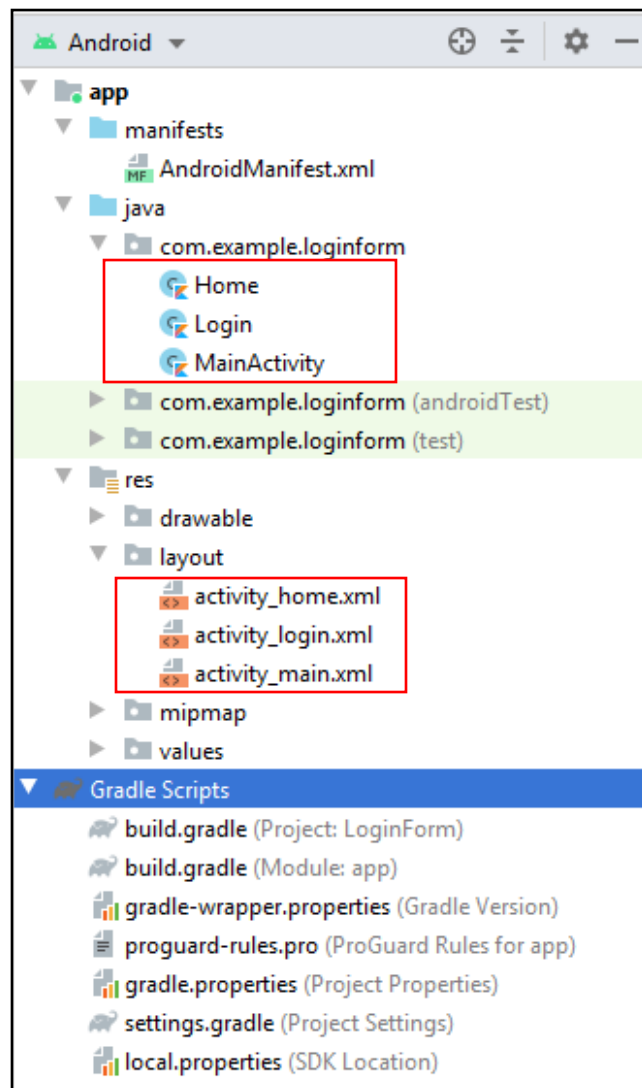**IT2010 – Mobile Application Development**
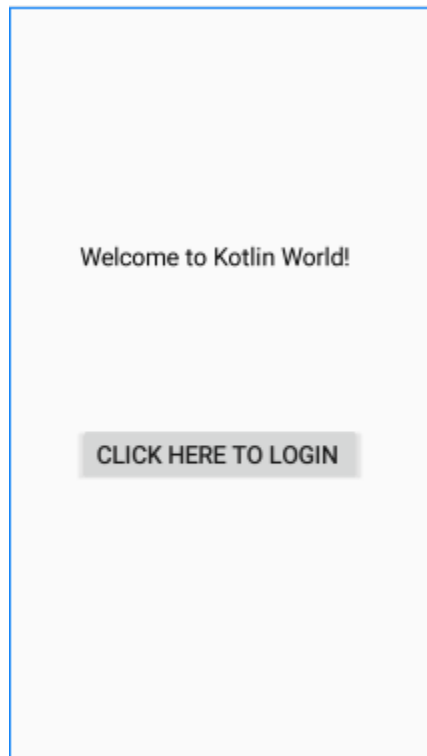
Lab Exercise 10– Kotlin

Build a login application using Kotlin

1. Create a new android project. Give the application name as **LoginForm** and make sure to select the language as **Kotlin**. After you created the project, create another two activities for **login** and **home**. Once everything is set up, and your project is configured, your project structure looks like as shown below.

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2. Welcome Screen

a) First design the First screen (**Welcome Screen**) as shown below.

activity_main.xml

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b) **Activity_main.xml** file code will looks like below:

```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=".MainActivity">

    <TextView
        android:id="@+id/txt1"
        android:layout_width="290dp"
        android:layout_height="63dp"
        android:text="Welcome to Kotlin World!"
        android:textSize="24sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintHorizontal_bias="0.575"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.339" />

    <Button
        android:id="@+id/btnLoginClick"
        android:layout_width="154dp"
        android:layout_height="73dp"
        android:text="CLICK HERE TO LOGIN"
        android:textSize="24sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.498"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/txt1"
        app:layout_constraintVertical_bias="0.306" />

</androidx.constraintlayout.widget.ConstraintLayout>
```

