Java project on AJ Messenger

Login and sign up activity.

```
package com.amarkumar.ajmessengerfirebase;

import android.content.Intent;
import android.os.Bundle;
import android.support.annotation.NonNull;
import android.support.v7.app.AlertDialog;
import android.support.v7.app.AppCompatActivity;
import android.util.Log;
import android.view.KeyEvent;
import android.view.View;
import android.view.inputmethod.EditorInfo;
import android.widget.AutoCompleteTextView;
import android.widget.EditText;
import android.widget.TextView;
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 LoginActivity extends AppCompatActivity {

    // TODO: Add member variables here:
    private FirebaseAuth mAuth;
    // UI references.
    private AutoCompleteTextView mEmailView;
    private EditText mPasswordView;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_login);

        mEmailView = (AutoCompleteTextView) findViewById(R.id.login_email);
        mPasswordView = (EditText) findViewById(R.id.login_password);

        mPasswordView.setOnEditorActionListener(new TextView.OnEditorActionListener() {
            @Override
            public boolean onEditorAction(TextView textView, int id, KeyEvent keyEvent) {
                if (id == R.integer.login || id == EditorInfo.IME_NULL) {
                    attemptLogin();
                    return true;
                }
                return false;
            }
        });

        // TODO: Grab an instance of FirebaseAuth
        mAuth = FirebaseAuth.getInstance();
    }
```

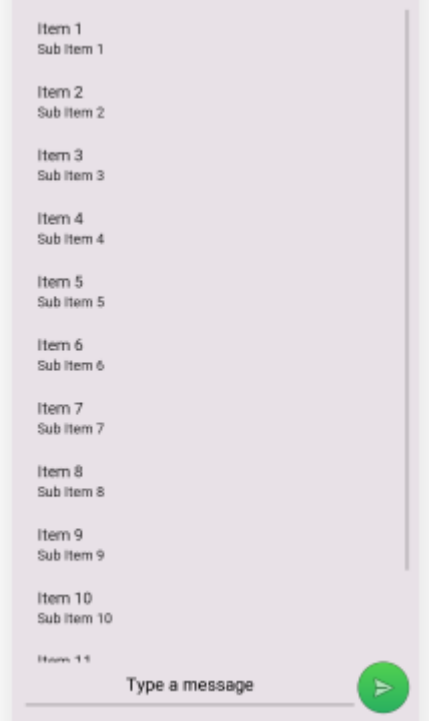
```
    // Executed when Sign in button pressed
    public void signInExistingUser(View v)   {
        // TODO: Call attemptLogin() here
        attemptLogin();
    }

    // Executed when Register button pressed
    public void registerNewUser(View v) {
        Intent intent = new Intent(this,
com.amarkumar.flashchatfirebase.RegisterActivity.class);
        finish();
        startActivity(intent);
    }

    // TODO: Complete the attemptLogin() method
    private void attemptLogin() {

String email = mEmailView.getText().toString();
String password = mPasswordView.getText().toString();

if(email.equals("")||password.equals("")) return;
        Toast.makeText(this,"Login in progress...",Toast.LENGTH_SHORT).show();
        // TODO: Use FirebaseAuth to sign in with email & password
        mAuth.signInWithEmailAndPassword(email,password).addOnCompleteListener(this, new
OnCompleteListener<AuthResult>() {
            @Override
            public void onComplete(@NonNull Task<AuthResult> task) {
                Log.d("FlashChat","signInWithEmail() onComplete: " + task.isSuccessful());
                if(!task.isSuccessful()){
                    Log.d("FlashChat","problem signing in: "+ task.getException());
                    showErrorDialog("There was a problem signing in");
                }
                else{
                    Intent intent=new Intent(LoginActivity.this,MainChatActivity.class);
                    finish();
                    startActivity(intent);
                }
            }
        });


    }

    // TODO: Show error on screen with an alert dialog
private void showErrorDialog(String message){
        new AlertDialog.Builder(this).setTitle("Alert").setMessage(message)
                .setPositiveButton(android.R.string.ok,null)
                .setIcon(android.R.drawable.ic_dialog_alert).show();
}


}
```

