

Mobile_Lesson1: Developing simple login applications for android

Please do not forget to submit your feedback after the class. This feedback helps a lot in increasing the effectiveness of the course. Use the related Canvas survey to submit your ICP # and feedback

Lesson Overview:

Android is a mobile platform/OS that uses a modified version of the Linux kernel. It was initially developed by Android Inc., a firm later purchased by Google. It allows developers to write managed code in the Java language, controlling the device via Google-developed Java libraries. Today, we will learn how to create, build, run, and debug a program in Android Studio.

Use Case Description:

Hello World program for Android OS

Programming elements:

Basics of Android (Activity)

Source Code:

<https://umkc.box.com/s/bb20my8w0x8gfptorl7lkwdge55b25wh>

In Class Programming (ICP):

Simple Login: Create a basic login application

Understand the starter code given for text view, button view, and make a simple login application with the following requirements.

- The main activity should look as below (make suitable changes for the login app!).
- Create the 'LOGIN' button on the login screen
- When clicked on the 'LOGIN' button, the screen should navigate to the welcome screen if the login credentials are valid. Otherwise, the app should display an appropriate message to the user
- Create the 'LOGOUT' button on the welcome screen
- When clicked on the 'LOGOUT' button, the screen should navigate to the login screen

Steps to follow:

- Creating a new Android application
- Selecting the SDK, type of device to deploy the application
Device Type: Phone and Tablet and API: Latest one
- Select blank activity
- Do not forget to add internet permission in the AndroidManifest.xml file to enable internet access in device/emulator (this will help you for social login in the future assignment)

```

<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.csee5590.simplelogin">

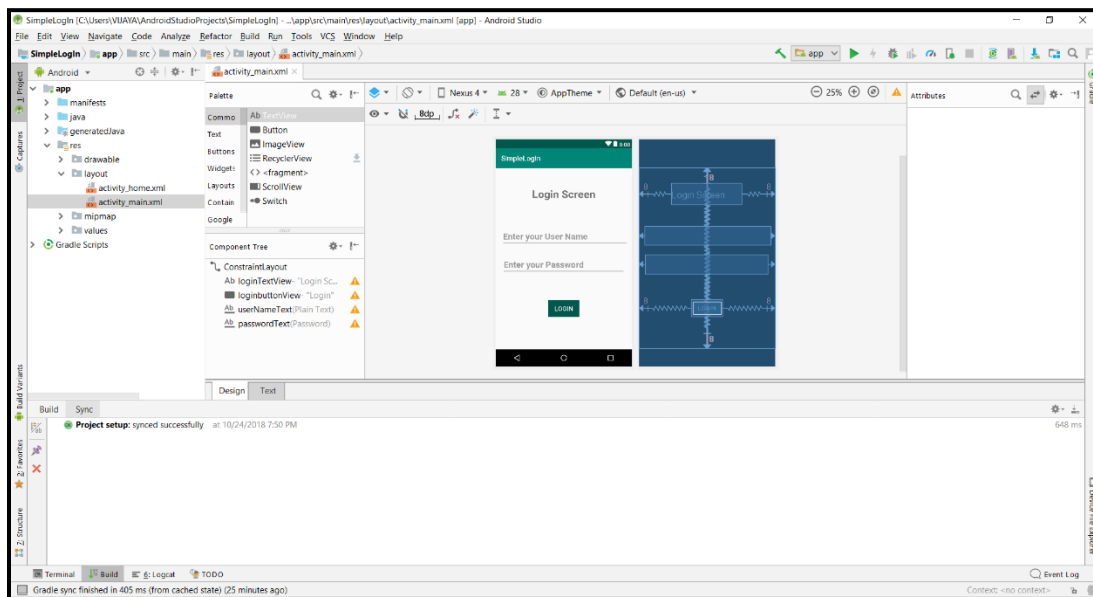
    <uses-permission android:name="android.permission.INTERNET" />

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="SimpleLogIn"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/AppTheme">
        <activity android:name=".MainActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

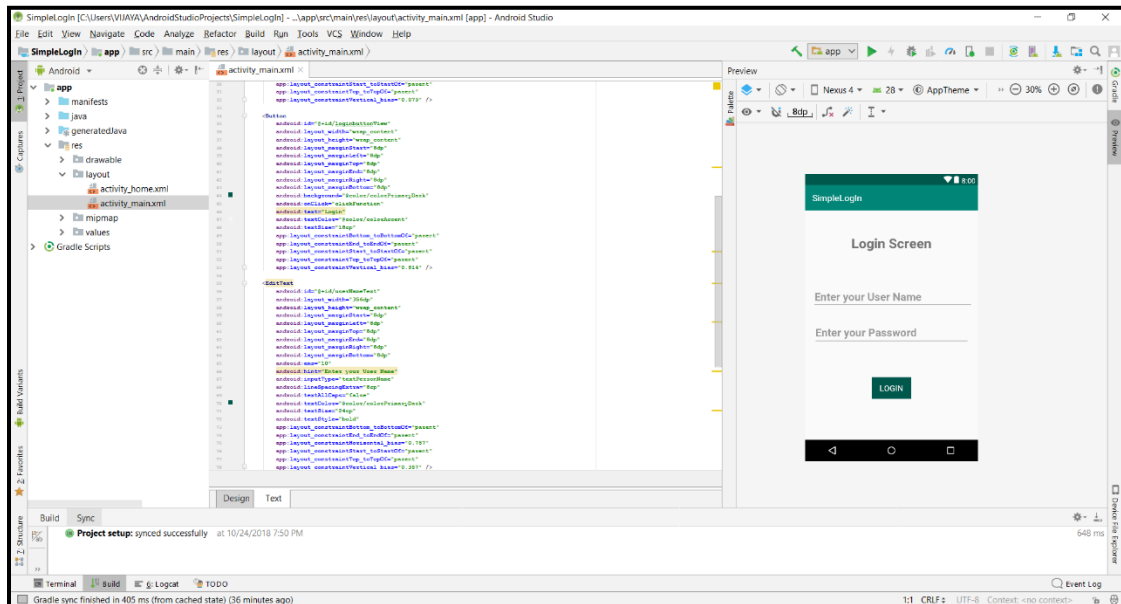
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
        <activity android:name=".HomeActivity"></activity>
    </application>

