

**SCHOOL OF  
COMPUTING  
CHENNAI**

# **20CYS404**

## **Android Application Development**

### **Lab Exam Notes App**

**Name : E. Sarath Chandra**

**Roll No : CH.EN.U4CYS21017**

## Experiment Number : Lab Exam - 03

### Aim:

- 1.Create a Registration page
  - 2.Based on dummy gmail as user name and password – Login
  - 3.Logout
  - 4.Then login again and the session should be maintained the Welcome back
- “gmail id” should be display

### Code:

**File :** MainActivity.java (Registration Page)

```
package com.example.registration;

import android.content.ContentValues;
import android.content.Intent;
import android.database.sqlite.SQLiteDatabase;
import android.os.Bundle;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    EditText name, phone, email, password;
    Button register, login;
    SQLiteDatabase db;

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

        name = findViewById(R.id.editTextName);
        phone = findViewById(R.id.editTextPhone);
        email = findViewById(R.id.editTextEmail);
        password = findViewById(R.id.editTextPassword);
        register = findViewById(R.id.buttonRegister);
        login = findViewById(R.id.buttonLogin);

        // Create/open database
        db = openOrCreateDatabase("SAMPLEDB", MODE_PRIVATE, null);
        db.execSQL("CREATE TABLE IF NOT EXISTS USERS(NAME VARCHAR, PHONE VARCHAR, EMAIL VARCHAR PRIMARY KEY, PASSWORD VARCHAR);");

        register.setOnClickListener(v -> {
            String userName = name.getText().toString();
            String userPhone = phone.getText().toString();
            String userEmail = email.getText().toString();
            String userPassword = password.getText().toString();

            if (userName.isEmpty() || userPhone.isEmpty() || userEmail.isEmpty() || userPassword.isEmpty()) {
                Toast.makeText(MainActivity.this, "Please fill all fields", Toast.LENGTH_SHORT).show();
            } else {
```

```

        ContentValues contentValues = new ContentValues();
        contentValues.put("NAME", userName);

        contentValues.put("PHONE", userPhone);

        contentValues.put("EMAIL", userEmail);
        contentValues.put("PASSWORD", userPassword);

        long result = db.insert("USERS", null, contentValues);
        if (result != -1) {
            Toast.makeText(MainActivity.this, "Registration Successful", Toast.LENGTH_SHORT).show();
            Intent intent = new Intent(MainActivity.this, LoginActivity.class);
            startActivity(intent);
            finish();
        } else {
            Toast.makeText(MainActivity.this, "Registration Failed", Toast.LENGTH_SHORT).show();
        }
    }
});

login.setOnClickListener(v -> {
    Intent intent = new Intent(MainActivity.this, LoginActivity.class);
    startActivity(intent);
});
}
}

```

### File : MainActivity.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:id="@+id/main"
    android:orientation="vertical"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    android:padding="16dp"
    android:background="@drawable/background_gradient">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Registration"
        android:textColor="@color/white"
        android:textSize="30sp"
        android:padding="30dp"
        android:layout_marginBottom="50dp"/>

    <ImageView
        android:id="@+id/logo"
        android:layout_width="wrap_content"
        android:src="@drawable/logo"
        android:layout_height="60dp"
        android:scaleType="fitEnd"
        android:layout_marginTop="-40dp"
        android:layout_alignParentTop="true"

```

```
        android:layout_alignParentEnd="true"
        android:layout_marginEnd="10dp"
        android:contentDescription="Logo" />

<EditText
    android:id="@+id/editTextName"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:hint="Name"
    android:padding="15dp"
    android:backgroundTint="@android:color/white"
    android:textColorHint="@color/white"

    android:layout_marginTop="30dp" />

<EditText
    android:id="@+id/editTextPhone"
    android:hint="Phone number"
    android:inputType="phone"
    android:padding="15dp"
    android:textColorHint="@color/white"
    android:backgroundTint="@android:color/white"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"/>

<EditText
    android:id="@+id/editTextEmail"
    android:hint="Gmail"
    android:padding="15dp"
    android:textColorHint="@color/white"
    android:backgroundTint="@android:color/white"
    android:inputType="textEmailAddress"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"/>

