

# Lab5

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## 2

file name:

LoginActivity.smali

smali method:

```
.line 188
:cond_73
invoke-direct {p0, v7}, Ledu/wayne/securityclass/LoginActivity;->showProgress(Z)V

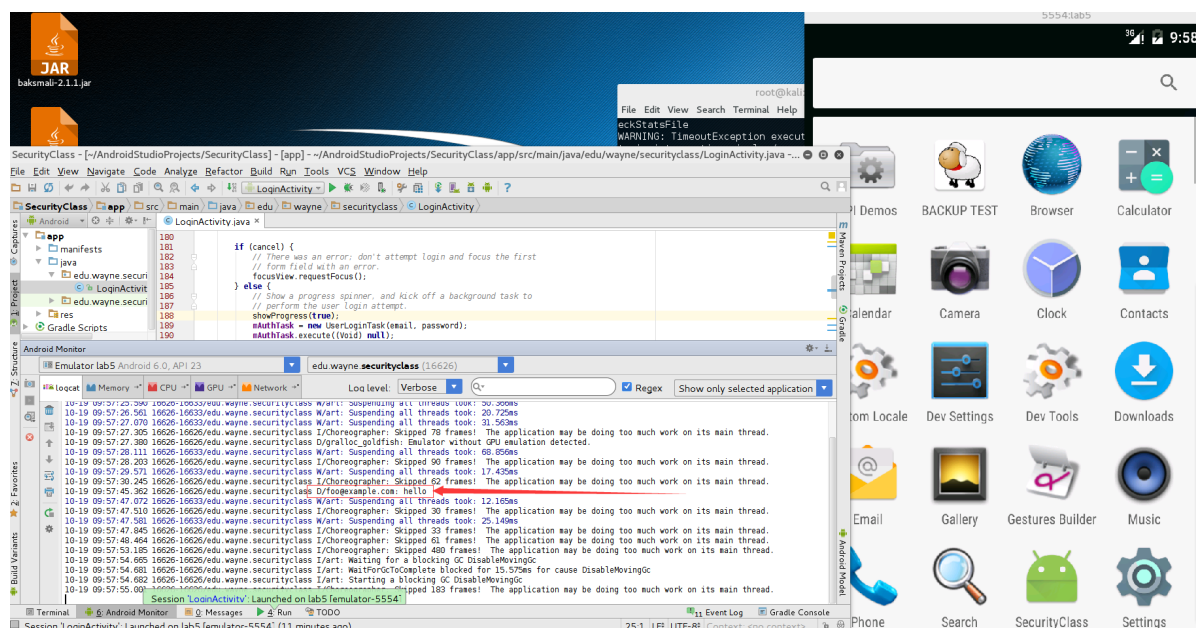
invoke-static {v1, v3}, Landroid/util/Log;->d(Ljava/lang/String;Ljava/lang/String;)I

.line 189
new-instance v5, Ledu/wayne/securityclass/LoginActivity$UserLoginTask;
```

I add `invoke-static {v1, v3}, Landroid/util/Log;->d(Ljava/lang/String;Ljava/lang/String;)I` into it.

`invoke-static` is the method of `Log.d(xxx, xxx)` in smali.

## 3



From the picture we can see the username is `foo@example.com` and password is `hello`.

