
  
 Intent intent = new Intent(Intent.*ACTION\_GET\_CONTENT*);  
 intent.setType("\*/\*");  
 startActivityForResult(intent,*PICK\_FILE*);  
  
 }  
  
 @Override  
 protected void onActivityResult(int requestCode, int resultCode, @Nullable Intent data) {  
 super.onActivityResult(requestCode, resultCode, data);  
  
 if(requestCode == *PICK\_FILE*){  
  
 if(resultCode == *RESULT\_OK*){  
  
 Uri FileUri = data.getData();  
  
 StorageReference Folder = FirebaseStorage.*getInstance*().getReference().child("Files");  
  
 final StorageReference file\_name = Folder.child("file"+FileUri.getLastPathSegment());  
  
 file\_name.putFile(FileUri).addOnSuccessListener(new OnSuccessListener<UploadTask.TaskSnapshot>() {  
 @Override  
 public void onSuccess(UploadTask.TaskSnapshot taskSnapshot) {  
  
  
 file\_name.getDownloadUrl().addOnSuccessListener(new OnSuccessListener<Uri>() {  
 @Override  
 public void onSuccess(Uri uri) {  
  
 String url = String.*valueOf*(uri);  
 HashMap<String,String> hashMap = new HashMap<>();  
 hashMap.put("fileink",url);  
  
 databaseReference.setValue(hashMap);  
  
 Toast.*makeText*(MainActivity.this,"File Uploaded",Toast.*LENGTH\_SHORT*).show();  
  
  
 }  
 });  
  
  
  
 }  
 });  
  
 }  
 }  
 }  
}

**### Upload – Multiple Files on Firebase Storage and Database--------**

**XML:**

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout 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"  
 android:orientation="vertical"  
 android:layout\_margin="10dp"  
 android:padding="10dp"  
 android:gravity="center"  
 tools:context=".MainActivity">  
  
 <Button  
 android:onClick="ChooseFiles"  
 android:text="Choose Files"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content" />  
  
 <Button  
 android:onClick="UploadFiles"  
 android:text="Upload Files"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content" />  
  
  
  
  
</LinearLayout>

**MainActivity:-----**

package com.example.mynewfirebaselesson;  
  
import android.app.ProgressDialog;  
import android.content.Intent;  
import android.net.Uri;  
import android.os.Bundle;  
import android.support.annotation.Nullable;  
import android.support.v7.app.AppCompatActivity;  
import android.view.View;  
import android.widget.Toast;  
  
import com.google.android.gms.tasks.OnSuccessListener;  
import com.google.firebase.database.DatabaseReference;  
import com.google.firebase.database.FirebaseDatabase;  
import com.google.firebase.storage.FirebaseStorage;  
import com.google.firebase.storage.StorageReference;  
import com.google.firebase.storage.UploadTask;  
  
import java.util.ArrayList;  
import java.util.HashMap;  
  
public class MainActivity extends AppCompatActivity {  
  
 private static final int *PICK\_FILE* = 1;  
  
 ArrayList<Uri> FileList = new ArrayList<Uri>();  
  
 ProgressDialog progressDialog;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 progressDialog = new ProgressDialog(this);  
 progressDialog.setMessage("Processing Please Wait");  
  
 }  
  
 public void ChooseFiles(View view) {  
  
 Intent intent = new Intent(Intent.*ACTION\_GET\_CONTENT*);  
 intent.setType("\*/\*");  
 intent.putExtra(Intent.*EXTRA\_ALLOW\_MULTIPLE*,true);  
 startActivityForResult(intent,*PICK\_FILE*);  
 }  
  
 @Override  
 protected void onActivityResult(int requestCode, int resultCode, @Nullable Intent data) {  
 super.onActivityResult(requestCode, resultCode, data);  
  
 if(requestCode == *PICK\_FILE*){  
  
 if(resultCode == *RESULT\_OK*){  
  
 if(data.getClipData()!=null){  
  
  
  
 int count = data.getClipData().getItemCount();  
  
 int i = 0;  
  
 while (i<count){  
  
 Uri File = data.getClipData().getItemAt(i).getUri();  
 FileList.add(File);  
 i++;  
  
 }  
 Toast.*makeText*(MainActivity.this,"You have selected "+FileList.size()+" files",Toast.*LENGTH\_LONG*).show();  
  
 }  
  
 }  
  
 }  
  
 }  
  
 public void UploadFiles(View view) {  
  
 progressDialog.show();  
  
 for(int j = 0; j<FileList.size(); j++){  
  
 Uri Perfile = FileList.get(j);  
  
 StorageReference folder = FirebaseStorage.*getInstance*().getReference().child("Files");  
  
 final StorageReference filename = folder.child("file"+Perfile.getLastPathSegment());  
  
 filename.putFile(Perfile).addOnSuccessListener(new OnSuccessListener<UploadTask.TaskSnapshot>() {  
 @Override  
 public void onSuccess(UploadTask.TaskSnapshot taskSnapshot) {  
  
 filename.getDownloadUrl().addOnSuccessListener(new OnSuccessListener<Uri>() {  
 @Override  
 public void onSuccess(Uri uri) {  
  
 DatabaseReference databaseReference = FirebaseDatabase.*getInstance*().getReference().child("multifilesuser");  
  
 String url = String.*valueOf*(uri);  
  
