```xml
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".CRUD">

    <EditText
        android:id="@+id/editTextUsername"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Username"
        />

    <EditText
        android:id="@+id/editTextEmail"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@+id/editTextUsername"
        android:layout_marginTop="16dp"
        android:hint="Email" />

    <Button
        android:id="@+id/addButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/editTextEmail"
        android:layout_marginTop="16dp"
        android:text="Add" />
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@id/addButton"
        android:id="@+id/delbtn"
        android:text="Delete"
        ></Button>

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@id/delbtn"
        android:id="@+id/searchbtn"
        android:text="Search "


        >

    </Button>

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@id/searchbtn"
        android:id="@+id/updatebtn"
        android:text="Update "


        >

    </Button>
```

```
</RelativeLayout>
package com.example.sharedpreferences;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.database.Cursor;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

import com.example.sharedpreferences.model.MyDatabaseHelper;

public class CRUD extends AppCompatActivity {
    private EditText usernameEditText, emailEditText;
    private Button addButton,delbtn,search,update;
    MyDatabaseHelper databaseHelper;

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

        usernameEditText = findViewById(R.id.editTextUsername);
        emailEditText = findViewById(R.id.editTextEmail);
        addButton = findViewById(R.id.addButton);

        addButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                addDataToDatabase();
                Intent intent=new Intent(getApplicationContext(),
CRUD2.class);
                startActivity(intent);
                finish();
            }
        });
        delbtn=findViewById(R.id.delbtn);
        delbtn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                deleteUser();
            }
        });


        databaseHelper=new MyDatabaseHelper(getApplicationContext());

        search=findViewById(R.id.searchbtn);

