**Sign up login activity**

**Signup.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:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".SignupActivity">

<EditText

android:id="@+id/signUp\_password"

android:layout\_width="316dp"

android:layout\_height="58dp"

android:layout\_marginStart="61dp"

android:layout\_marginEnd="61dp"

android:layout\_marginBottom="58dp"

android:ems="10"

android:hint="password"

android:inputType="textPassword"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent"

app:layout\_constraintVertical\_bias="0.253" />

<Button

android:id="@+id/signUpButton"

android:layout\_width="321dp"

android:layout\_height="66dp"

android:text="sign up"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent"

app:layout\_constraintVertical\_bias="0.45" />

<Button

android:id="@+id/signUp\_to\_logIn"

android:layout\_width="328dp"

android:layout\_height="64dp"

android:text="login"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintHorizontal\_bias="0.566"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent"

app:layout\_constraintVertical\_bias="0.601" />

<EditText

android:id="@+id/signUp\_username"

android:layout\_width="321dp"

android:layout\_height="53dp"

android:layout\_marginStart="57dp"

android:layout\_marginEnd="57dp"

android:layout\_marginBottom="130dp"

android:ems="10"

android:hint="user name"

android:inputType="textPersonName"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintHorizontal\_bias="0.375"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent"

app:layout\_constraintVertical\_bias="0.109" />

</androidx.constraintlayout.widget.ConstraintLayout>

**login.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:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".SignupActivity">

<EditText

android:id="@+id/login\_password"

android:layout\_width="257dp"

android:layout\_height="87dp"

android:layout\_marginStart="61dp"

android:layout\_marginEnd="61dp"

android:layout\_marginBottom="58dp"

android:ems="10"

android:hint="password"

android:inputType="textPassword"

app:endIconCheckable="true"

app:endIconMode="password\_toggle"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintHorizontal\_bias="1.0"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent"

app:layout\_constraintVertical\_bias="0.305" />

<Button

android:id="@+id/login\_to\_signup"

android:layout\_width="336dp"

android:layout\_height="62dp"

android:text="sign up"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintHorizontal\_bias="0.72"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent"

app:layout\_constraintVertical\_bias="0.659" />

<Button

android:id="@+id/logInButton"

android:layout\_width="328dp"

android:layout\_height="64dp"

android:text="login"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintHorizontal\_bias="0.65"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent"

app:layout\_constraintVertical\_bias="0.499" />

<EditText

android:id="@+id/login\_username"

android:layout\_width="301dp"

android:layout\_height="56dp"

android:layout\_marginBottom="137dp"

android:ems="10"

android:hint="user name"

android:inputType="textPersonName"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintHorizontal\_bias="0.61"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent"

app:layout\_constraintVertical\_bias="0.162" />

</androidx.constraintlayout.widget.ConstraintLayout>

**SignupActivity.kt**

package com.example.signup

import android.content.Intent

import android.os.Bundle

import android.widget.\*

import androidx.appcompat.app.AppCompatActivity

import androidx.room.Room

import java.util.regex.\*

import kotlinx.android.synthetic.main.signup.\*

class SignupActivity : AppCompatActivity() {

override fun onCreate(savedInstanceState: Bundle?) {

super.onCreate(savedInstanceState)

setContentView(R.layout.signup)

supportActionBar?.setTitle("Sign Up")

val db = Room.databaseBuilder(applicationContext, AppDB::class.java, "app-database").allowMainThreadQueries().build()

val userDao = db.userDao()

signUpButton.setOnClickListener {

if(signUp\_password.text.toString().length<8 && !isValidPassword(signUp\_password.text.toString())){

Toast.makeText(baseContext,"Invalid Password", Toast.LENGTH\_SHORT).show()

}

else{

val newUser = User(signUp\_username.text.toString(), signUp\_password.text.toString())

userDao.insert(newUser)

Toast.makeText(baseContext,"Sign Up Sucessful", Toast.LENGTH\_LONG).show()

}

}

signUp\_to\_logIn.setOnClickListener{

val intent = Intent(this, LoginActivity::class.java)

startActivity(intent)