 HashMap<String,String> hashMap = new HashMap<>();  
 hashMap.put("link",url);  
 databaseReference.push().setValue(hashMap);  
  
 progressDialog.dismiss();  
 FileList.clear();  
  
 }  
 });  
  
 }  
 });  
  
 }  
  
 }  
}

**## Read all the unique child value on database !**

**MainActivity---------------**

package com.example.mynewfirebaselesson;  
  
import android.os.Bundle;  
import android.support.annotation.NonNull;  
import android.support.v7.app.AppCompatActivity;  
import android.util.Log;  
  
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;  
  
public class MainActivity extends AppCompatActivity {  
  
  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 DatabaseReference databaseReference = FirebaseDatabase.*getInstance*().getReference().child("country");  
  
 databaseReference.addValueEventListener(new ValueEventListener() {  
 @Override  
 public void onDataChange(@NonNull DataSnapshot dataSnapshot) {  
  
 for(DataSnapshot dataSnapshot1 : dataSnapshot.getChildren()){  
  
 String value = String.*valueOf*(dataSnapshot1.child("city").getValue());  
  
 Log.*i*("OUR VALUE",value);  
  
 }  
  
 }  
  
 @Override  
 public void onCancelled(@NonNull DatabaseError databaseError) {  
  
 }  
 });  
  
 }  
  
  
}

**## Firebase ChildEventListener and how it works------**

**MainActivity:-------**

package com.example.mynewfirebaselesson;  
  
import android.os.Bundle;  
import android.support.annotation.NonNull;  
import android.support.annotation.Nullable;  
import android.support.v7.app.AppCompatActivity;  
import android.util.Log;  
  
import com.google.firebase.database.ChildEventListener;  
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;  
  
public class MainActivity extends AppCompatActivity {  
  
 private DatabaseReference databaseReference;  
 private final String log = "RESULT DATA";  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
  
 databaseReference = FirebaseDatabase.*getInstance*().getReference().child("cwc");  
  
  
 databaseReference.keepSynced(true);  
  
 databaseReference.addChildEventListener(new ChildEventListener() {  
 @Override  
 public void onChildAdded(@NonNull DataSnapshot dataSnapshot, @Nullable String s) {  
  
 Log.*i*(log, String.*valueOf*(dataSnapshot.getValue()));  
  
 }  
  
 @Override  
 public void onChildChanged(@NonNull DataSnapshot dataSnapshot, @Nullable String s) {  
  
 }  
  
 @Override  
 public void onChildRemoved(@NonNull DataSnapshot dataSnapshot) {  
  
 Log.*i*(log, String.*valueOf*(dataSnapshot.getValue()));  
  
 }  
  
 @Override  
 public void onChildMoved(@NonNull DataSnapshot dataSnapshot, @Nullable String s) {  
  
 }  
  
 @Override  
 public void onCancelled(@NonNull DatabaseError databaseError) {  
  
 }  
 });  
  
  
 }  
  
  
}

### Database Firebase Query:

1. Mainactivity:

\*databaseReference.orderByChild("location").startAt("Trent").endAt("Trent\uf8ff").addListenerForSingleValueEvent(new ValueEventListener() {  
 @Override  
 public void onDataChange(@NonNull DataSnapshot dataSnapshot) {  
 Log.i("OUR INFO", String.valueOf(dataSnapshot.getValue()));  
 }  
  
 @Override  
 public void onCancelled(@NonNull DatabaseError databaseError) {  
  
 }  
 });  
  
  
  
  
  
  
  
 /\* databaseReference.orderByChild("teamone").equalTo("England").addListenerForSingleValueEvent(new ValueEventListener() {  
 @Override  
 public void onDataChange(@NonNull DataSnapshot dataSnapshot) {  
 Log.i("OUR INFO", String.valueOf(dataSnapshot.getValue()));  
 }  
  
 @Override  
 public void onCancelled(@NonNull DatabaseError databaseError) {  
  
 }  
 });  
  
 \*/

### Database Firebase Query2:---

/\*databaseReference.limitToFirst(2).addListenerForSingleValueEvent(new ValueEventListener() {  
 @Override  
 public void onDataChange(@NonNull DataSnapshot dataSnapshot) {  
 Log.i("OUR INFO", String.valueOf(dataSnapshot.getValue()));  
 }  
  
 @Override  
 public void onCancelled(@NonNull DatabaseError databaseError) {  
  
 }  
 });  
  
 \*/  
  
 /\*databaseReference.limitToLast(2).addListenerForSingleValueEvent(new ValueEventListener() {  
 @Override  
 public void onDataChange(@NonNull DataSnapshot dataSnapshot) {  
 Log.i("OUR INFO", String.valueOf(dataSnapshot.getValue()));  
 }  
  
 @Override  
 public void onCancelled(@NonNull DatabaseError databaseError) {  
  
 }  
 });  
\*/

### Database Firebase Query3::::----

/\* databaseReference.orderByChild("teamone").equalTo("England").addListenerForSingleValueEvent(new ValueEventListener() {  
 @Override  
 public void onDataChange(@NonNull DataSnapshot dataSnapshot) {  
 Log.i("OUR INFO", String.valueOf(dataSnapshot.getValue()));  
 }  
  
 @Override  
 public void onCancelled(@NonNull DatabaseError databaseError) {  
  
 }  
 });  
  