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c) Then create a Kotlin **Class file** in MainActivity.kt to add the listeners for calling the actions from the XML file. Here you need to add the listeners for calling the actions for buttons and the text views that you have created in the XML file.

```kotlin
package com.example.loginform

import android.content.Intent
import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.widget.Button
import kotlinx.android.synthetic.main.activity_main.*

class MainActivity : AppCompatActivity() {

    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)

            val btn_click = findViewById<Button>(R.id.btnLoginClick)
            btn_click.setOnClickListener {
                val intent = Intent(this, Login::class.java)
                startActivity(intent)

        }
    }
}
```
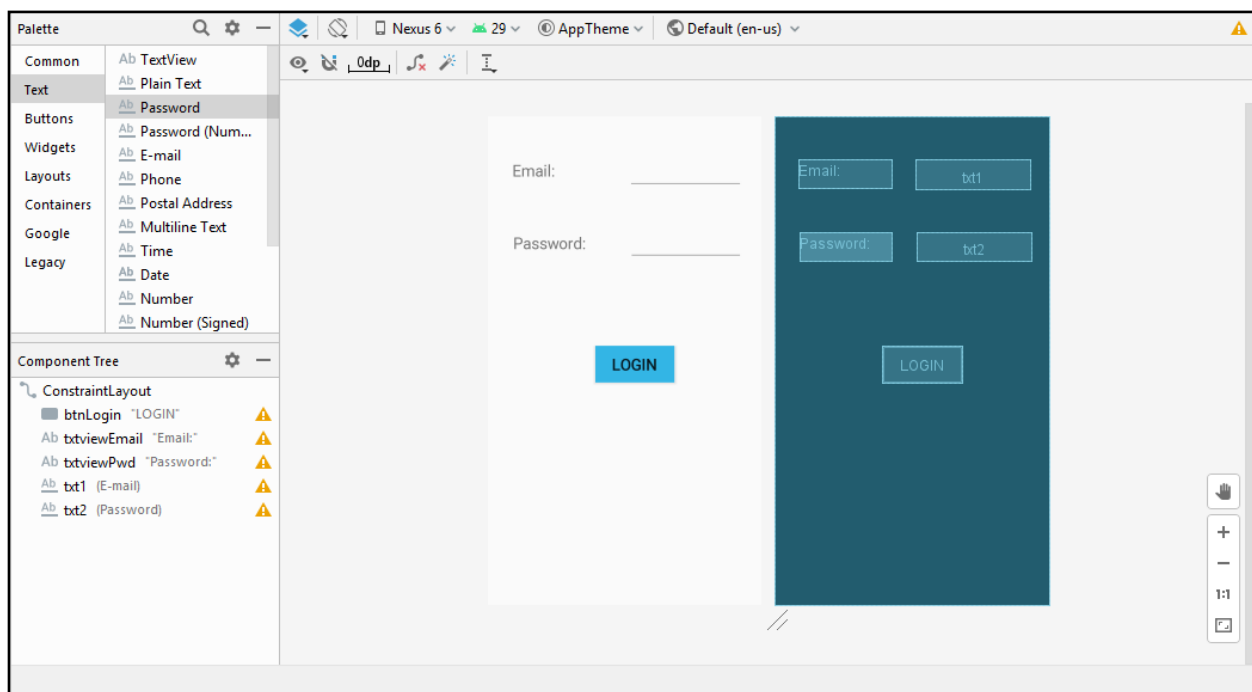
MainActivity.kt

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3. **Login Screen**

   a) Next, you have login screen where you need to enter the **email address** and **password** and then hit the login button as shown in the below figure.

activity_login.xml

```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=".Login">

    <Button
        android:id="@+id/btnLogin"
        android:layout_width="119dp"
        android:layout_height="55dp"
```

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```xml
        android:background="@android:color/holo_blue_light"
        android:text="LOGIN"
        android:textSize="24sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.552"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/txt2"
        app:layout_constraintVertical_bias="0.276" />

<TextView
        android:id="@+id/txtviewEmail"
        android:layout_width="139dp"
        android:layout_height="43dp"
        android:text="Email:"
        android:textSize="24sp"
        app:layout_constraintBottom_toTopOf="@+id/txtviewPwd"
        app:layout_constraintEnd_toStartOf="@+id/txt1"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.496" />

<TextView
        android:id="@+id/txtviewPwd"
        android:layout_width="137dp"
        android:layout_height="42dp"
        android:text="Password:"
        android:textSize="24sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toStartOf="@+id/txt2"
        app:layout_constraintHorizontal_bias="0.506"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.252" />