## 4

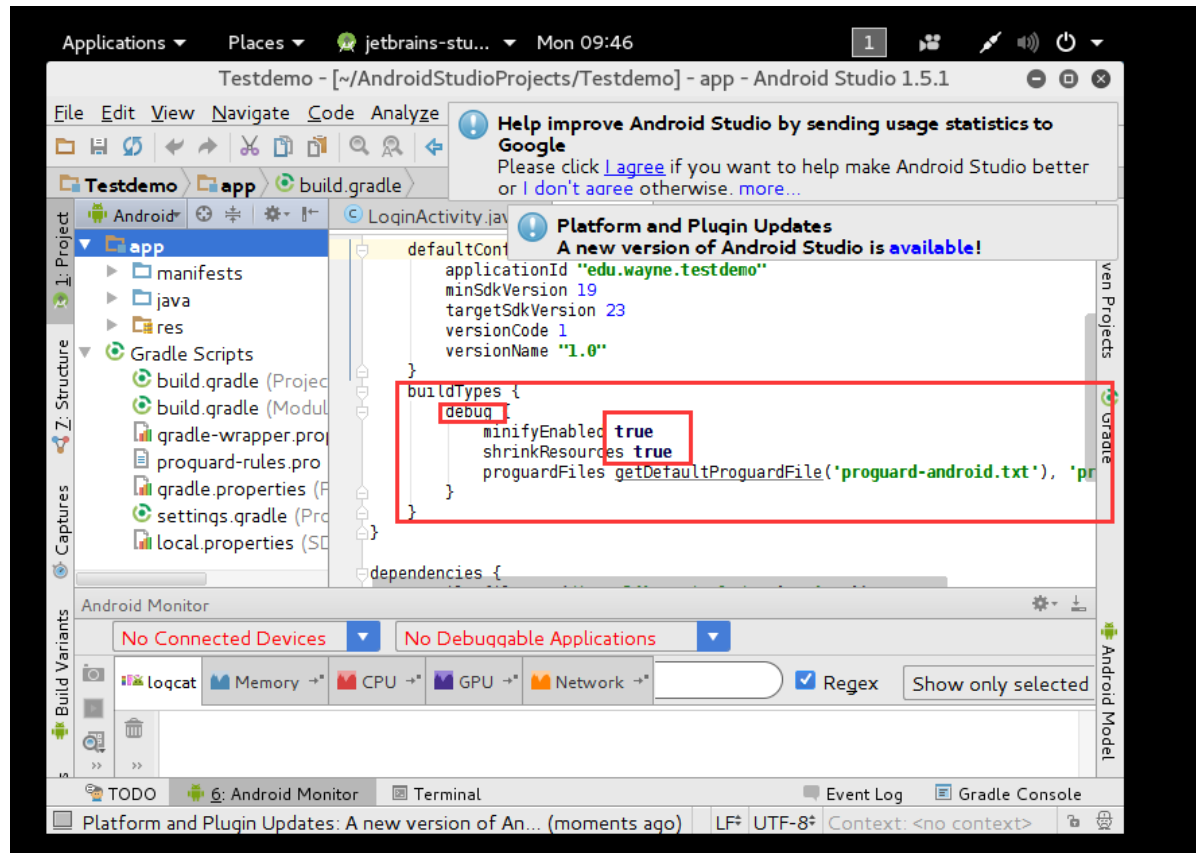
## a

ProGuard

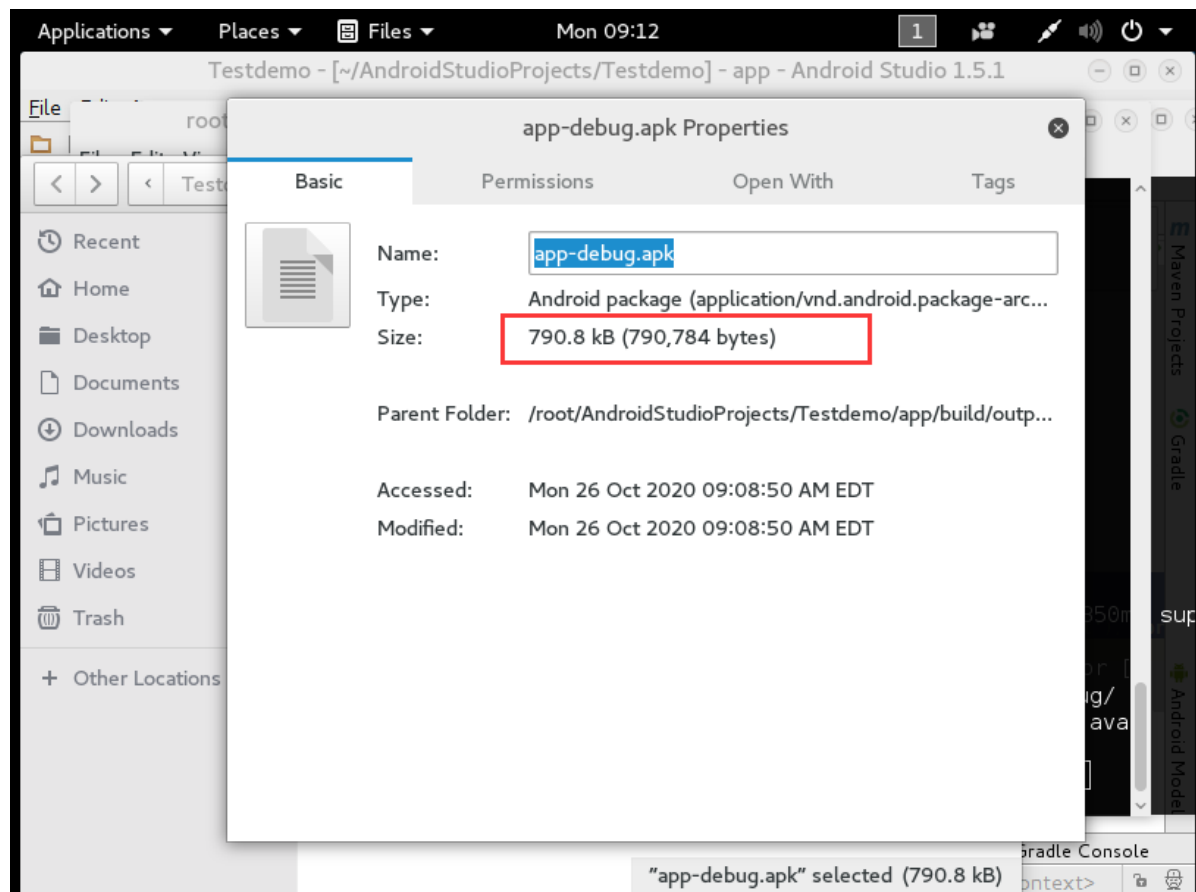
b

I modify the configuration in the `build.gradle(Module...)`

Add this into it:

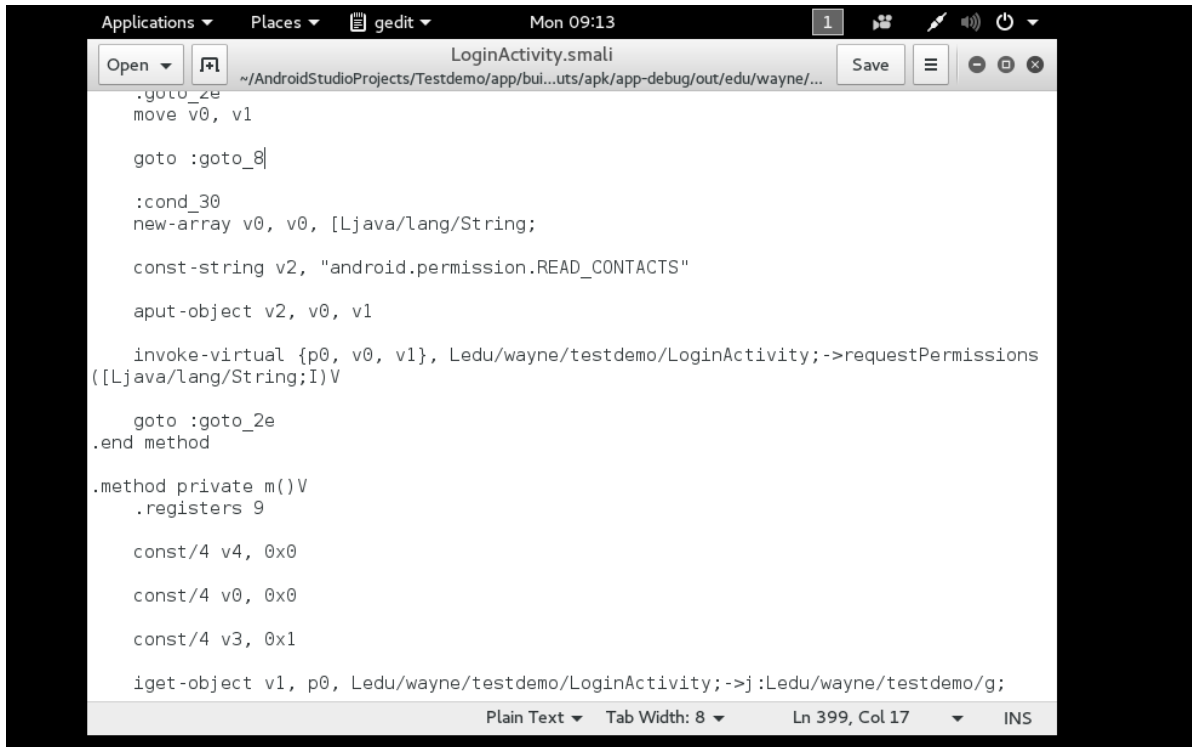


Then rebuild the apk:



From the picture we can see that `app-debug.apk` is 790.8KB, while previously it is around 1.43MB.