 \*/

/\*databaseReference.limitToFirst(2).addListenerForSingleValueEvent(new ValueEventListener() {  
 @Override  
 public void onDataChange(@NonNull DataSnapshot dataSnapshot) {  
 Log.i("OUR INFO", String.valueOf(dataSnapshot.getValue()));  
 }  
  
 @Override  
 public void onCancelled(@NonNull DatabaseError databaseError) {  
  
 }  
});  
  
\*/

**## Read Unique values from database Firebase and show on RecyclerView**

**MainActivity\_\_\_\_\_\_**

**1. FirebaseViewHolder:----------**

package com.example.mynewfirebaselesson;  
  
import android.support.annotation.NonNull;  
import android.support.v7.widget.RecyclerView;  
import android.view.View;  
import android.widget.TextView;  
  
public class FirebaseViewHolder extends RecyclerView.ViewHolder {  
  
  
 public TextView teamone,teamtwo;  
  
 public FirebaseViewHolder(@NonNull View itemView) {  
 super(itemView);  
  
 teamone = itemView.findViewById(R.id.*teamone*);  
 teamtwo = itemView.findViewById(R.id.*teamtwo*);  
 }  
}

**2.DataSetFire:------------**

package com.example.mynewfirebaselesson;  
  
public class DataSetFire {  
 String teamone;  
 String teamtwo;  
  
  
 public DataSetFire(String teamone, String teamtwo) {  
 this.teamone = teamone;  
 this.teamtwo = teamtwo;  
 }  
  
 public DataSetFire() {  
 }  
  
  
 public String getTeamone() {  
 return teamone;  
 }  
  
 public void setTeamone(String teamone) {  
 this.teamone = teamone;  
 }  
  
 public String getTeamtwo() {  
 return teamtwo;  
 }  
  
 public void setTeamtwo(String teamtwo) {  
 this.teamtwo = teamtwo;  
 }  
}

**1.XML:--------------**

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout 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"  
 android:orientation="vertical"  
 android:layout\_margin="10dp"  
 android:padding="10dp"  
 android:gravity="center"  
 tools:context=".MainActivity">  
  
<android.support.v7.widget.RecyclerView  
 android:layout\_margin="5dp"  
 android:padding="5dp"  
 android:id="@+id/recyclerview"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"/>  
  
  
  
  
</LinearLayout>

package com.example.mynewfirebaselesson;  
  
import android.content.Intent;  
import android.os.Bundle;  
import android.support.annotation.NonNull;  
import android.support.v7.app.AppCompatActivity;  
import android.support.v7.widget.LinearLayoutManager;  
import android.support.v7.widget.RecyclerView;  
import android.view.LayoutInflater;  
import android.view.View;  
import android.view.ViewGroup;  
  
import com.firebase.ui.database.FirebaseRecyclerAdapter;  
import com.firebase.ui.database.FirebaseRecyclerOptions;  
import com.google.firebase.database.DatabaseReference;  
import com.google.firebase.database.FirebaseDatabase;  
  
import java.util.ArrayList;  
  
public class MainActivity extends AppCompatActivity {  
  
 private DatabaseReference databaseReference;  
 private RecyclerView recyclerView;  
 ArrayList<DataSetFire> arrayList;  
 private FirebaseRecyclerOptions<DataSetFire> options;  
 private FirebaseRecyclerAdapter<DataSetFire,FirebaseViewHolder> adapter;  
  
  
 @Override  
 protected void onStart() {  
 super.onStart();  
 adapter.startListening();  
 }  
  
 @Override  
 protected void onStop() {  
 super.onStop();  
 adapter.stopListening();  
 }  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 recyclerView = findViewById(R.id.*recyclerview*);  
 recyclerView.setHasFixedSize(true);  
 recyclerView.setLayoutManager(new LinearLayoutManager(this));  
 arrayList = new ArrayList<DataSetFire>();  
  
 databaseReference = FirebaseDatabase.*getInstance*().getReference().child("cwc");  
 databaseReference.keepSynced(true);  
 options = new FirebaseRecyclerOptions.Builder<DataSetFire>().setQuery(databaseReference,DataSetFire.class).build();  
  
  
 adapter = new FirebaseRecyclerAdapter<DataSetFire, FirebaseViewHolder>(options) {  
 @Override  
 protected void onBindViewHolder(@NonNull FirebaseViewHolder holder, int position, @NonNull final DataSetFire model) {  
  
 holder.teamone.setText(model.getTeamone());  
 holder.teamtwo.setText(model.getTeamtwo());  
 holder.itemView.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 Intent intent = new Intent(MainActivity.this,Main2Activity.class);  
 intent.putExtra("teamone",model.getTeamone());  
 intent.putExtra("teamtwo",model.getTeamtwo());  
 startActivity(intent);  
 }  
 });  
  
 }  
  
 @NonNull  
 @Override  
 public FirebaseViewHolder onCreateViewHolder(@NonNull ViewGroup viewGroup, int i) {  
 return new FirebaseViewHolder(LayoutInflater.*from*(MainActivity.this).inflate(R.layout.*row*,viewGroup,false));  
 }  
 };  
  
  
  
  
 recyclerView.setAdapter(adapter);  
  
  
  
 }  
  
  
}

Main2Activity:--------------

package com.example.mynewfirebaselesson;  
  
import android.support.v7.app.AppCompatActivity;  
import android.os.Bundle;  
import android.util.Log;  
import android.widget.Toast;  
  
public class Main2Activity extends AppCompatActivity {  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main2*);  
  
