Mobile Application Pentesting-Part 3

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Insecure Data Storage

> *PART-2*

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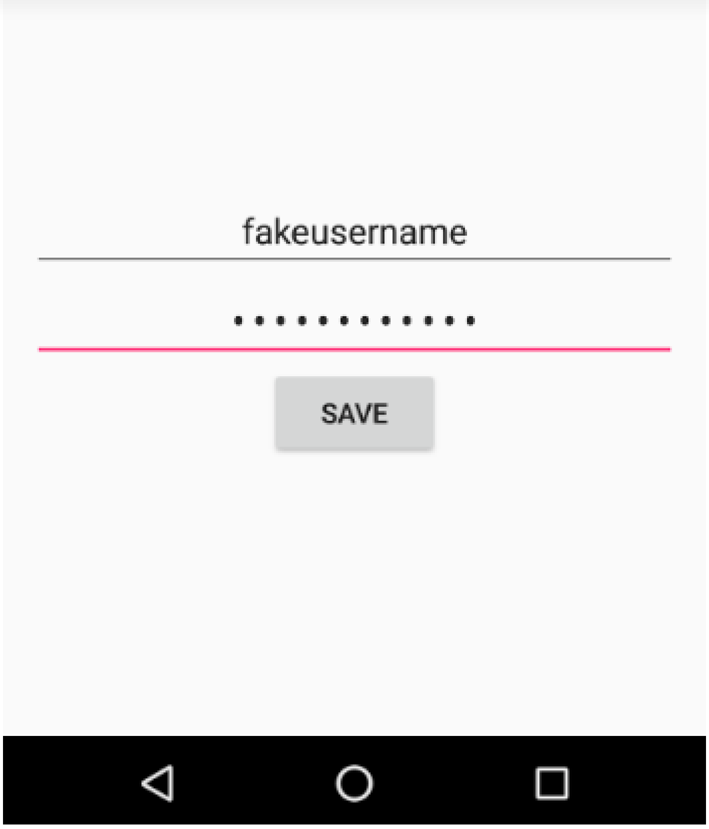
confidential information insecurely on the system i.e.


fakeusername
•••••••••••••
SAVE

username=fakeusername

password=fakepassword

Let’s check the code of **InsecureDataStorage2Activity.java** to know what is happening.

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As you can see, username and password are stored in SQL database name “ids2”.

That means if we read the database file in the application folder, we can find credentials there. let’s get the database file:

```
# database directory: /data/data/<app-package-path>/databases
```

```
adb pull “/data/data/jakhar.aseem.diva/databases/ids2”
```

“ids2” file exists, I don’t know the reason why it is showing the error.

Solution to solve this error:-

```
adb shell su

cd /data/data/jakhar.aseem.diva/databases

cp ids2 /data/local/tmp
```

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. . .

Insecure Data Storage

> PART- 3

×

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cat InsecureDataStorage3Activity.java

A temporary file **uinfo** is created, where the credentials coming from the user input are saved:

cat info-419988827tmp

. . .

Insecure Data Storage

PART 4

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cat InsecureDataStorage4Activity.java

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If the application uses the **WRITE_EXTERNAL_STORAGE** permission, then it has also permission to read the external storage from SD card.

adb shell “cat /storage/emulated/0/.uinfo.txt”

Input Validation Issues

Input Validations Attacks are when an attacker purposefully sends strange inputs to confuse an application. Input validation routines serve as the first line of defense for such attacks. Examples of input validation attacks include buffer overflow, directory traversal, cross-site scripting, and SQL injection.

> ***Part 1- SQL INJECTION***

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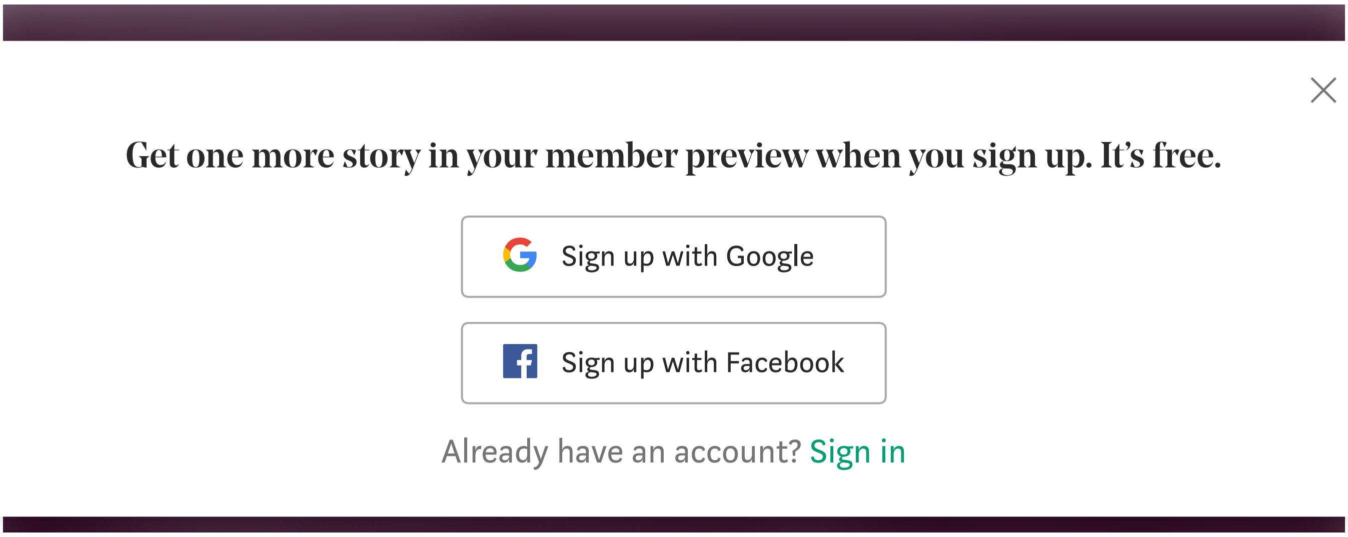
Let’s look at the code.

cat SQLInjectionActivity.java



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*SELECT * FROM sqliuser WHERE user=’admin’;*

*SELECT * FROM sqliuser WHERE user=’admin’ or ‘a’=’a’- -;*

- -==>There is no space between the dash.

- -*means consider anything which comes after- -as a commen*t.

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Webview is a simply browser content being rendered into a mobile application.

As you can see in above image ,google.com is unreachable because the INTERNET permission has not included in the AndroidManifest.xml.

Using the File protocol, access to the uinfo file can be achieved:

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. . .

Input Validation Issues

> *Part 3- Buffer Overflow*

Typing random string “hello” to check what happen.

The application is using JNI (Java Native Interface), what suggests that the method **DivaJni** is related to a program written in other language.

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-The problem is that the function strcpy does not check whether the size of the destination's buffer is large enough to hold the source parameter.

-A consequence of function strcpy bad usage is the corruption of memory or buffer overflow, and eventually the crash of the application.

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56 claps

WRITTEN BY

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Reverse Engineering, Penetration Testing(Web, Mobile, IoT, Network, Infra)

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