        search.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                searchUser();
            }
        });

        update=findViewById(R.id.updatebtn);
```

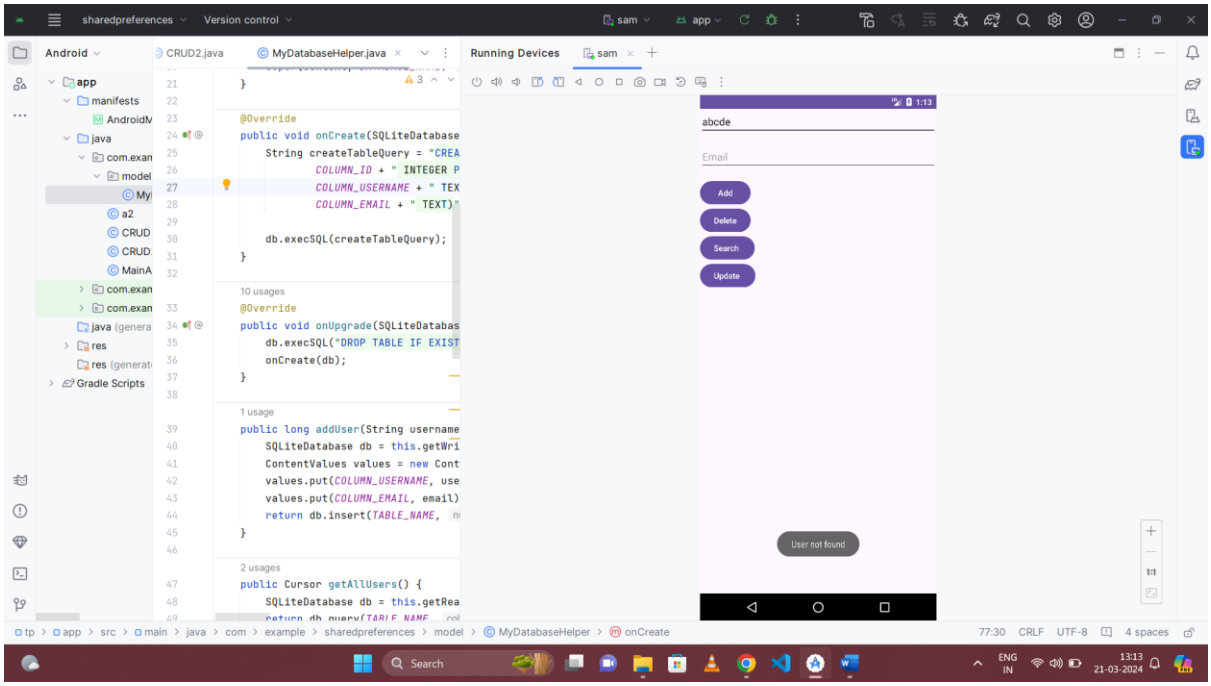
```
        update.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                updateUser();
            }
        });

    }

    private void addDataToDatabase() {
        // Get data from EditText fields
        String username = usernameEditText.getText().toString().trim();
        String email = emailEditText.getText().toString().trim();

        // Check if fields are not empty
        if (!username.isEmpty() && !email.isEmpty()) {
            // Save data to SQLite database
            MyDatabaseHelper dbHelper = new MyDatabaseHelper(this);
            long result = dbHelper.addUser(username, email);

            if (result != -1) {
                // Data added successfully
                Toast.makeText(this, "Data added successfully",
Toast.LENGTH_SHORT).show();
                clearFields();
            } else {
                Toast.makeText(this, "Failed to add data",
Toast.LENGTH_SHORT).show();
            }
        } else {
            Toast.makeText(this, "Please enter both username and email",
Toast.LENGTH_SHORT).show();
        }
    }

    private void clearFields() {
        usernameEditText.getText().clear();
        emailEditText.getText().clear();
    }

    void deleteUser()
    {
        String username=usernameEditText.getText().toString().trim();
        if(!username.isEmpty())
        {
            int rowsDeleted=databaseHelper.deleteUserByUsername(username);

            if(rowsDeleted>0)
            {
                Toast.makeText(this,"User
deleted",Toast.LENGTH_SHORT).show();
                clearFields();
            }
            else{
                Toast.makeText(this,"User not
Found",Toast.LENGTH_SHORT).show();
                clearFields();
            }
        }
        else{
            Toast.makeText(this,"enter valid username
```

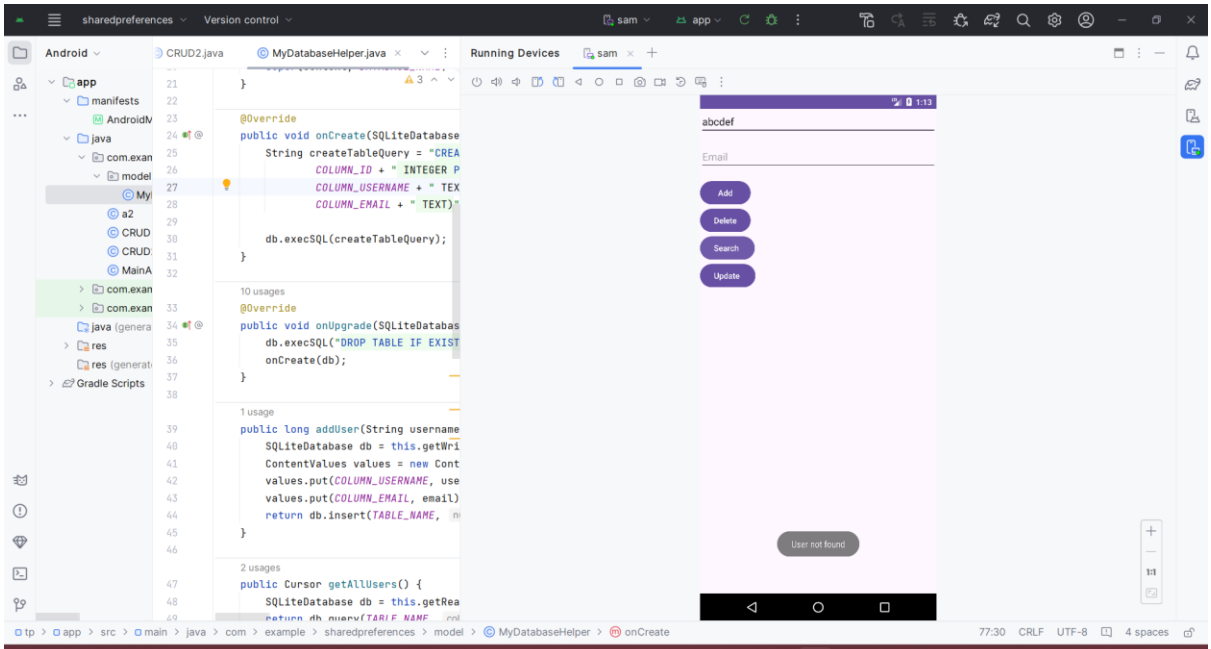
```
",Toast.LENGTH_SHORT).show();

        }
    }

    private void searchUser() {
        String username = usernameEditText.getText().toString().trim();
        Cursor cursor = databaseHelper.getAllUsers();