 String teamone = getIntent().getStringExtra("teamone");  
 String teamtwo = getIntent().getStringExtra("teamtwo");  
  
 Toast.*makeText*(getApplicationContext()," team1 " +teamone,Toast.*LENGTH\_SHORT*).show();  
 Toast.*makeText*(getApplicationContext()," team2 " +teamtwo,Toast.*LENGTH\_SHORT*).show();  
 }  
}

***#### Row XML:***

<?xml version="1.0" encoding="utf-8"?>  
<android.support.v7.widget.CardView xmlns:android="http://schemas.android.com/apk/res/android"  
 android:layout\_width="match\_parent"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 android:layout\_margin="10dp"  
 android:padding="10dp"  
 android:elevation="8dp"  
 app:cardElevation="12dp"  
 app:cardCornerRadius="10dp"  
 android:backgroundTint="#5E38FF"  
 android:layout\_height="130dp">  
  
 <LinearLayout  
 android:layout\_margin="10dp"  
 android:orientation="vertical"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent">  
  
 <TextView  
 android:id="@+id/teamone"  
 android:layout\_marginTop="10dp"  
 android:padding="5dp"  
 android:textColor="#fff"  
 android:textSize="22sp"  
 android:textAlignment="center"  
 android:text="TeamOne Name"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content" />  
  
 <TextView  
 android:id="@+id/teamtwo"  
 android:layout\_marginTop="10dp"  
 android:padding="5dp"  
 android:textColor="#fff"  
 android:textSize="22sp"  
 android:textAlignment="center"  
 android:text="TeamTwo Name"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content" />  
  
  
 </LinearLayout>  
  
</android.support.v7.widget.CardView>

***Dependency:***

implementation 'com.google.firebase:firebase-core:16.0.8'  
implementation 'com.google.firebase:firebase-database:17.0.0'  
implementation 'com.google.firebase:firebase-storage:17.0.0'  
implementation 'com.android.support:cardview-v7:28.0.0'  
implementation 'com.android.support:recyclerview-v7:28.0.0'  
implementation 'com.squareup.picasso:picasso:2.71828'  
implementation 'com.firebaseui:firebase-ui-database:4.2.1'  
implementation 'de.hdodenhof:circleimageview:3.0.0'

***Big XML:***

<?xml version="1.0" encoding="utf-8"?>  
<android.support.v7.widget.CardView xmlns:android="http://schemas.android.com/apk/res/android"  
 android:layout\_width="match\_parent"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 android:layout\_margin="10dp"  
 android:padding="10dp"  
 android:elevation="8dp"  
 app:cardElevation="12dp"  
 app:cardCornerRadius="10dp"  
 android:backgroundTint="#6F26F5"  
 android:layout\_height="250dp">  
  
 <LinearLayout  
 android:layout\_margin="5dp"  
 android:orientation="vertical"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent">  
  
 <TextView  
 android:id="@+id/location"  
 android:layout\_marginTop="5dp"  
 android:padding="5dp"  
 android:textColor="#fff"  
 android:textSize="18sp"  
 android:textAlignment="center"  
 android:text="Location Name"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content" />  
  
 <TextView  
 android:id="@+id/matchdate"  
 android:layout\_marginTop="5dp"  
 android:padding="5dp"  
 android:textColor="#fff"  
 android:textSize="18sp"  
 android:textAlignment="center"  
 android:text="Match Date"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content" />  
  
 <TextView  
 android:id="@+id/matchno"  
 android:layout\_marginTop="5dp"  
 android:padding="5dp"  
 android:textColor="#fff"  
 android:textSize="18sp"  
 android:textAlignment="center"  
 android:text="Match No"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content" />  
  
 <TextView  
 android:id="@+id/matchtime"  
 android:layout\_marginTop="5dp"  
 android:padding="5dp"  
 android:textColor="#fff"  
 android:textSize="18sp"  
 android:textAlignment="center"  
 android:text="Match Time"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content" />  
  
  
  
 <TextView  
 android:id="@+id/teamone"  
 android:layout\_marginTop="5dp"  
 android:padding="5dp"  
 android:textColor="#fff"  
 android:textSize="18sp"  
 android:textAlignment="center"  
 android:text="TeamOne Name"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content" />  
  
 <TextView  
 android:id="@+id/teamtwo"  
 android:layout\_marginTop="5dp"  
 android:padding="5dp"  
 android:textColor="#fff"  
 android:textSize="18sp"  
 android:textAlignment="center"  
 android:text="TeamTwo Name"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content" />  
  
  
 </LinearLayout>  
  
</android.support.v7.widget.CardView>

***MainActivity: complete one----from database retrieve data ---***

package com.example.mynewfirebaselesson;  
  
import android.content.Intent;  
import android.os.Bundle;  
import android.support.annotation.NonNull;  
import android.support.v7.app.AppCompatActivity;  
import android.support.v7.widget.LinearLayoutManager;  
import android.support.v7.widget.RecyclerView;  
import android.view.LayoutInflater;  
import android.view.View;  
import android.view.ViewGroup;  
  
import com.firebase.ui.database.FirebaseRecyclerAdapter;  
import com.firebase.ui.database.FirebaseRecyclerOptions;  
import com.google.firebase.database.DatabaseReference;  
import com.google.firebase.database.FirebaseDatabase;  
  
import java.util.ArrayList;  
  
public class MainActivity extends AppCompatActivity {  
  
 private DatabaseReference databaseReference;  
 private RecyclerView recyclerView;  
 ArrayList<DataSetFire> arrayList;  
 private FirebaseRecyclerOptions<DataSetFire> options;  
 private FirebaseRecyclerAdapter<DataSetFire,FirebaseViewHolder> adapter;  
  