<EditText
        android:id="@+id/txt1"
        android:layout_width="172dp"
        android:layout_height="44dp"
        android:layout_marginEnd="28dp"
        android:ems="10"
        android:inputType="textEmailAddress"
        android:textSize="24sp"
        app:layout_constraintBottom_toTopOf="@+id/txt2"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
```

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```xml
<EditText
    android:id="@+id/txt2"
    android:layout_width="171dp"
    android:layout_height="42dp"
    android:layout_marginEnd="28dp"
    android:ems="10"
    android:inputType="textPassword"
    android:textSize="24sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.253" />

</androidx.constraintlayout.widget.ConstraintLayout>
```

b) Then create a **Kotlin Class file** to add the listeners to call the actions for the email and password field and also for the buttons that you have created in the XML file (**Login.kt**).

```kotlin
package com.example.loginform

import android.content.Intent
import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.widget.Button
import android.widget.EditText
import android.widget.Toast

class Login : AppCompatActivity() {

    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_login)

        val email = findViewById(R.id.txt1) as EditText
        val pass = findViewById(R.id.txt2) as EditText

        val loginClick = findViewById(R.id.btnLogin) as Button
        loginClick.setOnClickListener {
            //read value from EditText to a String variable
```

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```kotlin
        val ema: String = email.text.toString()

        val pwd: String = pass.text.toString()
        //check if the EditText have values or not
        if (ema.trim().length == 0) {
            Toast.makeText(applicationContext, "Email field cannot be empty",
Toast.LENGTH_SHORT).show()
        }

        if (pwd.trim().length == 0) {
            Toast.makeText(applicationContext, "Password field cannot be
empty", Toast.LENGTH_SHORT).show()
        }

        if (ema.equals("abc@xyz.com")&&(pwd.equals("123456"))){
            val intent = Intent(this, Home::class.java)
            startActivity(intent)
        } else{
            Toast.makeText(applicationContext, "Wrong Email or Password!!",
Toast.LENGTH_SHORT).show()
        }
    }
  }
}
```
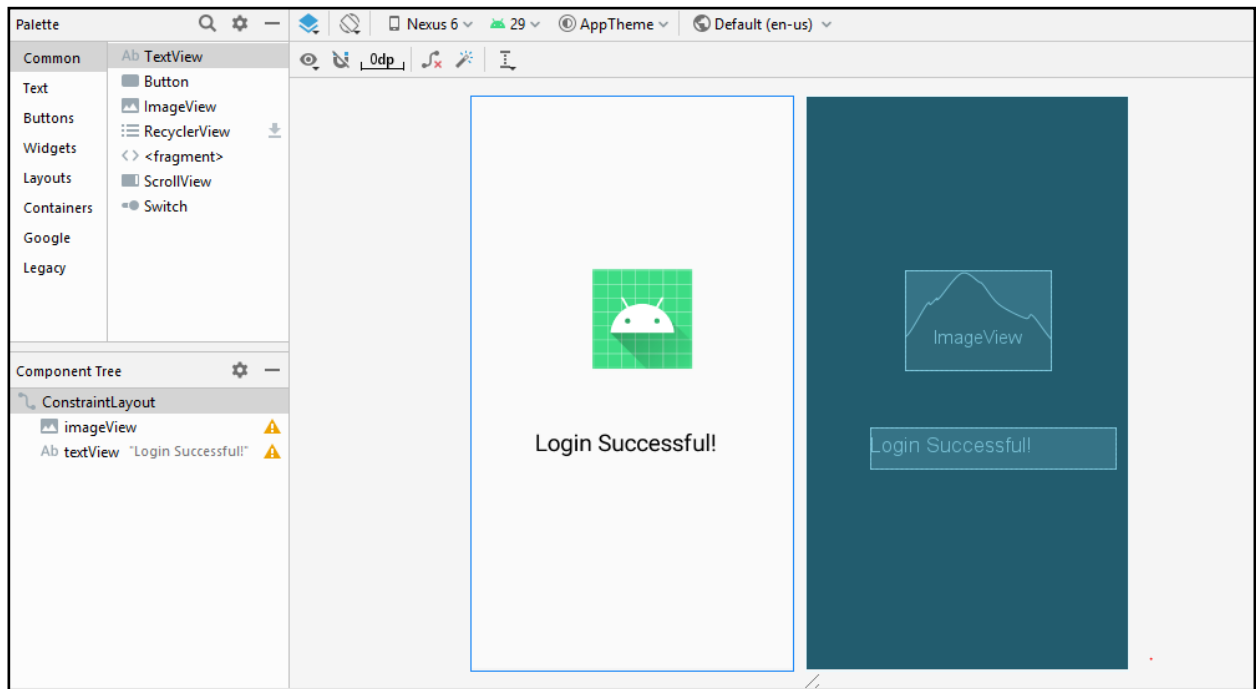
Login.kt

Lab Exercise 10– Kotlin

4. Home screen

a) Now you are left with the last screen. That is the home screen. Once you enter the valid username and password, you will be navigated through the next screen. Create the design in your Design Tab of **activity_home.xml** file as shown below.

activity_home.xml

b) Then create a Kotlin Class file to add the listeners for calling the actions from the XML file.

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```kotlin
package com.example.loginform

import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle

class Home : AppCompatActivity() {

    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_home)
    }
}
```

Home.kt

5. After configuring all the 3 screens you have to check for gradle build and then run the project.