Main chatting activity page

```
package com.amarkumar.flashchatfirebase;

import android.content.SharedPreferences;
import android.os.Bundle;
import android.support.v7.app.AppCompatActivity;
import android.util.Log;
import android.view.KeyEvent;
import android.view.View;
import android.widget.EditText;
import android.widget.ImageButton;
import android.widget.ListView;
import android.widget.TextView;

import com.google.firebase.auth.FirebaseAuth;
import com.google.firebase.database.DatabaseReference;
import com.google.firebase.database.FirebaseDatabase;


public class MainChatActivity extends AppCompatActivity {

    // TODO: Add member variables here:
    private String mDisplayName;
    private ListView mChatListView;
    private EditText mInputText;
    private ImageButton mSendButton;
   // private FirebaseAuth mAuth;
    private DatabaseReference mDatabaseReference;
    private ChatListAdapter mAdapter;
```

```
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main_chat);
         //mAuth= FirebaseAuth.getInstance();
        // TODO: Set up the display name and get the Firebase reference
        setupDisplayName();
        mDatabaseReference = FirebaseDatabase.getInstance().getReference();

        // Link the Views in the layout to the Java code
        mInputText = (EditText) findViewById(R.id.messageInput);
        mSendButton = (ImageButton) findViewById(R.id.sendButton);
        mChatListView = (ListView) findViewById(R.id.chat_list_view);

        // TODO: Send the message when the "enter" button is pressed
        mInputText.setOnEditorActionListener(new TextView.OnEditorActionListener() {
    @Override
    public boolean onEditorAction(TextView textView, int i, KeyEvent keyEvent) {
        sendMessage();
        return true;
    }
});


        // TODO: Add an OnClickListener to the sendButton to send a message
        mSendButton.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        sendMessage();
    }
});
    }

    // TODO: Retrieve the display name from the Shared Preferences
   private void setupDisplayName(){
        SharedPreferences prefs = getSharedPreferences(RegisterActivity.CHAT_PREFS,
MODE_PRIVATE);
        mDisplayName= prefs.getString(RegisterActivity.DISPLAY_NAME_KEY,null);
        if(mDisplayName == null) mDisplayName = "Anonymous";
    }

    private void sendMessage() {
        Log.d("FlashChat","I sent Something.");
        // TODO: Grab the text the user typed in and push the message to Firebase
        String input = mInputText.getText().toString();
        if(!input.equals("")){
            InstantMessage chat = new InstantMessage(input, mDisplayName);
            mDatabaseReference.child("messages").push().setValue(chat);
            mInputText.setText("");
        }
    }

    // TODO: Override the onStar-() lifecycle method. Setup the adapter here.
    @Override
    public void onStart(){
        super.onStart();
        mAdapter = new ChatListAdapter(this,mDatabaseReference,mDisplayName);
        mChatListView.setAdapter(mAdapter);
    }

    @Override
    public void onStop() {
        super.onStop();

        // TODO: Remove the Firebase event listener on the adapter.
```

```
        mAdapter.cleanup();
    }

}
```