  
 @Override  
 protected void onStart() {  
 super.onStart();  
 adapter.startListening();  
 }  
  
 @Override  
 protected void onStop() {  
 super.onStop();  
 adapter.stopListening();  
 }  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 recyclerView = findViewById(R.id.*recyclerview*);  
 recyclerView.setHasFixedSize(true);  
 recyclerView.setLayoutManager(new LinearLayoutManager(this));  
 arrayList = new ArrayList<DataSetFire>();  
  
 databaseReference = FirebaseDatabase.*getInstance*().getReference().child("cwc");  
 databaseReference.keepSynced(true);  
 options = new FirebaseRecyclerOptions.Builder<DataSetFire>().setQuery(databaseReference,DataSetFire.class).build();  
  
  
 adapter = new FirebaseRecyclerAdapter<DataSetFire, FirebaseViewHolder>(options) {  
 @Override  
 protected void onBindViewHolder(@NonNull FirebaseViewHolder holder, int position, @NonNull final DataSetFire model) {  
  
 holder.location.setText(model.getLocation());  
 holder.matchdate.setText(model.getMatchdate());  
 holder.matchno.setText(model.getMatchno());  
 holder.matchtime.setText(model.getMatchtime());  
 holder.teamone.setText(model.getTeamone());  
 holder.teamtwo.setText(model.getTeamtwo());  
 holder.itemView.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 Intent intent = new Intent(MainActivity.this,Main2Activity.class);  
 intent.putExtra("location",model.getLocation());  
 intent.putExtra("matchdate",model.getMatchdate());  
 intent.putExtra("matchno",model.getMatchno());  
 intent.putExtra("matchtime",model.getMatchtime());  
 intent.putExtra("teamone",model.getTeamone());  
 intent.putExtra("teamtwo",model.getTeamtwo());  
  
 startActivity(intent);  
 }  
 });  
  
 }  
  
 @NonNull  
 @Override  
 public FirebaseViewHolder onCreateViewHolder(@NonNull ViewGroup viewGroup, int i) {  
 return new FirebaseViewHolder(LayoutInflater.*from*(MainActivity.this).inflate(R.layout.*row*,viewGroup,false));  
 }  
 };  
  
  
  
  
 recyclerView.setAdapter(adapter);  
  
  
  
 }  
  
  
}

**#### Firebase Authentication---full (BASIC ONE)!**

**Xml: material()—Login:---------**

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout 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"  
 android:orientation="vertical"  
 android:layout\_margin="10dp"  
 android:padding="30dp"  
 tools:context=".Login">  
  
 <de.hdodenhof.circleimageview.CircleImageView  
 app:civ\_border\_color="#FA4343"  
 android:src="@drawable/my\_image"  
 android:layout\_marginTop="20dp"  
 android:layout\_gravity="center"  
 android:layout\_width="100dp"  
 android:layout\_height="100dp" />  
  
 <android.support.design.widget.TextInputLayout  
  
 android:textAlignment="center"  
 android:focusable="true"  
 android:focusableInTouchMode="true"  
 android:padding="20dp"  
 android:layout\_marginTop="20dp"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content">  
  
 <EditText  
 android:id="@+id/loginEmail"  
 android:hint="Email"  
 android:ems="10"  
 android:inputType="text"  
 android:textSize="20sp"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content" />  
  
 </android.support.design.widget.TextInputLayout>  
  
 <android.support.design.widget.TextInputLayout  
  
 android:textAlignment="center"  
 android:focusable="true"  
 android:focusableInTouchMode="true"  
 android:padding="20dp"  
 android:layout\_marginTop="10dp"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 app:passwordToggleEnabled="true">  
  
 <EditText  
 android:id="@+id/loginPass"  
 android:hint="Password"  
 android:ems="10"  
 android:inputType="textPassword"  
 android:textSize="20sp"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content" />  
  
 </android.support.design.widget.TextInputLayout>  
  
  
 <Button  
 android:onClick="SignInForm"  
 android:padding="10dp"  
 android:id="@+id/buttonLogin"  
 android:background="@drawable/bg\_button"  
 android:layout\_marginTop="40dp"  
 android:textColor="#fff"  
 android:textAlignment="center"  
 android:textSize="22sp"  
 android:text="Login"  
 android:layout\_width="match\_parent"  
 android:layout\_height="50dp" />  
  
 <Button  
 android:onClick="SignUpForm"  
 android:padding="10dp"  
 android:layout\_marginTop="20dp"  
 android:id="@+id/buttonRegister"  
 android:background="@drawable/bg\_button"  
 android:textColor="#fff"  
 android:textAlignment="center"  
 android:textSize="22sp"  
 android:text="Register"  
 android:layout\_width="match\_parent"  
 android:layout\_height="50dp" />  
  
  
  
  
</LinearLayout>

***\*\* colors:----------------------------***

<?xml version="1.0" encoding="utf-8"?>  
<resources>  
 <color name="colorPrimary">#2D383F</color>  
 <color name="colorPrimaryDark">#2D383F</color>  
 <color name="colorAccent">#FF6C02</color>  
 <color name="background">#EEEDEF</color>  
</resources>