<EditText
    android:id="@+id/editTextPassword"
    android:hint="Password"
    android:padding="15dp"
    android:textColorHint="@color/white"
    android:backgroundTint="@android:color/white"
    android:inputType="textPassword"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"/>

<Button
    android:id="@+id/buttonRegister"
    android:text="Register"
    android:padding="15dp"
    android:backgroundTint="#FFFFFF"
    android:textColor="#A9573C"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"/>

<Button
    android:id="@+id/buttonLogin"
    android:text="Login"
    android:padding="15dp"
    android:backgroundTint="@color/white"
    android:textColor="#A9573C"
```

```

        android:layout_width="match_parent"
        android:layout_height="wrap_content"/>

<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Sarath Chandra(21017)"
    android:textColor="@color/white"
    android:layout_marginTop="40dp"

    android:layout_marginLeft="100dp" />

</LinearLayout>

```

## File : LoginActivity.java

```

package com.example.registration;

import android.content.Intent;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.os.Bundle;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;
import androidx.appcompat.app.AppCompatActivity;

public class LoginActivity extends AppCompatActivity {

    EditText email, password;
    Button login;
    TextView register;
    SQLiteDatabase db;

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

        email = findViewById(R.id.editTextEmail);
        password = findViewById(R.id.editTextPassword);
        login = findViewById(R.id.buttonLogin);
        register = findViewById(R.id.textViewRegister);

        // Open database
        db = openOrCreateDatabase("SAMPLEDB", MODE_PRIVATE, null);

        login.setOnClickListener(v -> {
            String inputEmail = email.getText().toString();
            String inputPassword = password.getText().toString();

            if (inputEmail.isEmpty() || inputPassword.isEmpty()) {
                Toast.makeText(LoginActivity.this, "Please fill all fields", Toast.LENGTH_SHORT).show();
            } else {

```

```

        // Query to check if user exists with the given email and password
        Cursor cursor = db.rawQuery("SELECT * FROM USERS WHERE EMAIL=? AND
PASSWORD=?", new String[]{inputEmail, inputPassword});

        if (cursor.moveToFirst()) {
            // Login successful
            Intent intent = new Intent(LoginActivity.this, WelcomeActivity.class);
            intent.putExtra("email", inputEmail);
            startActivity(intent);
            finish();
        } else {
            // Invalid credentials
            Toast.makeText(LoginActivity.this, "Invalid Credentials", Toast.LENGTH_SHORT).show();
        }
        cursor.close();
    }
});

// Handle New User? Register TextView click
register.setOnClickListener(v -> {
    Intent intent = new Intent(LoginActivity.this, MainActivity.class);

    startActivity(intent);
});
}
}

```

**File :** activity\_login.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:id="@+id/main"
    android:orientation="vertical"
    android:background="@drawable/background_gradient"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:padding="16dp"
    tools:context=".LoginActivity">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Login"
        android:textColor="@color/white"
        android:textSize="30sp"
        android:padding="30dp"
        android:layout_marginBottom="100dp"/>

    <ImageView
        android:id="@+id/logo"
        android:layout_width="wrap_content"
        android:src="@drawable/logo"
        android:layout_height="60dp"
        android:scaleType="fitEnd"
        android:layout_marginTop="-70dp"
    </ImageView>

```

```

        android:layout_marginBottom="50dp"
        android:layout_alignParentTop="true"
        android:layout_alignParentEnd="true"
        android:layout_marginEnd="10dp"
        android:contentDescription="Logo" />

<EditText
    android:id="@+id/editTextEmail"
    android:hint="Email"
    android:padding="15dp"
    android:textColorHint="@color/white"
    android:backgroundTint="@android:color/white"
    android:layout_width="match_parent"
    android:layout_height="wrap_content" />

<EditText
    android:id="@+id/editTextPassword"
    android:hint="Password"
    android:padding="15dp"
    android:textColorHint="@color/white"
    android:backgroundTint="@android:color/white"
    android:inputType="textPassword"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"/>

<Button
    android:id="@+id/buttonLogin"
    android:text="Login"
    android:padding="15dp"
    android:backgroundTint="@color/white"
    android:textColor="#A9573C"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"/>
<TextView
    android:id="@+id/textViewRegister"
    android:text="New User? Register"
    android:textColor="@android:color/black"
    android:gravity="center"
    android:textSize="16sp"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="16dp"/>

<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Sarath Chandra(21017)"
    android:textColor="@color/white"
    android:layout_marginTop="40dp"
    android:layout_marginLeft="110dp" />
</LinearLayout>