And open the LoginActivity.smali, we cannot see the `.line x`.



```
.goto_2e
move v0, v1

goto :goto_8

:cond_30
new-array v0, v0, [Ljava/lang/String;

const-string v2, "android.permission.READ_CONTACTS"

aput-object v2, v0, v1

invoke-virtual {p0, v0, v1}, Ledu/wayne/testdemo/LoginActivity;->requestPermissions
([Ljava/lang/String;I)V

goto :goto_2e
.end method

.method private m()V
    .registers 9

    const/4 v4, 0x0

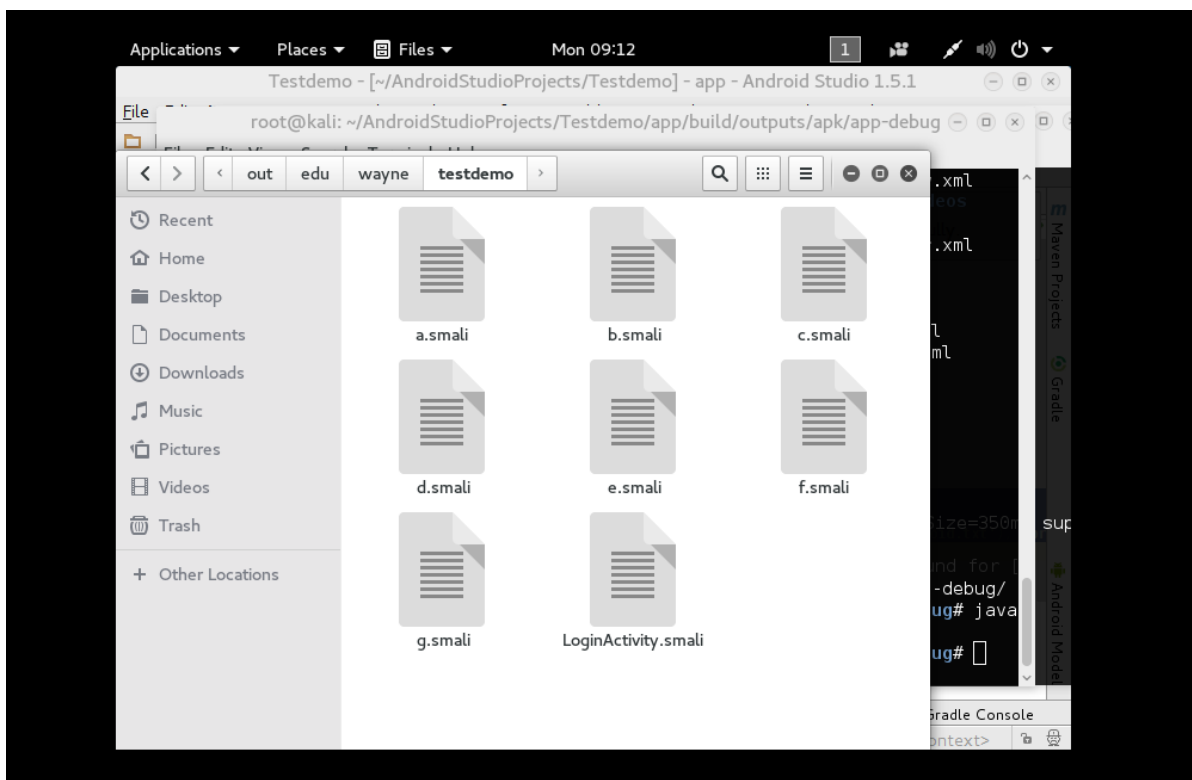
    const/4 v0, 0x0

    const/4 v3, 0x1

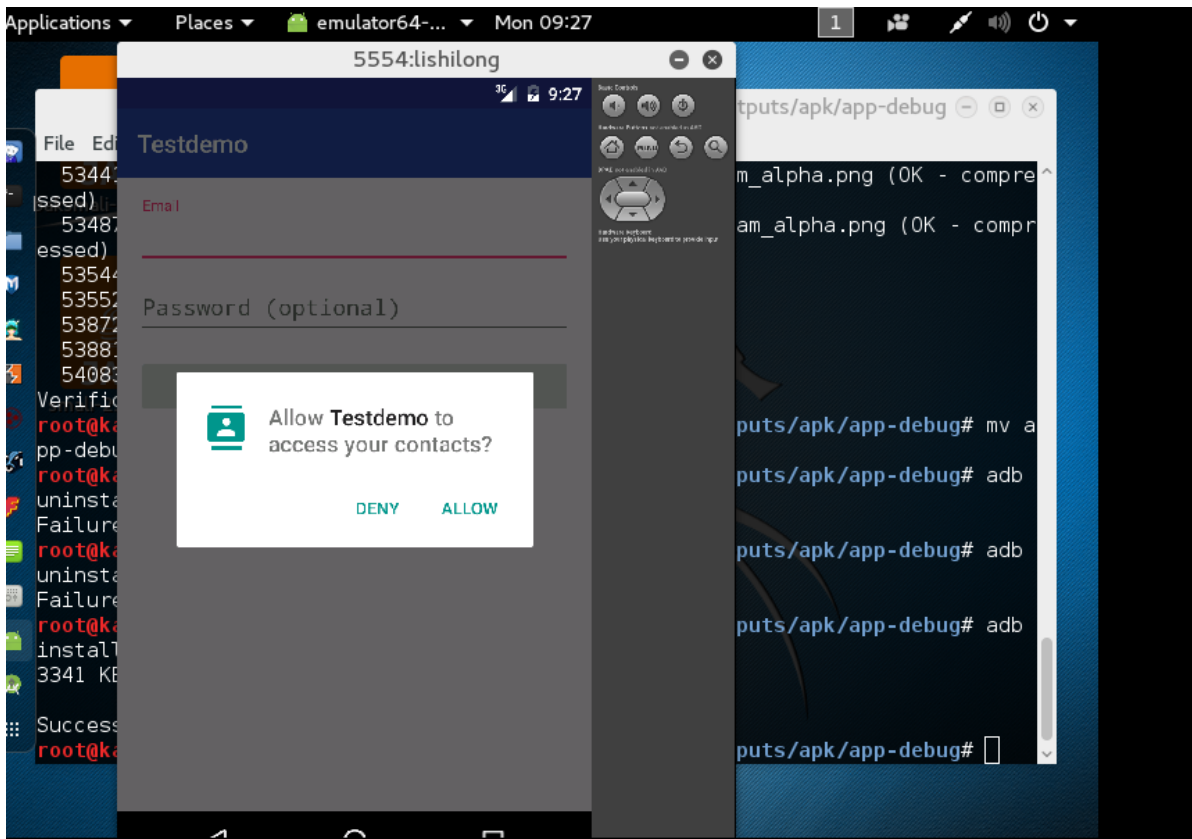
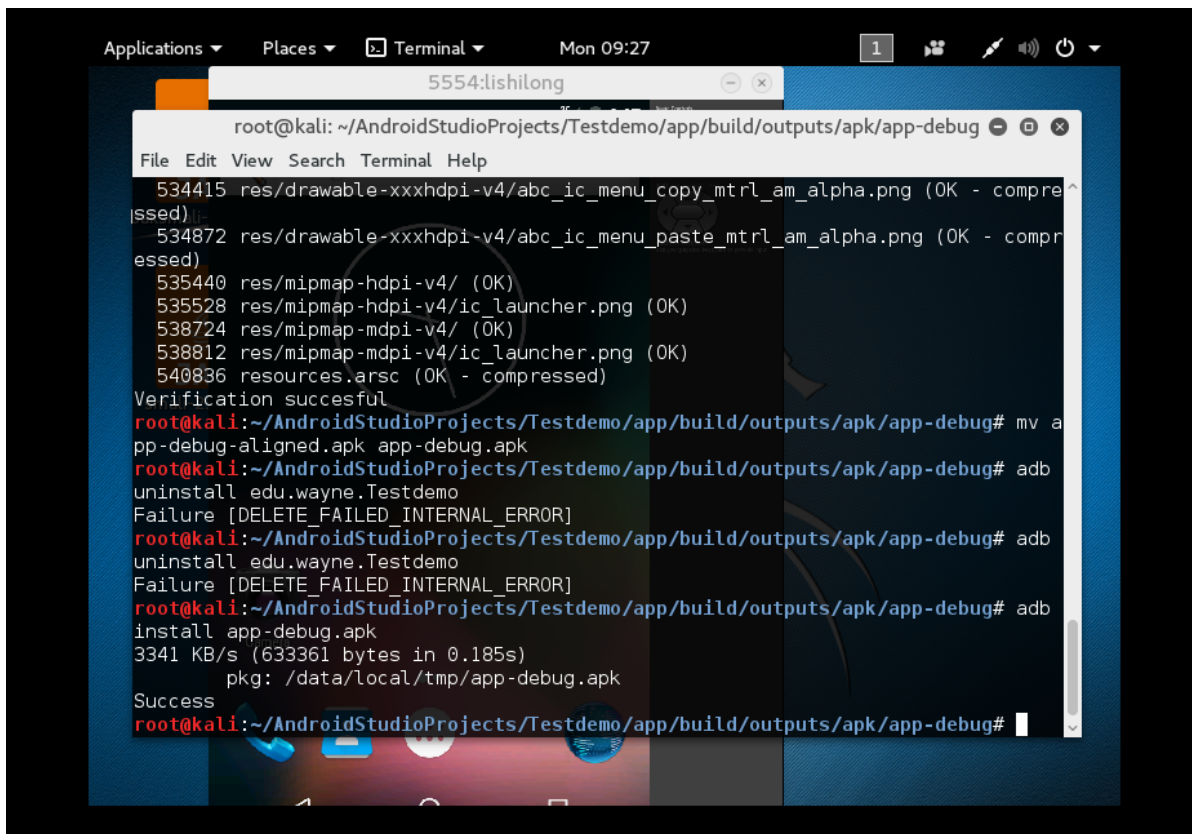
    iget-object v1, p0, Ledu/wayne/testdemo/LoginActivity;~j:Ledu/wayne/testdemo/g;
```

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And in the directory we can see it has been obfuscated:



Then I continue the repackaging process:



It can be repackaged. The proof is above.