***\*\* UiClass.XML:--------------------***

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout 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"  
 android:layout\_margin="10dp"  
 android:layout\_gravity="center"  
 android:gravity="center"  
 tools:context=".UiActivity">  
  
 <android.support.v7.widget.CardView  
 app:cardCornerRadius="10dp"  
 android:elevation="8dp"  
 app:cardElevation="10dp"  
 app:cardBackgroundColor="#4A4A4D"  
 android:layout\_gravity="center"  
 android:layout\_width="350dp"  
 android:layout\_height="200dp">  
  
 <TextView  
  
 android:text="Welcome To \n\n  
Dashboard"  
 android:fontFamily="serif"  
 android:layout\_gravity="center"  
 android:textStyle="normal"  
 android:textSize="30dp"  
 android:textAlignment="center"  
 android:textColor="#fff"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content" />  
  
 </android.support.v7.widget.CardView>  
  
</LinearLayout>

***\*\* Main Registration XML:-----------------***

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout 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"  
 android:layout\_margin="5dp"  
 android:layout\_gravity="center"  
 android:orientation="vertical"  
 tools:context=".SignUp">  
  
 <de.hdodenhof.circleimageview.CircleImageView  
 app:civ\_border\_color="#FA4343"  
 android:src="@drawable/my\_image"  
 android:layout\_marginTop="20dp"  
 android:layout\_gravity="center"  
 android:layout\_width="100dp"  
 android:layout\_height="100dp" />  
  
 <ProgressBar  
 android:id="@+id/progressBar"  
 android:visibility="gone"  
 android:layout\_marginTop="15dp"  
 android:layout\_gravity="center\_horizontal"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content" />  
  
 <android.support.design.widget.TextInputLayout  
  
 android:textAlignment="center"  
 android:focusable="true"  
 android:focusableInTouchMode="true"  
 android:padding="15dp"  
 android:layout\_marginTop="40dp"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content">  
  
 <EditText  
 android:id="@+id/emailET"  
 android:hint="Email"  
 android:ems="10"  
 android:inputType="text"  
 android:textSize="22sp"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content" />  
  
 </android.support.design.widget.TextInputLayout>  
  
  
  
 <android.support.design.widget.TextInputLayout  
  
 android:textAlignment="center"  
 android:focusable="true"  
 android:focusableInTouchMode="true"  
 android:padding="15dp"  
 android:layout\_marginTop="10dp"  
 android:layout\_width="match\_parent"  
 app:passwordToggleEnabled="true"  
 android:layout\_height="wrap\_content">  
  
 <EditText  
 android:id="@+id/passET"  
 android:hint="Password"  
 android:ems="10"  
 android:inputType="textPassword"  
 android:textSize="22sp"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content" />  
  
 </android.support.design.widget.TextInputLayout>  
  
  
  
  
  
 <android.support.design.widget.TextInputLayout  
  
 android:textAlignment="center"  
 android:focusable="true"  
 android:focusableInTouchMode="true"  
 android:padding="15dp"  
 android:layout\_marginTop="10dp"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 app:passwordToggleEnabled="true">  
  
 <EditText  
 android:id="@+id/comfirmPassET"  
 android:hint="Confirm Password"  
 android:ems="10"  
 android:inputType="textPassword"  
 android:textSize="22sp"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content" />  
  
 </android.support.design.widget.TextInputLayout>  
  
 <RadioGroup  
 android:layout\_gravity="center\_horizontal"  
 android:layout\_marginLeft="10dp"  
 android:layout\_marginTop="10sp"  
 android:orientation="horizontal"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content">  
  
 <TextView  
 android:layout\_marginLeft="10dp"  
 android:text="Gender"  
 android:textSize="20sp"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content" />  
  
 <RadioButton  
 android:layout\_marginLeft="10dp"  
 android:text="Male"  
 android:textSize="20sp"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content" />  
  
 <RadioButton  
 android:layout\_marginLeft="10dp"  
 android:text="Female"  
 android:textSize="20sp"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content" />  
  
 </RadioGroup>  
  
 <Button  
 android:id="@+id/buttonRegister"  
 android:background="@drawable/bg\_button"  
 android:layout\_margin="30dp"  
 android:textColor="#fff"  
 android:textAlignment="center"  
 android:textSize="22sp"  
 android:text="Register"  
 android:layout\_width="match\_parent"  
 android:layout\_height="60dp" />  
  
  
  
</LinearLayout>

***1. Sign UP java:--------------***

package com.example.firebaseregistrationloginapp;  
  
import android.content.Intent;  
import android.support.annotation.NonNull;  
import android.support.v7.app.AppCompatActivity;  
import android.os.Bundle;  
import android.text.TextUtils;  
import android.view.View;  
import android.widget.Button;  
import android.widget.EditText;  
import android.widget.ProgressBar;  
import android.widget.Toast;  
  
import com.google.android.gms.tasks.OnCompleteListener;  
import com.google.android.gms.tasks.Task;  
import com.google.firebase.auth.AuthResult;  
import com.google.firebase.auth.FirebaseAuth;  
  
public class SignUp extends AppCompatActivity {  
  
 EditText email, password, confirmPassword;  
 Button register;  
 ProgressBar progressBar;  
  
 private FirebaseAuth firebaseAuth; // main instance initialization  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_register*);  
 getSupportActionBar().setTitle("Signup Form");  
  
 email = findViewById(R.id.*emailET*);  
 password = findViewById(R.id.*passET*);  
 confirmPassword = findViewById(R.id.*comfirmPassET*);  
 register = findViewById(R.id.*buttonRegister*);  
 progressBar = findViewById(R.id.*progressBar*);  
  
 firebaseAuth = FirebaseAuth.*getInstance*(); // instance of auth  
  
  
 register.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
  
 String my\_email = email.getText().toString().trim();  
 String my\_pass = password.getText().toString().trim();  
 String my\_confirm\_pass = confirmPassword.getText().toString().trim();  
  