```

**File : WelcomeActivity.java**

```
package com.example.registration;

import android.content.Intent;
import android.content.SharedPreferences;
import android.os.Bundle;
import android.widget.Button;
import android.widget.TextView;
import androidx.appcompat.app.AppCompatActivity;

public class WelcomeActivity extends AppCompatActivity {

    TextView welcomeMessage;
    Button logout;

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

        welcomeMessage = findViewById(R.id.textViewWelcome);
        logout = findViewById(R.id.buttonLogout);

        SharedPreferences sharedPreferences = getSharedPreferences("UserInfo", MODE_PRIVATE);
        String userEmail = getIntent().getStringExtra("email");

        welcomeMessage.setText("Welcome back, " + userEmail);

        logout.setOnClickListener(v -> {
            SharedPreferences.Editor editor = sharedPreferences.edit();
            editor.putBoolean("isLoggedIn", false);
            editor.apply();

            // Redirect to MainActivity instead of LoginActivity
            Intent intent = new Intent(WelcomeActivity.this, LoginActivity.class);

            startActivity(intent);
            finish();
        });
    }
}
```

**File : activity\_welcome.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:id="@+id/main"
    android:orientation="vertical"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:gravity="center"
    android:padding="16dp"
    tools:context=".WelcomeActivity"
    android:background="@drawable/background_gradient">
```



```

<ImageView
    android:id="@+id/logo"
    android:layout_width="wrap_content"
    android:src="@drawable/logo"
    android:layout_height="60dp"
    android:scaleType="fitEnd"
    android:layout_marginTop="-100dp"
    android:layout_alignParentTop="true"
    android:layout_alignParentEnd="true"
    android:layout_marginEnd="10dp"
    android:contentDescription="Logo" />

<TextView
    android:id="@+id/textViewWelcome"
    android:text="Welcome back"
    android:layout_marginTop="50dp"
    android:textSize="24sp"
    android:padding="10dp"
    android:textColor="@color/white"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"/>

<Button
    android:id="@+id/buttonLogout"
    android:text="Logout"
    android:padding="10dp"
    android:backgroundTint="@color/white"
    android:textColor="#A9573C"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="10dp"/>

<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Sarath Chandra(21017)"
    android:textColor="@color/white"
    android:layout_marginTop="40dp"
    android:layout_marginLeft="10dp" />

</LinearLayout>

```

### File : MainActivity2.java

```

package com.example.registration;

import android.content.Intent;
import android.content.SharedPreferences;
import android.os.Bundle;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity2 extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);

        SharedPreferences sharedPreferences = getSharedPreferences("UserInfo", MODE_PRIVATE);
    }
}

```

```

boolean isLoggedIn = sharedPreferences.getBoolean("isLoggedIn", false);

if (isLoggedIn) {
    Intent intent = new Intent(MainActivity2.this, WelcomeActivity.class);
    String email = sharedPreferences.getString("email", "");
    intent.putExtra("email", email);
    startActivity(intent);
} else {
    Intent intent = new Intent(MainActivity2.this, LoginActivity.class);
    startActivity(intent);
}

finish();
}
}

```

### File : activity\_main2.xml

```

<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity2">

</androidx.constraintlayout.widget.ConstraintLayout>

```

### File : background\_gradient.xml

```

<layer-list xmlns:android="http://schemas.android.com/apk/res/android">
    <item>
        <shape android:shape="rectangle">
            <gradient
                android:angle="90"
                android:startColor="#A9573C"
                android:endColor="#CE73DE"
                android:type="linear" />
        </shape>
    </item>
</layer-list>

```

### File : AndroidManifest.xml