        boolean userFound = false;

        while (cursor.moveToNext()) {
            if (cursor.getString(1).equals(username)) {
                userFound = true;
                break;
            }
        }

        if (userFound) {
            Toast.makeText(this, "User found", Toast.LENGTH_SHORT).show();
        } else {
            Toast.makeText(this, "User not found",
Toast.LENGTH_SHORT).show();
        }
    }

    private void updateUser() {
        String username = usernameEditText.getText().toString().trim();
        String newEmail = emailEditText.getText().toString().trim();

        int rowsUpdated = databaseHelper.updateUserByEmail(username,
newEmail);

        if (rowsUpdated > 0) {
            Toast.makeText(this, "User updated successfully",
Toast.LENGTH_SHORT).show();
            clearFields();
        } else {
            Toast.makeText(this, "User not found",
Toast.LENGTH_SHORT).show();
        }
    }
}
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    xmlns:tools="http://schemas.android.com/tools"
    tools:context=".CRUD2"


    >

    <ListView
        android:id="@+id/listView"
        android:layout_width="match_parent"
        android:layout_height="match_parent" />
```

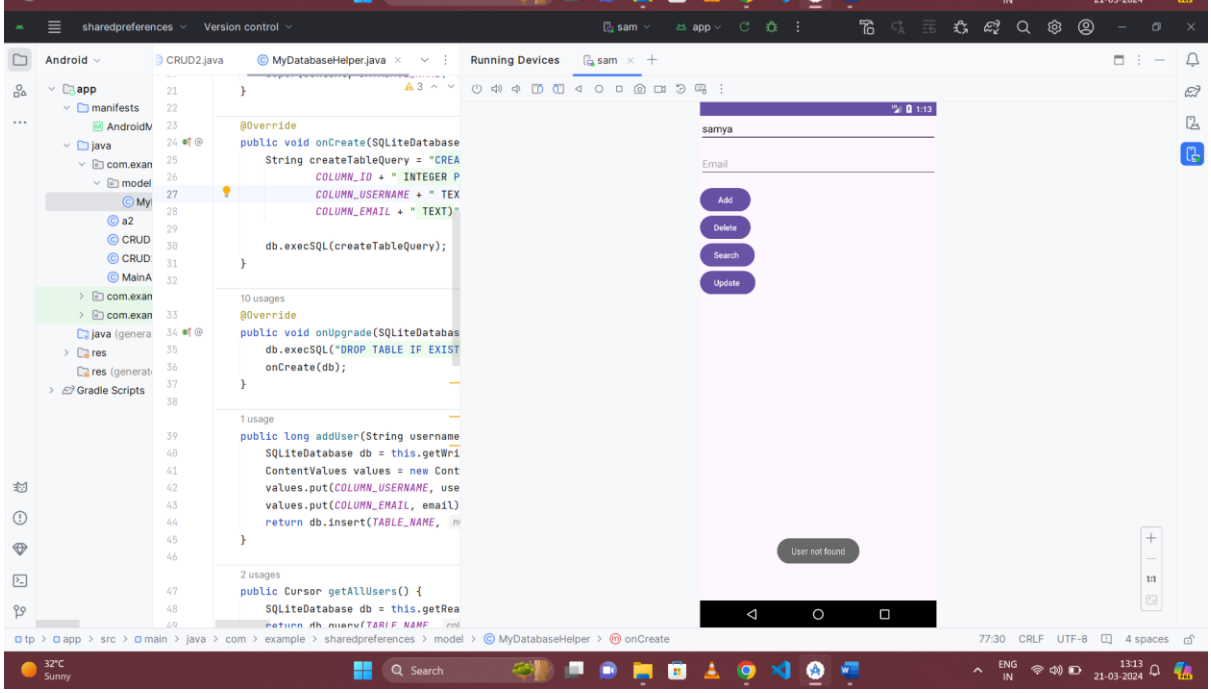
```
</RelativeLayout>
package com.example.sharedpreferences;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.database.Cursor;
import android.os.Bundle;
import android.view.View;
import android.widget.ArrayAdapter;
import android.widget.Button;
import android.widget.ListView;

import com.example.sharedpreferences.model.MyDatabaseHelper;

import java.util.ArrayList;

public class CRUD2 extends AppCompatActivity {
    private ListView listView;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_crud2);
        listView = findViewById(R.id.listView);

        displayData();
        Intent intent=getIntent();


    }

    private void displayData() {
        MyDatabaseHelper dbHelper = new MyDatabaseHelper(this);
        Cursor cursor = dbHelper.getAllUsers();

        ArrayList<String> userList = new ArrayList<>();

        while (cursor.moveToNext()) {
            String username = cursor.getString(1);
            String email = cursor.getString(2);