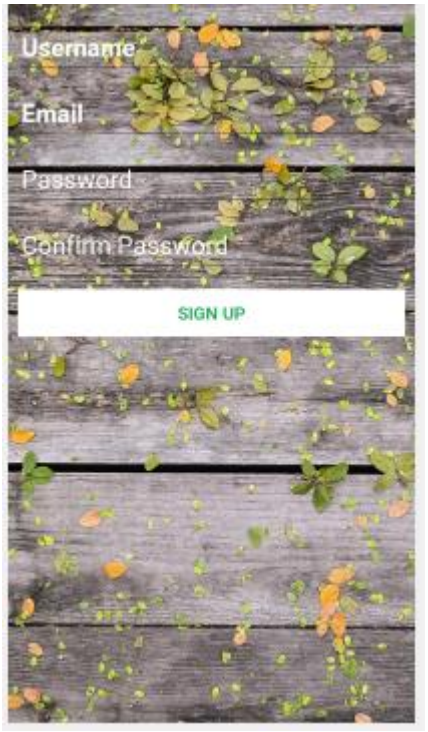
Register Activity

```
package com.amarkumar.flashchatfirebase;

import android.content.Intent;
import android.content.SharedPreferences;
import android.os.Bundle;
import android.os.Handler;
import android.support.annotation.NonNull;
import android.support.v7.app.AlertDialog;
import android.support.v7.app.AppCompatActivity;
import android.text.TextUtils;
import android.util.Log;
import android.view.KeyEvent;
import android.view.View;
import android.view.inputmethod.EditorInfo;
import android.widget.AutoCompleteTextView;
import android.widget.EditText;

import android.widget.TextView;

import com.google.android.gms.tasks.OnCompleteListener;
import com.google.android.gms.tasks.Task;
import com.google.firebase.auth.FirebaseAuth;


public class RegisterActivity extends AppCompatActivity {

    // Constants
    public static final String CHAT_PREFS = "ChatPrefs";
    public static final String DISPLAY_NAME_KEY = "username";
    private static int TIME_OUT = 4000;
```

```
    // TODO: Add member variables here:
    // UI references.
    private AutoCompleteTextView mEmailView;
    private AutoCompleteTextView mUsernameView;
    private EditText mPasswordView;
    private EditText mConfirmPasswordView;

    // Firebase instance variables
    private FirebaseAuth mAuth;


    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_register);

        mEmailView = (AutoCompleteTextView) findViewById(R.id.register_email);
        mPasswordView = (EditText) findViewById(R.id.register_password);
        mConfirmPasswordView = (EditText) findViewById(R.id.register_confirm_password);
        mUsernameView = (AutoCompleteTextView) findViewById(R.id.register_username);

        // Keyboard sign in action
        mConfirmPasswordView.setOnEditorActionListener(new
TextView.OnEditorActionListener() {
            @Override
            public boolean onEditorAction(TextView textView, int id, KeyEvent keyEvent) {
                if (id == R.integer.register_form_finished || id == EditorInfo.IME_NULL) {
                    attemptRegistration();
                    return true;
                }
                return false;
            }
        });

        // TODO: Get hold of an instance of FirebaseAuth
        mAuth = FirebaseAuth.getInstance();

    }

    // Executed when Sign Up button is pressed.
    public void signUp(View v) {
        attemptRegistration();
    }

    private void attemptRegistration() {

        // Reset errors displayed in the form.
        mEmailView.setError(null);
        mPasswordView.setError(null);

        // Store values at the time of the login attempt.
        String email = mEmailView.getText().toString();
        String password = mPasswordView.getText().toString();

        boolean cancel = false;
        View focusView = null;

        // Check for a valid password, if the user entered one.
        if (TextUtils.isEmpty(password) || !isPasswordValid(password)) {
            mPasswordView.setError(getString(R.string.error_invalid_password));
            focusView = mPasswordView;
            cancel = true;
        }

        // Check for a valid email address.
        if (TextUtils.isEmpty(email)) {
```

```
            mEmailView.setError(getString(R.string.error_field_required));
            focusView = mEmailView;
            cancel = true;
        } else if (!isEmailValid(email)) {
            mEmailView.setError(getString(R.string.error_invalid_email));
            focusView = mEmailView;
            cancel = true;
        }

        if (cancel) {
            // There was an error; don't attempt login and focus the first
            // form field with an error.
            focusView.requestFocus();
        } else {
            // TODO: Call create FirebaseUser() here
            createFirebaseUser();
        }
    }

    private boolean isEmailValid(String email) {
        // You can add more checking logic here.
        return email.contains("@");
    }

    private boolean isPasswordValid(String password) {
        //TODO: Add own logic to check for a valid password (minimum 6 characters)
       String confirmPassword = mConfirmPasswordView.getText().toString();

        return confirmPassword.equals(password)&& password.length()>5;
    }

    // TODO: Create a Firebase user
    private void createFirebaseUser(){

        String email = mEmailView.getText().toString();
        String password = mPasswordView.getText().toString();
        mAuth.createUserWithEmailAndPassword(email, password).addOnCompleteListener(this,
new OnCompleteListener<com.google.firebase.auth.AuthResult>() {
            @Override
            public void onComplete(@NonNull Task<com.google.firebase.auth.AuthResult> task)
{
            Log.d("FlashChat","createUser onComplete: " + task.isSuccessful());

            if(!task.isSuccessful()){
                Log.d("FlashChat","user creation failed");
                showErrorDialog("User Already Exist/Registeration Failed!");
            }
            else{
                saveDisplayName();
                showErrorDialog("Successfully Registered!");

                new Handler().postDelayed(new Runnable() {
                    @Override
                    public void run() {
                        Intent intent = new Intent(RegisterActivity.this,
LoginActivity.class);
                        finish();
                        startActivity(intent);
                    }
                }, TIME_OUT);
            }
            }
        });
    }

    // TODO: Save the display name to Shared Preferences
```

```
private void saveDisplayName(){
        String displayName=mUsernameView.getText().toString();
    SharedPreferences prefs = getSharedPreferences(CHAT_PREFS,0);
    prefs.edit().putString(DISPLAY_NAME_KEY, displayName).apply();
}

    // TODO: Create an alert dialog to show in case registration failed
private void showErrorDialog(String message){
        new
AlertDialog.Builder(this).setTitle("Alert").setMessage(message).setPositiveButton(android.R
.string.ok, null)
                .setIcon(android.R.drawable.ic_dialog_alert).show();
}



}
```