```

<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools">
    <uses-permission android:name="android.permission.WRITE_EXTERNAL_STORAGE" />
    <uses-permission android:name="android.permission.READ_EXTERNAL_STORAGE" />
    <application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data_extraction_rules"

```

```
    android:fullBackupContent="@xml/backup_rules"
    android:icon="@mipmap/ic_launcher"
    android:label="@string/app_name"
    android:roundIcon="@mipmap/ic_launcher_round"
    android:supportsRtl="true"
    android:theme="@style/Theme.Registration"
    tools:targetApi="31">
    <activity
        android:name=".MainActivity2"
        android:exported="false" />
    <activity
        android:name=".WelcomeActivity"
        android:exported="false" />
    <activity
        android:name=".LoginActivity"
        android:exported="false" />
    <activity
        android:name=".MainActivity"
        android:exported="true">
        <intent-filter>
            <action android:name="android.intent.action.MAIN" />

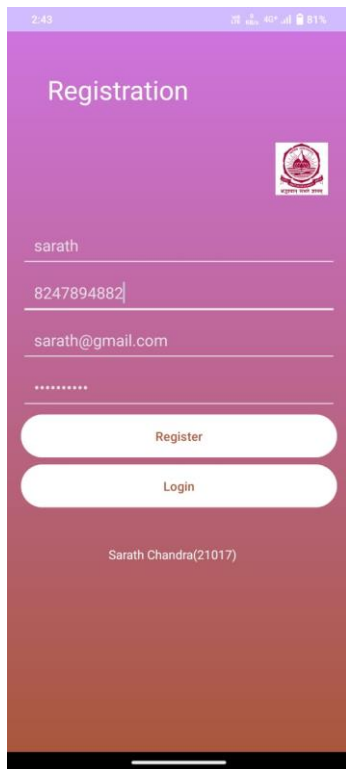
            <category android:name="android.intent.category.LAUNCHER" />
        </intent-filter>
    </activity>