```

5. Layout



6. activity_main.xml



7. Java code for getting and validating login credentials

```
EditText usernameCtrl = (EditText) findViewById(R.id.userNameText);
EditText passwordCtrl = (EditText) findViewById(R.id.passwordText);
String username = usernameCtrl.getText().toString();
String password = passwordCtrl.getText().toString();

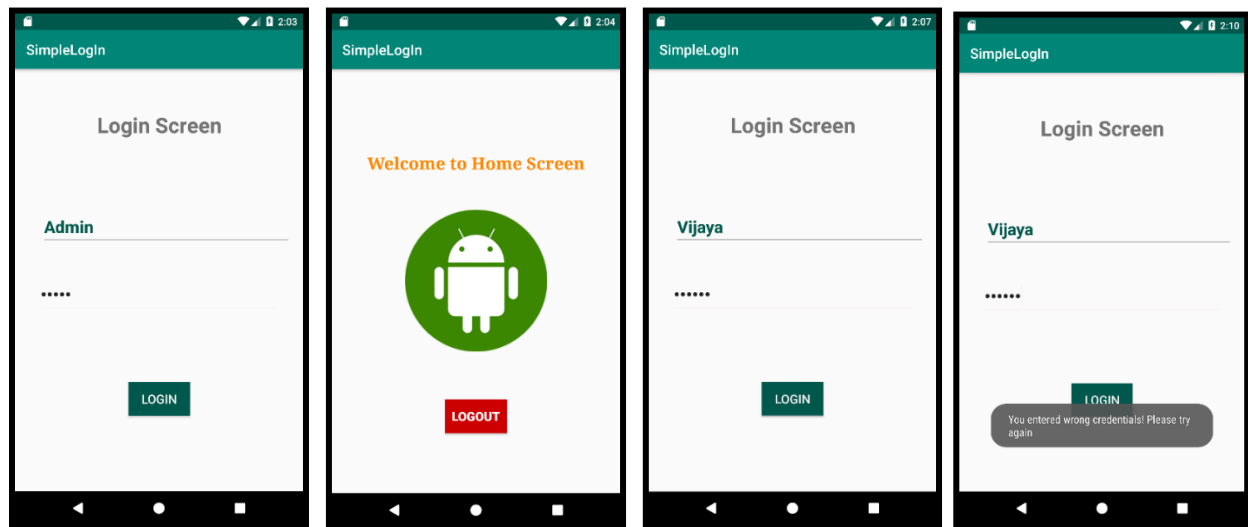
boolean validationFlag = false;

//verify if the username and password are not empty
if (!username.isEmpty() && !password.isEmpty()) {
    if (username.equals("Admin") && password.equals("Admin")) {
        validationFlag = true;
    }
}
if (!validationFlag) {
    // write code to handel application when validationFlag is false
} else {
    // write code to handel application when validationFlag is true
}
```