}

}

private fun isValidPassword(password: String?): Boolean {

val pattern: Pattern

val matcher: Matcher

val PASSWORD\_PATTERN = "^(?=.\*[0-9])(?=.\*[A-Z])(?=.\*[@#$%^&+=!])(?=\\S+$).{4,}$"

pattern = Pattern.compile(PASSWORD\_PATTERN)

matcher = pattern.matcher(password)

return matcher.matches() //0 or 1

}

}

**LoginActivity.kt**

package com.example.signup

import android.content.Intent

import androidx.appcompat.app.AppCompatActivity

import android.os.Bundle

import android.widget.\*

import androidx.core.view.isInvisible

import androidx.room.Room

import kotlinx.android.synthetic.main.login.\*

import java.lang.Exception

class LoginActivity : AppCompatActivity() {

override fun onCreate(savedInstanceState: Bundle?) {

super.onCreate(savedInstanceState)

setContentView(R.layout.login)

supportActionBar?.setTitle("Log In")

val db = Room.databaseBuilder(applicationContext, AppDB::class.java, "app-database").allowMainThreadQueries().build()

val userDao = db.userDao()

var count = 0

logInButton.setOnClickListener {

try{

val tempUser = userDao.getUser(login\_username.text.toString())

if(tempUser.password.equals(login\_password.text.toString())) {

Toast.makeText(baseContext,"Login successful",Toast.LENGTH\_SHORT).show()

count = 0

}

else{

if(count<3){

Toast.makeText(baseContext,"Invalid Username Or Password",Toast.LENGTH\_SHORT).show()

count++

}

else{

Toast.makeText(baseContext,"Failed, Log in disabled",Toast.LENGTH\_SHORT).show()

logInButton.isEnabled = false

}

}

}

catch (e: Exception) {

Toast.makeText(baseContext, "Invalid Username", Toast.LENGTH\_SHORT).show()

}

}

login\_to\_signup.setOnClickListener {

val intent = Intent(this, SignupActivity::class.java)

startActivity(intent)

}

}

}

**AndroidManifest.xml**

<activity android:name=".LoginActivity">

</activity>

**User.kt**

package com.example.signup

import androidx.room.Entity

import androidx.room.PrimaryKey

@Entity

data class User(

@PrimaryKey val username: String,

val password: String?

)

**UserDAO.kt**

package com.example.signup

import androidx.room.Dao

import androidx.room.Insert

import androidx.room.Query

@Dao //Data Access object

interface UserDao {

@Query("SELECT \* FROM user WHERE username == :username")

fun getUser(username: String): User

@Insert

fun insert(user: User)

}

**AppDB.kt**

package com.example.signup

import androidx.room.Database

import androidx.room.RoomDatabase

@Database(entities = [User::class], version = 1)

abstract class AppDB : RoomDatabase() {

abstract fun userDao(): UserDao

}

**build.gradle**

plugins {

id 'com.android.application'

id 'org.jetbrains.kotlin.android'

id 'kotlin-android-extensions'

id 'kotlin-kapt'

}

android {

compileSdk 32

defaultConfig {

applicationId "com.example.login"

minSdk 29

targetSdk 32

versionCode 1

versionName "1.0"

testInstrumentationRunner "androidx.test.runner.AndroidJUnitRunner"

}

buildTypes {

release {

minifyEnabled false

proguardFiles getDefaultProguardFile('proguard-android-optimize.txt'), 'proguard-rules.pro'

}

}

compileOptions {

sourceCompatibility JavaVersion.VERSION\_1\_8

targetCompatibility JavaVersion.VERSION\_1\_8

}

kotlinOptions {

jvmTarget = '1.8'

}

}

dependencies {

implementation "androidx.room:room-runtime:2.2.6"

kapt "androidx.room:room-compiler:2.2.6"

implementation "androidx.room:room-ktx:2.2.6"

implementation 'androidx.core:core-ktx:1.7.0'

//implementation 'androidx.appcompat:appcompat:1.6.1'

implementation 'com.google.android.material:material:1.9.0'

implementation 'androidx.constraintlayout:constraintlayout:2.1.4'

testImplementation 'junit:junit:4.13.2'

androidTestImplementation 'androidx.test.ext:junit:1.1.5'

androidTestImplementation 'androidx.test.espresso:espresso-core:3.5.1'

}

<activity android:name="com.example.ls19.SignupActivity" android:exported="true">

<intent-filter>

<action android:name="android.intent.action.MAIN"/>

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

</intent-filter>

</activity>