            userList.add("Username: " + username + "\nEmail: " + email);

        }

        ArrayAdapter<String> adapter = new ArrayAdapter<>(this,
android.R.layout.simple_list_item_1, userList);
        listView.setAdapter(adapter);
    }
}
package com.example.sharedpreferences.model;

import android.content.ContentValues;
import android.content.Context;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.database.sqlite.SQLiteOpenHelper;

public class MyDatabaseHelper extends SQLiteOpenHelper {
```

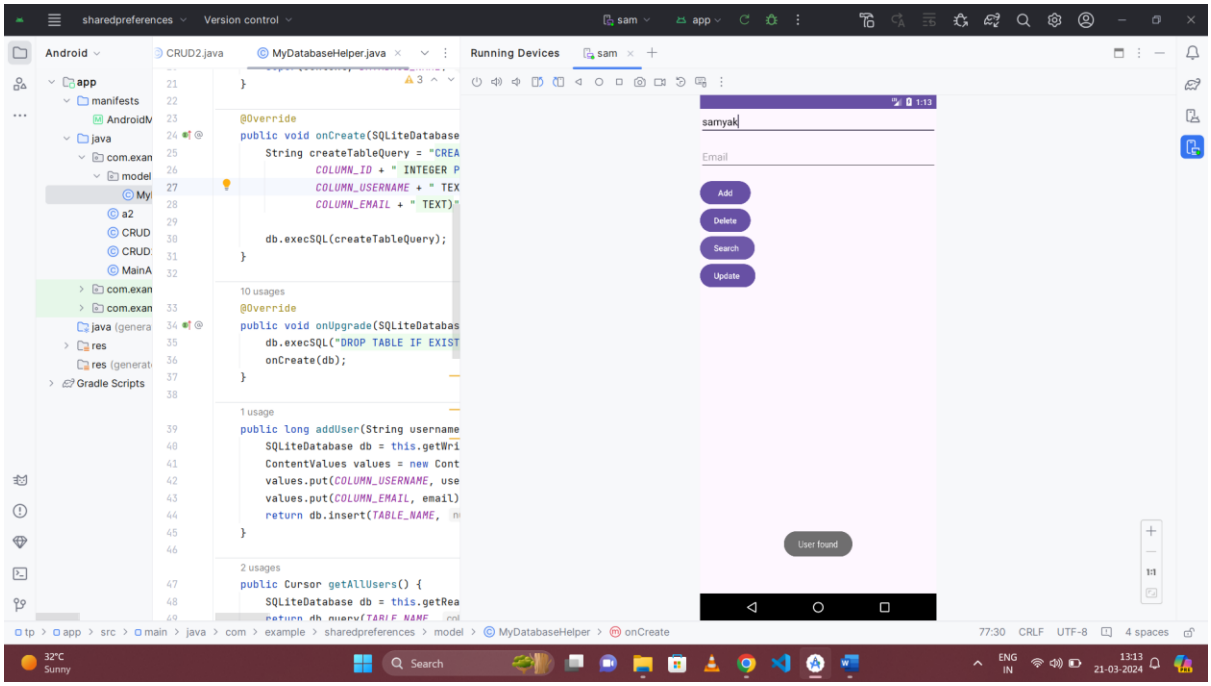
```
    private static final String DATABASE_NAME = "UserDatabase";
    private static final int DATABASE_VERSION = 1;

    private static final String TABLE_NAME = "users";
    private static final String COLUMN_ID = "id";
    private static final String COLUMN_USERNAME = "username";
    private static final String COLUMN_EMAIL = "email";

    public MyDatabaseHelper(Context context) {
        super(context, DATABASE_NAME, null, DATABASE_VERSION);
    }

    @Override
    public void onCreate(SQLiteDatabase db) {
        String createTableQuery = "CREATE TABLE " + TABLE_NAME + " (" +
                COLUMN_ID + " INTEGER PRIMARY KEY AUTOINCREMENT, " +
                COLUMN_USERNAME + " TEXT, " +
                COLUMN_EMAIL + " TEXT)";

        db.execSQL(createTableQuery);
    }

    @Override
    public void onUpgrade(SQLiteDatabase db, int oldVersion, int
newVersion) {
        db.execSQL("DROP TABLE IF EXISTS " + TABLE_NAME);
        onCreate(db);
    }

    public long addUser(String username, String email) {
        SQLiteDatabase db = this.getWritableDatabase();
        ContentValues values = new ContentValues();
        values.put(COLUMN_USERNAME, username);
        values.put(COLUMN_EMAIL, email);
        return db.insert(TABLE_NAME, null, values);
    }

    public Cursor getAllUsers() {
        SQLiteDatabase db = this.getReadableDatabase();
        return db.query(TABLE_NAME, null, null, null, null, null, null);
    }

    public void deleteAllData()
    {
        SQLiteDatabase db=this.getWritableDatabase();
        db.delete(TABLE_NAME,null,null);
        db.close();
    }
    public Cursor searchByUsername(String query) {
        SQLiteDatabase db = this.getReadableDatabase();