Instant message Activity

```
package com.amarkumar.flashchatfirebase;

public class InstantMessage {

    private String message;
    private String author;

    public InstantMessage(String message, String author) {
        this.message = message;
        this.author = author;
    }

    public InstantMessage() {
    }

    public String getMessage() {
        return message;
```

```
    }

    public String getAuthor() {
        return author;
    }
}
```

ChatListAdapter Activity

```
package com.amarkumar.flashchatfirebase;

import android.app.Activity;
import android.content.Context;
import android.graphics.Color;
import android.provider.ContactsContract;
import android.support.annotation.NonNull;
import android.support.annotation.Nullable;
import android.view.Gravity;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.BaseAdapter;
import android.widget.LinearLayout;
import android.widget.TextView;

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 java.util.ArrayList;

public class ChatListAdapter extends BaseAdapter {

   private Activity mActivity;
   private DatabaseReference mDatabaseReference;
   private  String mDisplayName;
   private ArrayList<DataSnapshot> mSnapshotList;
   private ChildEventListener mListener = new ChildEventListener() {
       @Override
       public void onChildAdded(@NonNull DataSnapshot dataSnapshot, @Nullable String s) {
           mSnapshotList.add(dataSnapshot);
           notifyDataSetChanged();
       }

       @Override
       public void onChildChanged(@NonNull DataSnapshot dataSnapshot, @Nullable String s) {

       }

       @Override
       public void onChildRemoved(@NonNull DataSnapshot dataSnapshot) {

       }

       @Override
       public void onChildMoved(@NonNull DataSnapshot dataSnapshot, @Nullable String s) {

       }
```

```
        @Override
        public void onCancelled(@NonNull DatabaseError databaseError) {

        }
    };

    public ChatListAdapter(Activity activity, DatabaseReference ref,String name){
        mActivity = activity;
        mDisplayName = name;
        mDatabaseReference = ref.child("messages");
        mDatabaseReference.addChildEventListener(mListener);
        mSnapshotList = new ArrayList<>();
    }

    static  class ViewHolder{
        TextView authorName;
        TextView body;
        LinearLayout.LayoutParams params;
    }
    @Override
     public int getCount() {

         return mSnapshotList.size();
     }

     @Override
     public InstantMessage getItem(int i) {
        DataSnapshot snapshot =mSnapshotList.get(i);
         return snapshot.getValue(InstantMessage.class);
     }

     @Override
     public long getItemId(int i) {
         return 0;
     }

     @Override
     public View getView(int i, View convertView, ViewGroup parent) {
        if (convertView == null){
            LayoutInflater inflater = (LayoutInflater)
mActivity.getSystemService(Context.LAYOUT_INFLATER_SERVICE);
            convertView = inflater.inflate(R.layout.chat_msg_row,parent,false);
             final ViewHolder holder= new ViewHolder();
             holder.authorName = (TextView) convertView.findViewById(R.id.author);
             holder.body = (TextView) convertView.findViewById(R.id.message);
             holder.params = (LinearLayout.LayoutParams)
holder.authorName.getLayoutParams();
             convertView.setTag(holder);
        }

        final  InstantMessage message = getItem(i);
        final  ViewHolder holder = (ViewHolder) convertView.getTag();

        boolean isMe = message.getAuthor().equals(mDisplayName);
        setChatRowAppearance(isMe, holder);

        String author = message.getAuthor();
        holder.authorName.setText(author);

        String msg = message.getMessage();
        holder.body.setText(msg);

         return convertView;
     }
     private void setChatRowAppearance(boolean isItMe, ViewHolder holder){
     if (isItMe){
```

