**Android Lab Setup in your PC**

Learning objectives

* Comprehend and deploy the basic steps for penetration testing by utilising appropriate tools and techniques.
* Deploy, analyse and interpret the outcomes of vulnerability assessment tasks

**Background**

Mobile security is an emerging domain. Available tools are limited by comparison to other domains in information security. Additionally, many tools are unrefined, documentation is under-developed, and tools may not be subjected to applied and extensive testing.

In this lab, your aim is to research and setup the following tools in your PC (the cyber lab desktop or your personal laptop)

* **JADX-GUI**
* **adb tool**
* **apktool**
* **Android studio**

**Evaluate the above tools and present your work and the above tool to your instructor and provide a small description for each tool. Please note this presentation will be marked as part of your second portfolio.**

**Guidance on how to setup Android testing tools in Windows**:

(Note for MAC users: Please note for **Mac PC’s** install Brew before installing the following tools)

**Task 1:** Review the following contents and install JADX-GUI on Windows:

* Pre-Requisite: Java Install: <https://www.java.com/en/>
* Search for JDk11 for windows
* JADX-GUI Github Link: <https://github.com/skylot/jadx>
* JADX-GUI Releases: <https://github.com/skylot/jadx/releases/tag/v1.2.0>

**Task 2**: Review the following content and install adb in Windows:

* Android Platform Tools – SDK Platform Tools:
  + <https://developer.android.com/studio/releases/platform-tools>
* Extract the zip file and save the entire folder under C:\\Windows
* Then check that you have access the adb tool from the command line by typing adb

**Task 3**: Review the following link and install Apktool on Windows:

<https://ibotpeaches.github.io/Apktool/>

Check that you have access the apktool from the command line by typing apktool.

**Task 4:** Review the following link and install the Android Studio on your PC

<https://developer.android.com/studio/intro/update>

<https://developer.android.com/studio>

Install the Android Studio and create a new project such as Test\_APK

**Task 5**: Terminal and Emulator setup

* On Android Studio go to the **View/Tool Windows** and select **Device Explorer.** Then from **View/Tool Windows select Terminal**
* From right hand side, select **Device Manager** (or from View/Tool Windows) then click on plus and select **Create Virtual Device**.

Review the following for further information:

<https://developer.android.com/studio/run/managing-avds#:~:text=An%20Android%20Virtual%20Device%20(AVD,you%20create%20and%20manage%20AVDs>.

* Select an emulator with Google App Store, e.g. Pixel or Nexus 5.
* Optional: If you wish to have root access then you need to select X86 tab, select Android 7.1.1 (Google Aps) and hit Download button.
* After download select Next and then check to see if the emulator is running.

**Task 6:** Test root access

From terminal on Android Studio type the following

**adb devices** list devices that running

**adb shell** get inside the shell of the android emulator

**su** to become root.

**Taks 7:** Pulling an APK from the Google Play Store (or APK Pure)

* From the Google Play Store or APKPURE on the android emulator install an application (e.g **Injured Android application – This is a CTF application)**.
* From terminal in Android Studio get shell access for the Android emulator.
* To list all packages installed on the emulator type:

**pm list packages**

* To search for the application package installed on the emulator type:

**pm list packages | grep <keyword such as application name>**

* What is your package name.
* To find the location that this package installed type

**pm path <package name>**

* Copy the package path
* Exit from the shell and from terminal make a new directory in the Document folder.
* Use **adb pull** to pull the package from the emulator and save it on your computer in your new directory and give a new name such as android\_pull.apk

**adb pull <Insert Path to the Package> <Insert Name Of the New Directory>**

* Check that this file pulled in your computer.
* Now you are able to open this file from JADX-GUI

**Task 8** – Open JADX-GUI and open the above file and list the files/folders that you see. Do you have access to the MANIFEST.XML file. Explore the MANIFEST.XML file and provide a screenshot of this file as evidence.

End of Lab 😊