 // Validate  
  
 if(TextUtils.*isEmpty*(my\_email)){  
 Toast.*makeText*(SignUp.this,"Please Enter Email!",Toast.*LENGTH\_SHORT*).show();  
 return;  
 }  
  
 if(TextUtils.*isEmpty*(my\_pass)){  
 Toast.*makeText*(SignUp.this,"Please Enter Password!",Toast.*LENGTH\_SHORT*).show();  
 return;  
 }  
  
 if(TextUtils.*isEmpty*(my\_confirm\_pass)){  
 Toast.*makeText*(SignUp.this,"Please Enter Confirm Password!",Toast.*LENGTH\_SHORT*).show();  
 return;  
 }  
  
 if(my\_pass.length()<6){  
  
 Toast.*makeText*(SignUp.this,"Password Too Short! Enter atleast 6 character! ",Toast.*LENGTH\_SHORT*).show();  
 }  
  
 if(!my\_pass.equals(my\_confirm\_pass)){  
  
 Toast.*makeText*(SignUp.this,"Password and confirm pass didn't matched",Toast.*LENGTH\_SHORT*).show();  
  
  
 }  
  
  
  
 if(my\_pass.equals(my\_confirm\_pass)){  
  
 progressBar.setVisibility(View.*VISIBLE*);  
  
 // main code for auth  
  
 firebaseAuth.createUserWithEmailAndPassword(my\_email,my\_pass)  
 .addOnCompleteListener(SignUp.this, new OnCompleteListener<AuthResult>() {  
 @Override  
 public void onComplete(@NonNull Task<AuthResult> task) {  
  
 progressBar.setVisibility(View.*GONE*);  
  
 if (task.isSuccessful()) {  
  
 Intent intent = new Intent(getApplicationContext(),UiActivity.class);  
 startActivity(intent);  
 Toast.*makeText*(getApplicationContext(),"Welcome! Registration Completed",Toast.*LENGTH\_SHORT*).show();  
  
 } else {  
  
 Toast.*makeText*(getApplicationContext(),"Authentication Falied!",Toast.*LENGTH\_SHORT*).show();  
  
 }  
  
  
 }  
 });  
  
  
 }  
  
  
 }  
 });  
  
  
 }  
}

***2. Login Java------------------------***

package com.example.firebaseregistrationloginapp;  
  
import android.content.Intent;  
import android.support.annotation.NonNull;  
import android.support.v7.app.AppCompatActivity;  
import android.os.Bundle;  
import android.text.TextUtils;  
import android.view.View;  
import android.widget.Button;  
import android.widget.EditText;  
import android.widget.Toast;  
  
import com.google.android.gms.tasks.OnCompleteListener;  
import com.google.android.gms.tasks.Task;  
import com.google.firebase.auth.AuthResult;  
import com.google.firebase.auth.FirebaseAuth;  
  
public class Login extends AppCompatActivity {  
  
 EditText loginEmailET, loginPassET;  
 Button btn\_login;  
 private FirebaseAuth firebaseAuth; // create auth  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_login*);  
  
 loginEmailET = findViewById(R.id.*loginEmail*);  
 loginPassET = findViewById(R.id.*loginPass*);  
 btn\_login = findViewById(R.id.*buttonLogin*);  
  
 firebaseAuth = FirebaseAuth.*getInstance*(); // instantiate auth  
  
 btn\_login.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
  
  
 String email = loginEmailET.getText().toString().trim();  
 String pass = loginPassET.getText().toString().trim();  
  
 // Validation  
  
 if(TextUtils.*isEmpty*(email)){  
 Toast.*makeText*(Login.this,"Please Enter Email!",Toast.*LENGTH\_SHORT*).show();  
 return;  
 }  
  
 if(TextUtils.*isEmpty*(pass)){  
 Toast.*makeText*(Login.this,"Please Enter Password!",Toast.*LENGTH\_SHORT*).show();  
 return;  
 }  
  
 if(pass.length()<6){  
  
 Toast.*makeText*(Login.this,"Password Too Short! Enter atleast 6 character! ",Toast.*LENGTH\_SHORT*).show();  
 }  
  
 // Main Login Code--  
  
 firebaseAuth.signInWithEmailAndPassword(email, pass)  
 .addOnCompleteListener(Login.this, new OnCompleteListener<AuthResult>() {  
 @Override  
 public void onComplete(@NonNull Task<AuthResult> task) {  
 if (task.isSuccessful()) {  
  
 startActivity(new Intent(getApplicationContext(),UiActivity.class));  
  
 } else {  
  
 Toast.*makeText*(getApplicationContext(),"Login failed! user no available",Toast.*LENGTH\_SHORT*).show();  
  
  
 }  
  
  
 }  
 });  
  
  
 }  
 });  
  