        return db.query(TABLE_NAME, null, COLUMN_USERNAME + " LIKE ?", new
String[]{"%" + query + "%"}, null, null, null);
    }

    public int updateUser(String id, String username, String email) {
        SQLiteDatabase db = this.getWritableDatabase();
        ContentValues values = new ContentValues();
        values.put(COLUMN_USERNAME, username);
        values.put(COLUMN_EMAIL, email);
        return db.update(TABLE_NAME, values, COLUMN_ID + " = ?", new
String[]{id});
```

```
    }

    public int deleteUserByUsername(String username) {
        SQLiteDatabase db = this.getWritableDatabase();
        return db.delete(TABLE_NAME, COLUMN_USERNAME + "=?", new
String[]{username});
    }

    public int updateUserByEmail(String username, String newEmail) {
        SQLiteDatabase db = this.getWritableDatabase();

        ContentValues values = new ContentValues();
        values.put(COLUMN_EMAIL, newEmail);

        // Specify the WHERE clause to update the user based on the
username
        String selection = COLUMN_USERNAME + " = ?";
        String[] selectionArgs = { username };

        // Execute the update query
        return db.update(TABLE_NAME, values, selection, selectionArgs);
    }

}
```




sharedpreferences
Version control
sam
app
Android
CRUD2.java
MyDatabaseHelper.java
Running Devices
sam
abcdef
Email
Add
Delete
Search
Update
User not found
app
manifests
java
res
Gradle Scripts
tp › app › src › main › java › com › example › sharedpreferences › model › MyDatabaseHelper › onCreate
77:30 CRLF UTF-8 4 spaces
Search
ENG IN
13:13 21-03-2024


sharedpreferences
Version control
sam
app
Android
CRUD2.java
MyDatabaseHelper.java
Running Devices
sam
samya
Email
Add
Delete
Search
Update
User not found
app
manifests
java
res
Gradle Scripts
tp › app › src › main › java › com › example › sharedpreferences › model › MyDatabaseHelper › onCreate
77:30 CRLF UTF-8 4 spaces
32°C Sunny
Search
ENG IN
13:13 21-03-2024


sharedpreferences
Version control
sam
app
Android
CRUD2.java
MyDatabaseHelper.java
Running Devices
sam
app
manifests
java
res
Gradle Scripts
samyak
Email
Add
Delete
Search
Update
User found
tp › app › src › main › java › com › example › sharedpreferences › model › MyDatabaseHelper › onCreate
77:30
CRLF
UTF-8
4 spaces
32°C
Sunny
Search
ENG
IN
13:13
21-03-2024