</application>

</manifest>
```

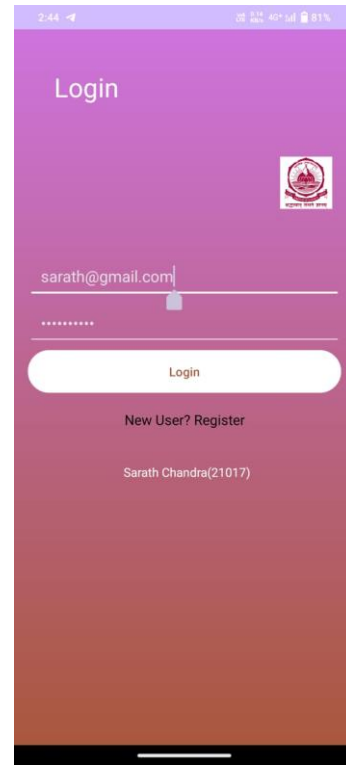
## Output:

### 1. Registration Page:



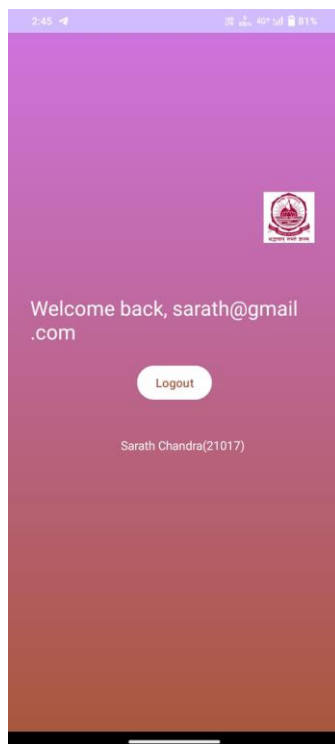
A screenshot of a mobile application's registration page. The page has a purple-to-orange gradient background. At the top, the status bar shows the time 2:43, signal strength, 4G+ network, and 81% battery. The title 'Registration' is centered at the top. Below it is a circular logo with a building and the text 'SARATH CHANDRA' and '21017'. The form contains four input fields: a text field with 'sarath', a numeric field with '8247894882', an email field with 'sarath@gmail.com', and a password field with '\*\*\*\*\*'. Below the fields are two white buttons with rounded corners: 'Register' and 'Login'. At the bottom, the text 'Sarath Chandra(21017)' is displayed.

### 2. Login Page:



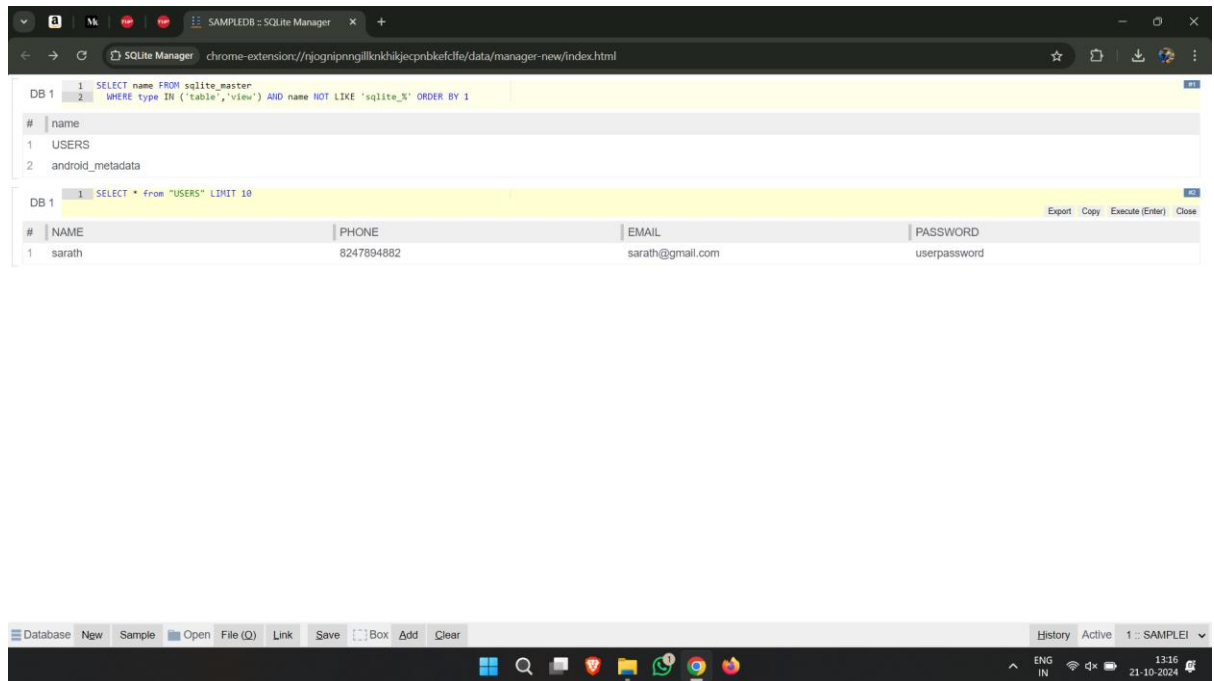
A screenshot of a mobile application's login page. The page has a purple-to-orange gradient background. At the top, the status bar shows the time 2:44, signal strength, 4G+ network, and 81% battery. The title 'Login' is centered at the top. Below it is a circular logo with a building and the text 'SARATH CHANDRA' and '21017'. The form contains two input fields: an email field with 'sarath@gmail.com' and a password field with '\*\*\*\*\*'. Below the fields is a white button with rounded corners labeled 'Login'. Below the button, the text 'New User? Register' is displayed. At the bottom, the text 'Sarath Chandra(21017)' is displayed.

### 3. Welcome Page:



A screenshot of a mobile application's welcome page. The page has a purple-to-orange gradient background. At the top, the status bar shows the time 2:45, signal strength, 4G+ network, and 81% battery. The title 'Welcome back, sarath@gmail.com' is centered. Below it is a circular logo with a building and the text 'SARATH CHANDRA' and '21017'. Below the logo is a white button with rounded corners labeled 'Logout'. At the bottom, the text 'Sarath Chandra(21017)' is displayed.

## 4. Database in Sqlite:



## Result:

1. Created a Registration page
2. Created a Login Page
3. Created Logout Page
4. Created Welcome back “gmail id” Page