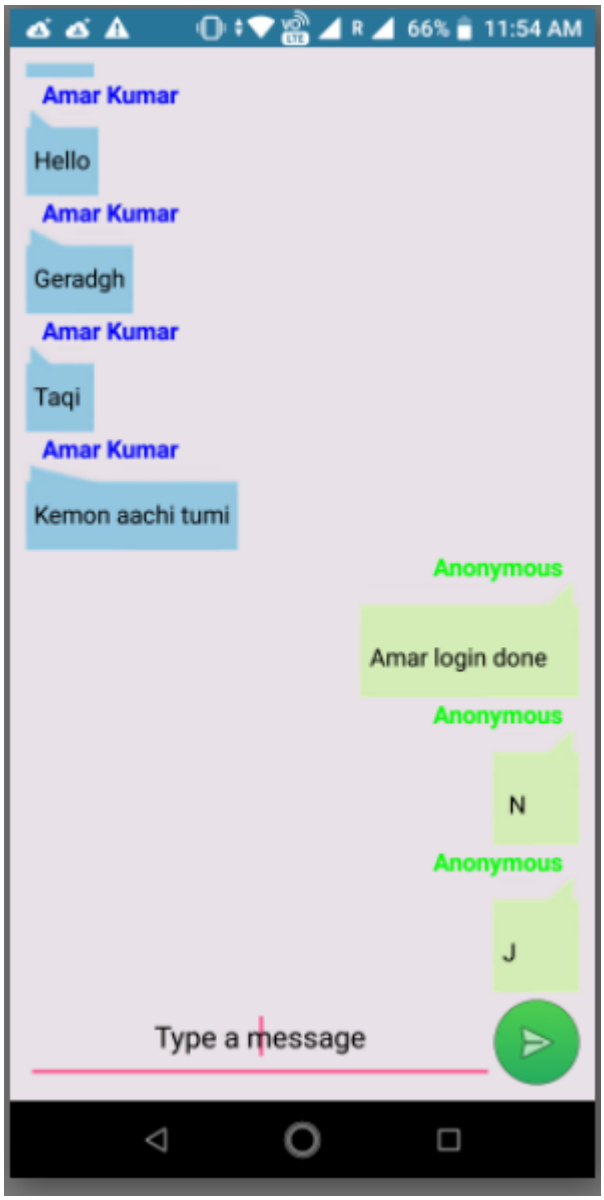
```
            holder.params.gravity = Gravity.END;
            holder.authorName.setTextColor(Color.GREEN);
            holder.body.setBackgroundResource(R.drawable.bubble2);

        }
        else{
            holder.params.gravity = Gravity.START;
            holder.authorName.setTextColor(Color.BLUE);
            holder.body.setBackgroundResource(R.drawable.bubble1);
        }
        holder.authorName.setLayoutParams(holder.params);
        holder.body.setLayoutParams(holder.params);

        }

        public  void cleanup(){
           mDatabaseReference.removeEventListener(mListener);
        }

}
```

Google JSON File.

```
{
  "project_info": {
    "project_number": "813027402086",
    "firebase_url": "https://flash-chat-935a8.firebaseio.com",
    "project_id": "flash-chat-935a8",
    "storage_bucket": "flash-chat-935a8.appspot.com"
  },
  "client": [
    {
      "client_info": {
        "mobilesdk_app_id": "1:813027402086:android:cbb9409e5164d436",
        "android_client_info": {
          "package_name": "com.amarkumar.flashchatfirebase"
        }
      },
      "oauth_client": [
        {
          "client_id": "813027402086-
give2d45p2p1cdcv90hhmpdh5vqgujm9.apps.googleusercontent.com",
          "client_type": 3
        }
      ],
      "api_key": [
        {
          "current_key": "AIzaSyCkPNiJIQiNDIPcNclv7W14GquoHRvHj50"
        }
      ],
      "services": {
        "analytics_service": {
          "status": 1
        },
        "appinvite_service": {
          "status": 1,
          "other_platform_oauth_client": []
        },
        "ads_service": {
          "status": 2
        }
      }
    }
```

```
  ],
  "configuration_version": "1"
}
```

Screenshots




66% 11:55 AM
Email
amark720@gmail.com
Password
SIGN IN
REGISTER

End of Project.