  
 }  
  
  
 public void SignUpForm(View view) {  
 startActivity(new Intent(getApplicationContext(),SignUp.class));  
 }  
  
  
  
}

***## custom button materia bg\_button:-----------***

<?xml version="1.0" encoding="utf-8"?>  
<shape xmlns:android="http://schemas.android.com/apk/res/android"  
  
 android:shape="rectangle">  
  
 <solid  
 android:color="@color/colorAccent"  
 />  
  
 <corners  
 android:radius="25dp"  
 />  
  
  
</shape>

***## Custom Field Auth using Firebase Database & Firebase Auth;***

***1. Custom Sign Up activity:=================***

package com.example.firebaseregistrationloginapp;  
  
import android.content.Intent;  
import android.support.annotation.NonNull;  
import android.support.v7.app.AppCompatActivity;  
import android.os.Bundle;  
import android.text.TextUtils;  
import android.view.View;  
import android.widget.Button;  
import android.widget.EditText;  
import android.widget.RadioButton;  
import android.widget.Toast;  
  
import com.google.android.gms.tasks.OnCompleteListener;  
import com.google.android.gms.tasks.Task;  
import com.google.firebase.auth.AuthResult;  
import com.google.firebase.auth.FirebaseAuth;  
import com.google.firebase.database.DatabaseReference;  
import com.google.firebase.database.FirebaseDatabase;  
  
import java.util.Objects;  
  
public class CustomSignUp extends AppCompatActivity {  
  
 EditText fullNameET,userNameET,emailET,passwordET;  
 Button btn\_register;  
 RadioButton radioGenderMale,radioGenderFemale;  
 DatabaseReference databaseReference;  
 String gender = "";  
 FirebaseAuth firebaseAuth;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_custom\_sign\_up*);  
  
 fullNameET = findViewById(R.id.*fullNameET*);  
 userNameET = findViewById(R.id.*userNameET*);  
 emailET = findViewById(R.id.*emailET*);  
 passwordET = findViewById(R.id.*passET*);  
 btn\_register = findViewById(R.id.*customButtonRegister*);  
 radioGenderMale = findViewById(R.id.*radio\_male*);  
 radioGenderFemale = findViewById(R.id.*radio\_female*);  
  
 databaseReference = FirebaseDatabase.*getInstance*().getReference("Student");  
 firebaseAuth = FirebaseAuth.*getInstance*();  
  
 btn\_register.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
  
  
 final String fullName = fullNameET.getText().toString();  
 final String userName = userNameET.getText().toString();  
 final String email = emailET.getText().toString();  
 String password = passwordET.getText().toString();  
  
 if(radioGenderMale.isChecked()){  
  
 gender = "Male";  
 }  
  
 if(radioGenderFemale.isChecked()){  
  
 gender = "Female";  
 }  
  
 // condition check  
  
  
 if(TextUtils.*isEmpty*(email)){  
  
 Toast.*makeText*(getApplicationContext(),"Please Enter Email!",Toast.*LENGTH\_SHORT*).show();  
 return;  
  
 }  
  
 if(TextUtils.*isEmpty*(password)){  
  
 Toast.*makeText*(getApplicationContext(),"Please Enter Password",Toast.*LENGTH\_SHORT*).show();  
 return;  
  
 }  
  
 if(TextUtils.*isEmpty*(fullName)){  
  
 Toast.*makeText*(getApplicationContext(),"Please Enter Full Name!",Toast.*LENGTH\_SHORT*).show();  
 return;  
  
 }  
  
 if(TextUtils.*isEmpty*(userName)){  
  
 Toast.*makeText*(getApplicationContext(),"Please Enter Username!",Toast.*LENGTH\_SHORT*).show();  
 return;  
  
 }  
  
  
  
 // main code  
  
 firebaseAuth.createUserWithEmailAndPassword(email,password)  
 .addOnCompleteListener(CustomSignUp.this, new OnCompleteListener<AuthResult>() {  
 @Override  
 public void onComplete(@NonNull Task<AuthResult> task) {  
 //progressbar  
 if (task.isSuccessful()) {  
  
  
 Student information = new Student(  
  
 fullName,  
 userName,  
 email,  
 gender  
 );  
  
  
 FirebaseDatabase.*getInstance*().getReference("Student")  
 .child(Objects.*requireNonNull*(FirebaseAuth.*getInstance*().getCurrentUser()).getUid())  
 .setValue(information).addOnCompleteListener(new OnCompleteListener<Void>() {  
 @Override  
 public void onComplete(@NonNull Task<Void> task) {  
  
 Toast.*makeText*(getApplicationContext(),"Welldone Registration completed!",Toast.*LENGTH\_SHORT*).show();  
 startActivity(new Intent(getApplicationContext(),Login.class));  
  
 }  
 });  
  
  
  
 } else {  
  
 Toast.*makeText*(getApplicationContext(),"Failed to register user!",Toast.*LENGTH\_SHORT*).show();  
  
  
  
 }  
  
  
 }  
 });  
  
  
 }  
 });  
  
 }  
}

***2. Data Model Student:===============***

package com.example.firebaseregistrationloginapp;  
  
public class Student {  
  
 public String fullname;  
 public String username;  
 public String email;  
 public String gender;  
  
 public Student(String fullname, String username, String email, String gender) {  
 this.fullname = fullname;  
 this.username = username;  
 this.email = email;  
 this.gender = gender;  
 }  
  
 public Student() {  
  
 }  
  
  
  
}