

# Internship Report on Cybersecurity Tasks

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**Internship Provider:** NULLCLASS

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## Overview

**During my internship with NULLCLASS, I was tasked with completing three key assignments that involved hands-on technical implementation and documentation. These assignments not only enhanced my understanding of critical cybersecurity concepts but also honed my practical skills in Android OS penetration, Mobile Device Management (MDM), and APK file analysis. Below is a detailed report on the assigned tasks, showcasing both the methodology and proof of concept (POC) for each.**

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## Task 1: Installing a Package in Termux

### Objective:

The goal of this task was to demonstrate the installation of a package within Termux using the `apt` command. Termux, a terminal emulator for Android, provides a Linux environment for Android devices. We chose a simple package, such as the text editor `nano`, to guide users through the process.

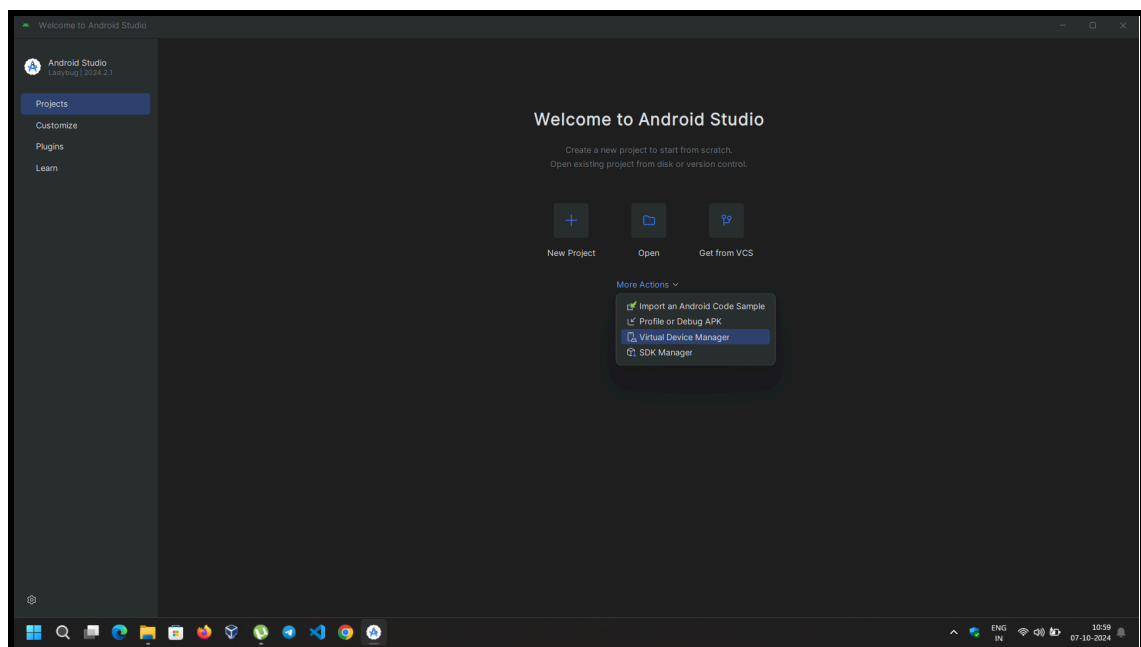
### Prerequisites:

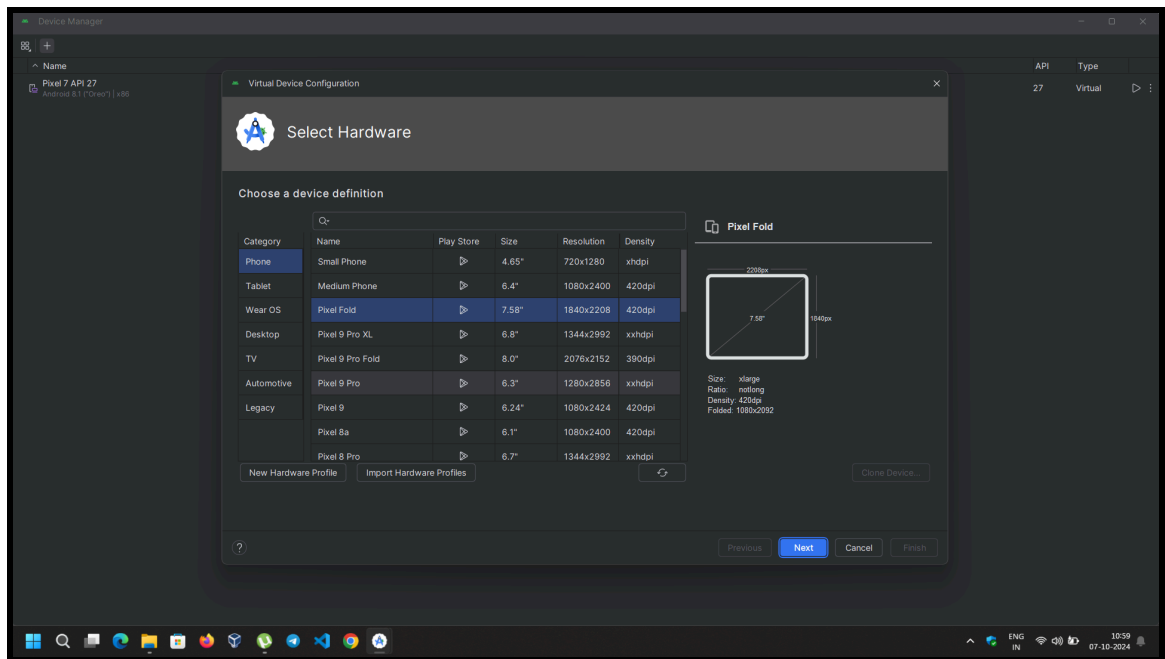
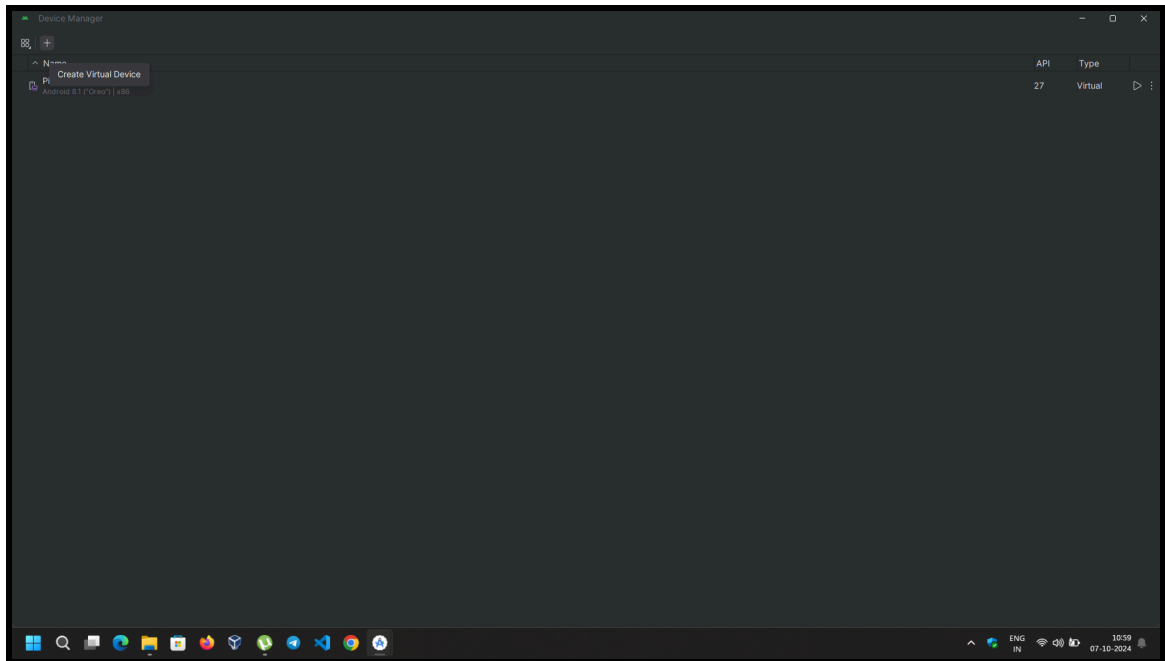
- Android Studio is installed on your laptop.
- You have a virtual phone (Android Emulator) set up in Android Studio.
- Termux APK is installed on the virtual phone. You can download the APK from F-Droid or [GitHub](#).