8. Java code for navigating from one activity to another activity

```
public void reDirectToHomePage(View view){
    Intent redirect = new Intent( packageContext: MainActivity.this, HomeActivity.class);
    startActivity(redirect);
}
```

Refer to the example output: Don't limit yourself to given example screens, and you can be more creative.



Reference for social login: Walkthrough and follow steps on this forum for social login
<https://developers.facebook.com/docs/facebook-login/android>

ICP Submission Guidelines

1. ICP submission is an individual contribution
2. Submit your source code and documentation to GitHub and represent the work through the wiki page accurately (submit your screenshots as well. The screenshot should have both the code and the output)
3. Comment your code appropriately
4. Video submission (3 to 5 min video showing the demo of the ICP, with brief voiceover on the code explanation)
5. Submission after the due date is considered as a late submission. (Check the 'Late Submission Policy on Assignments' in the syllabus)
6. Use the related Canvas survey to submit your ICP # and feedback

ICP Rubric Details

You can find ICP Rubric Details in both the Syllabus and Canvas ICP assignment.

Criteria	Novice	Competent	Proficient
Wiki page (25)	Basic wiki page. (>=0 to <=5)	Wiki page with the required details. (>5 to <=15)	Wiki page with all details and making it easy to follow and understand. Visually looking good. (>15 to <=25)

Video (25)	Basic video. (≥ 0 to ≤ 5)	Video with the required details. (> 5 to ≤ 15)	Video with all details and making it easy to follow and understand. Annotated with the subtitles. (> 15 to ≤ 25)
Completeness of given assignment (25)	It is partially solved. (≥ 0 to ≤ 5)	Completely solved. (> 5 to ≤ 15)	It is solved efficiently. (> 15 to ≤ 25)
Code Quality (It is relative) (10)	Refer to the best coding practices page. (≥ 0 to ≤ 5)	Refer to the best coding practices page. (> 5 to ≤ 8)	Refer to the best coding practices page. (> 8 to ≤ 10)
Commenting the code (10)	Not useful comments. (≥ 0 to ≤ 5)	Slightly appropriate comments. (> 5 to ≤ 8)	Appropriate comments. (> 8 to ≤ 10)
Time of submission	Submission after the due date. Check the 'Late Submission Policy on Assignments' section in the syllabus	Submission on the deadline. No score will deduct from the obtained score.	Submission before the deadline. No score will deduct from the obtained score.
Submission (including feedback) (5)	Submission with partial details. (≥ 0 to ≤ 3)	Submission with the essential details. (> 3 to ≤ 4)	Submission with all the details. (> 4 to ≤ 5)
Total	Minimum = 0		Maximum = 100

Note: Cheating, plagiarism, disruptive behavior, and other forms of unacceptable conduct are subject to strong sanctions under university policy. See detailed description of university policy at the following URL: <https://catalog.umkc.edu/special-notice/academic-honesty/>