National College of Ireland

Configuration Manual

MSc Research Project
MSc in Cybersecurity

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MSc Project Submission Sheet

School of Computing

Student Name: ……. …Rohan Singh……

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Programme: ……MSc in Cybersecurity…… **Year:** …2020-21…..

Module: ……Academic Internship…….……

Supervisor: ……Niall Heffernan…….……

Submission Due Date: ……11th November 2021…….……

Project Title: Controlling Data Leaks from Pre-Installed Android Applications

Word Count: ……796…… **Page Count**……3…….……..

I hereby certify that the information contained in this (my submission) is information pertaining to research I conducted for this project. All information other than my own contribution will be fully referenced and listed in the relevant bibliography section at the rear of the project.
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Configuration Manual

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1 Overview

To set up the environment for ADB command tools some minimum hardware and software requirements need to be fulfilled. Therefore, this configuration guide has been created with step-by-step procedure that are needed to be followed so that any Android device can be connected to a PC. The ADB command tools contains a huge list of executable commands but only few essential commands which are sufficient to stop the transmission of detailed background. The application is still in the prototype phase and much more improvements need to be done and was crafted by keeping only one Android version (That is Android 6.0 also known as Marshmallow version). It is mainly focused in protection of the data leakage without losing the core functionality.

2 Minimum Hardware Required

Some hardware is required at the minimum level so that Apktool.bat can run smoothly. and these requirements are as follows: -

- Minimum processor required- **Intel i3 (8th Generation)**
- Hard disk required to run Android emulator- **5GB**
- Memory allocation needed- **4GB RAM**
- Connecting port (if using external Android device)- **USB wire**

3 Software Requirements

Along with the hardware requirement some software are also required to run Apk.tool.bat and those are as follows: -

- Operating system required- **Windows 10**
- Minimum Android version- **Android 6.0 (version Marshmallow)**
- Some additional software - **Command Prompt**
- Some additional software - **USB Debugging Driver (it is device specific)**
- Some additional software - **Android studio 3.0**
- Some additional software - **Notepad++**

4 Installation Procedure

The steps needed to connect an Android device with a PC and to establish a communication among are as follows: -

Step 1- download the USB debugging driver from the manufacturer website because this driver is device specific. In this case an emulator is used hence generic USB debugging driver is used in this case which can be obtained from https://developer.android.com/studio/run/oem-usb (*Install OEM USB drivers*, 2021).

Step 2- Connect external Android device with a USB wire or install any Android emulator (with minimum Android version 6.0). In this case an Android emulator named LD player is use which can be obtained from https://www.ldplayer.net/download/install (*Download and Use LDPlayer on PC*, 2021).

Step 3- Go to emulator settings then tap 7 times build number which can be found under settings>about phone and this will enable developer options (*Configure on-device developer options*, 2021).

Step 4- Then enable USB debugging which can be found under Developer Options.

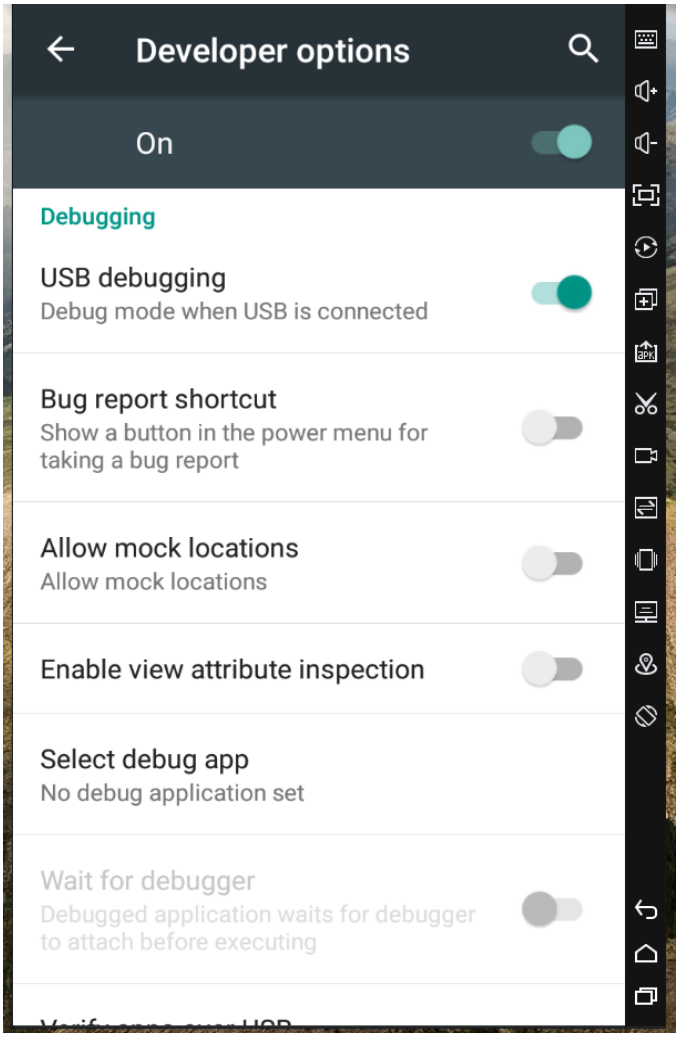

Figure 1: USB Debugging Under Developer Options

Step 5- Next click on ‘OK’ to enable USB debugging.

Figure 2: Click on ‘OK’

Step 6- Now type ‘adb devices’ in command prompt to make connection and to get Android device ID.

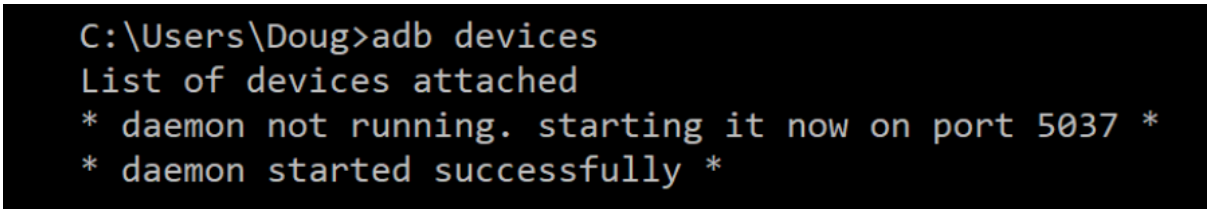

Figure 3: Making Connection Between Android Device and a PC

Step 7: Click on ‘ADB tool.bat’ to launch an application.

References

Configure on-device developer options (2021) *Android Developers*. Available at: https://developer.android.com/studio/debug/dev-options#debugging (Accessed: 9 November 2021).

Download and Use LDPlayer on PC (2021). Available at: https://www.ldplayer.net/download/install (Accessed: 9 November 2021).

‘How to Install ADB on Windows, macOS, and Linux’ (2021) *xda-developers*, 28 July. Available at: https://www.xda-developers.com/install-adb-windows-macos-linux/ (Accessed: 14 August 2021).

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