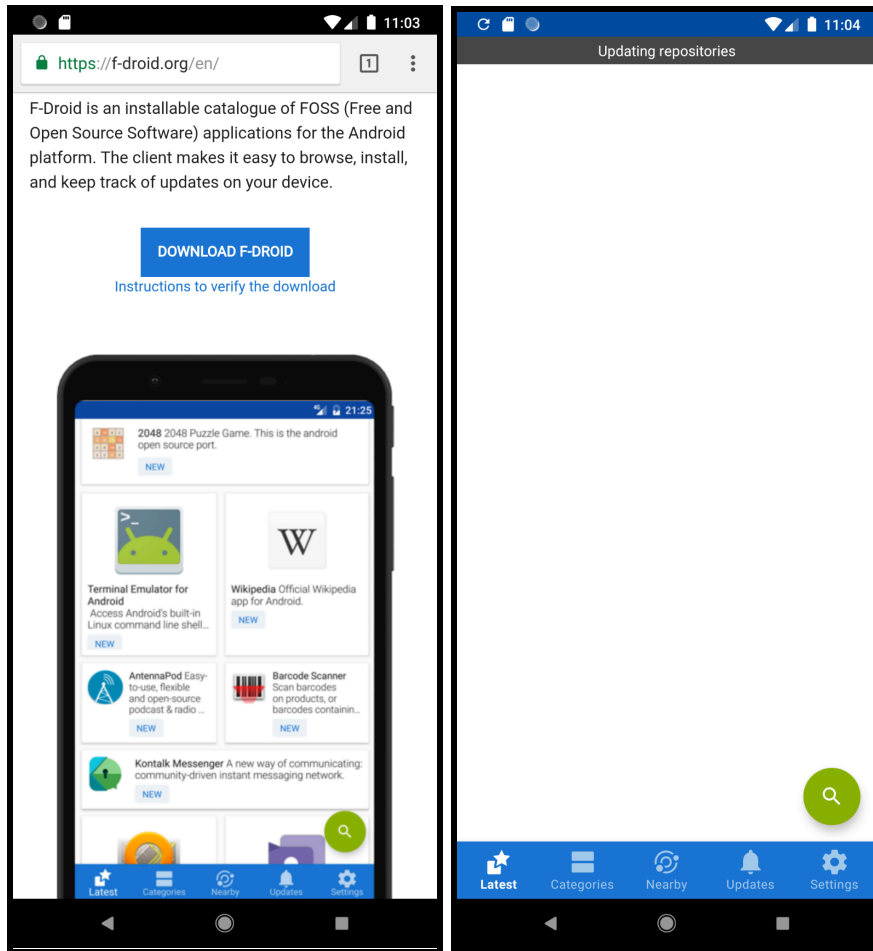
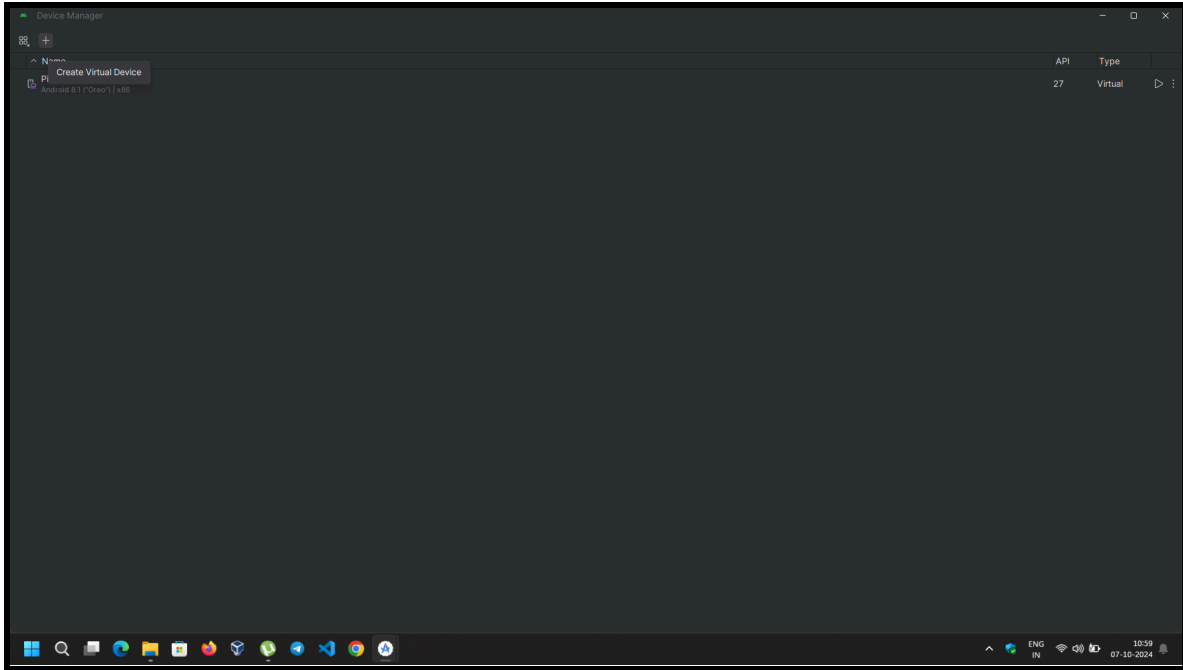
### Process:

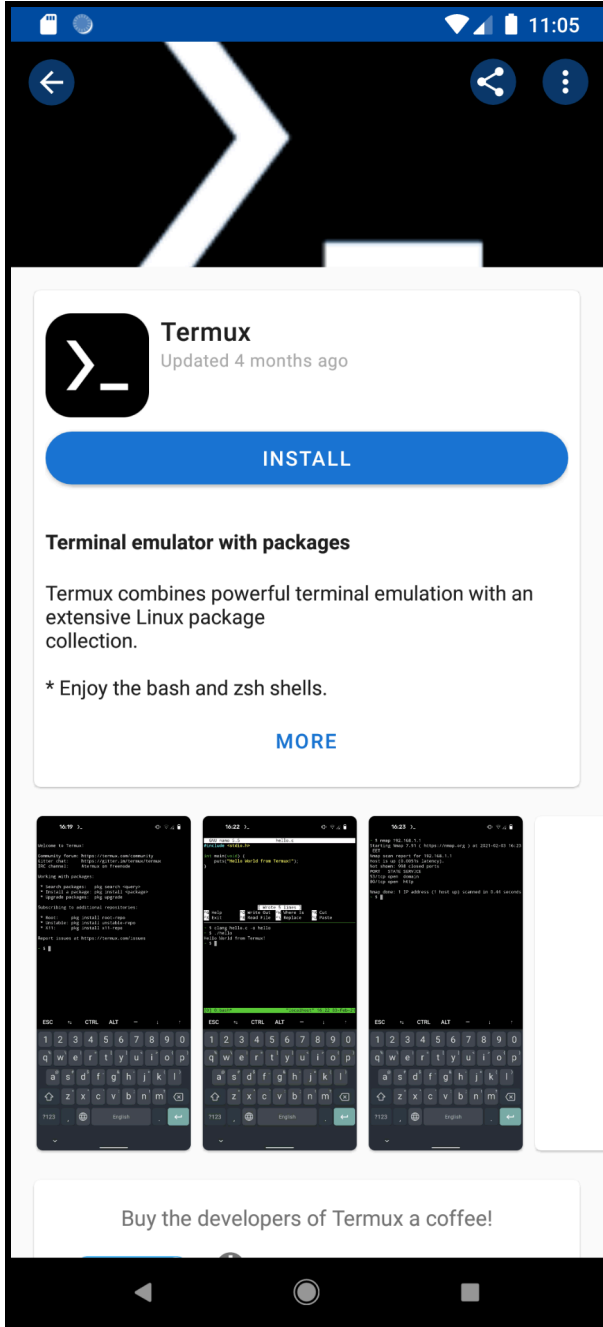
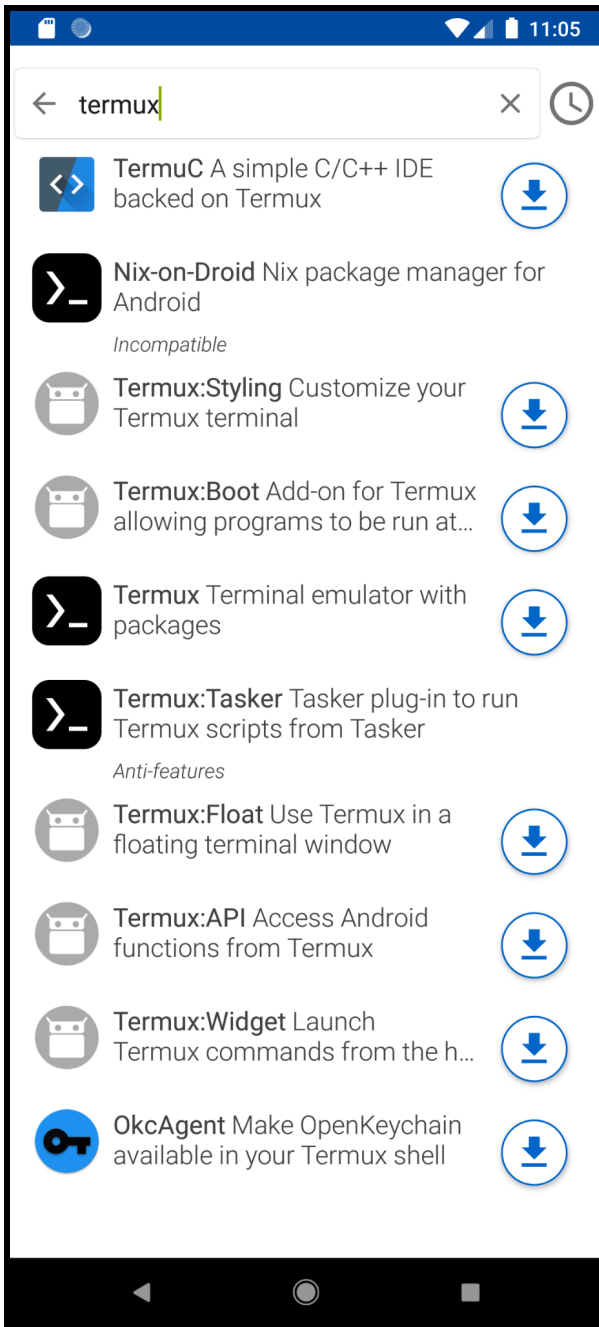
#### Launch Android Studio Emulator:

- **Open Android Studio and start the Android Emulator (virtual phone) where you want to install Termux.**









```
Android Emulator - Medium_Phone_API_33:5554
1:13
~ $ apt install nano
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
nano is already the newest version (8.2).
0 upgraded, 0 newly installed, 0 to remove and 33 not up
graded.
~ $ nano myfile.txt
~ $ ls
~ $ ls
~ $ nano myfile.txt
~ $ ls
myfile.txtM-B
~ $ cat myfile.txtM-B
\hey
~ $ nano -h
Usage: nano [OPTIONS] [[+LINE[,COLUMN]] FILE]...

To place the cursor on a specific line of a file, put th
e line number with
a '+' before the filename. The column number can be add
ed after a comma.
When a filename is '-', nano reads data from standard in
put.

Option      Long option      Meaning
-A          --smarthome      Enable smart hom
e key
-B          --backup      Save backups of
existing files
-C <dir>    --backupdir=<dir>  Directory for sa
ving unique backup files
-D          --boldtext      Use bold instead
of reverse video text
-E          --tabstospaces    Convert typed ta
bs to spaces
-F          --multibuffer    Read a file into
a new buffer by default
-G          --locking      Use (vim-style)
lock files
-H          --historylog    Save & reload ol
d search/replace strings
-I          --ignorerercfiles  Don't look at na
norc files
-J <number> --guidestripe=<number> Show a guiding b
ar at this column
-K          --rawsequences  Fix numeric keyp
ad key confusion problem
-L          --nonewlines    Don't add an aut
omatic newline
-M          --trimblanks    Trim tail spaces
when hard-wrapping
-N          --noconvert     Don't convert fi
les from DOS/Mac format

ESC      /      -      HOME      ↑      END      PGUP
⌘      CTRL  ALT      ←      ↓      →      PGDN
```

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### Open Termux on the Emulator:

- Once the virtual phone is up, navigate to the Apps menu and open Termux.
- Install Nano (or any other package):

Now, install **nano**, a simple text editor, with the following command:

```
apt install nano
```

- **Confirm Installation:**
  - Termux will ask you to confirm the installation. Type **y** and hit Enter to proceed.
- **Verify Installation:**

Once the installation is complete, check if **nano** was installed correctly by typing:

```
nano --help
```

- This will display the cmd used with **nano**.
- **Create/Edit a File Using Nano:**

You can start using **nano** to create or edit files. For example, to create a file named **example.txt**:

```
nano example.txt
```

- Write your content, then press **CTRL + O** to save and **CTRL + X** to exit.

Now you've successfully installed a package in Termux on the Android Studio virtual phone and used the **nano** text editor!

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## **Impact:**

The ability to install and manage packages within Termux significantly extends the functionality of Android devices. This capability transforms an Android phone into a portable development or testing environment, enabling penetration testers, developers, and system administrators to carry out tasks usually restricted to traditional desktop systems. It empowers users to perform real-time modifications, write scripts, and even manage files, making it a versatile tool for on-the-go cybersecurity operations

## **Conclusion:**

Installing packages in Termux is a straightforward process that provides users with the flexibility of a Linux environment on their Android devices. The **apt** package manager makes it easy to install, update, and manage software, enabling powerful capabilities such as editing files, running scripts, and more. The successful installation of nano demonstrated how Termux can serve as an essential tool for development and system management on mobile platforms.