

## Ex.No.7 Use AFLogical OSE to extract data from an Android device

### AIM:

To perform a logical extraction of user data (contacts, SMS, call logs, calendars, app data where possible) from an Android device using AFLogical OSE and preserve extracted files for analysis.

### DESCRIPTION / THEORY:

**AFLogical OSE** (Open-Source Edition) is a widely-used forensic utility for **logical acquisition** of Android devices. It leverages the device's backup/export mechanisms and ADB connectivity to collect user-level artifacts (contacts, SMS, call history, calendars, browser data, and some app data). Logical acquisition captures filesystem artifacts and user data without taking a full bit-stream image; it is fast and often usable when physical/partition imaging is not possible.

Logical extraction is non-destructive when performed correctly: the original device is not modified (aside from temporary artifacts the tool creates) and data is copied to external storage for examination. Always operate in a controlled forensic environment (forensic workstation, isolated network) and document chain of custody.

### PROCEDURE:

```
abinaya22@LAPTOP-F1KG4QN9:~$ sudo apt update
sudo apt install -y android-tools-adb
adb version
Hit:1 http://security.ubuntu.com/ubuntu noble-security InRelease
Hit:2 http://archive.ubuntu.com/ubuntu noble InRelease
Get:3 http://archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:4 http://archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:5 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 Components [175 kB]
Get:6 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 Components [377 kB]
Get:7 http://archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Components [212 B]
Get:8 http://archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 Components [940 B]
Get:9 http://archive.ubuntu.com/ubuntu noble-backports/main amd64 Components [7168 B]
Get:10 http://archive.ubuntu.com/ubuntu noble-backports/universe amd64 Components [11.0 kB]
Get:11 http://archive.ubuntu.com/ubuntu noble-backports/restricted amd64 Components [212 B]
Get:12 http://archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 Components [212 B]
Fetched 824 kB in 14s (59.4 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
193 packages can be upgraded. Run 'apt list --upgradable' to see them.
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Note, selecting 'adb' instead of 'android-tools-adb'
adb is already the newest version (1:34.0.4-1build3).
0 upgraded, 0 newly installed, 0 to remove and 193 not upgraded.
Android Debug Bridge version 1.0.41
Version 34.0.4-debian
Installed as /usr/lib/android-sdk/platform-tools/adb
Running on Linux 6.6.87.2-microsoft-standard-WSL2 (x86_64)
```

```
abinaya22@LAPTOP-F1KG4QN9:~$ sudo apt install adb
[sudo] password for abinaya22:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  android-libbase android-libboringssl android-libcutils android-liblog andr
oid-libziparchive
  android-sdk-platform-tools-common libprotobuf32t64 libusb-1.0-0
The following NEW packages will be installed:
  adb android-libbase android-libboringssl android-libcutils android-liblog
android-libziparchive
  android-sdk-platform-tools-common libprotobuf32t64 libusb-1.0-0
0 upgraded, 9 newly installed, 0 to remove and 193 not upgraded.
Need to get 2201 kB of archives.
After this operation, 6871 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://archive.ubuntu.com/ubuntu noble/main amd64 libusb-1.0-0 amd64 2
:1.0.27-1 [54.0 kB]
Get:2 http://archive.ubuntu.com/ubuntu noble/universe amd64 android-liblog a
md64 1:34.0.4-1build3 [35.8 kB]
Get:3 http://archive.ubuntu.com/ubuntu noble/universe amd64 android-libbase
amd64 1:34.0.4-1build3 [99.0 kB]
Get:4 http://archive.ubuntu.com/ubuntu noble/universe amd64 android-libborin
gssl amd64 14.0.0+r11-4build1 [729 kB]
Get:5 http://archive.ubuntu.com/ubuntu noble/universe amd64 android-libcutil
s amd64 1:34.0.4-1build3 [35.7 kB]
Get:6 http://archive.ubuntu.com/ubuntu noble/universe amd64 android-libzipar
chive amd64 1:34.0.4-1build3 [40.7 kB]
Get:7 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libprotobuf3
2t64 amd64 3.21.12-8.2ubuntu0.2 [923 kB]
Get:8 http://archive.ubuntu.com/ubuntu noble/universe amd64 adb amd64 1:34.0
.4-1build3 [278 kB]
Get:9 http://archive.ubuntu.com/ubuntu noble/universe amd64 android-sdk-plat
form-tools-common all 28.0.2+9 [6402 B]
Fetched 2201 kB in 9s (249 kB/s)
Selecting previously unselected package libusb-1.0-0:amd64.
(Reading database ... 45445 files and directories currently installed.)
Preparing to unpack .../0-libusb-1.0-0_2%3a1.0.27-1_amd64.deb ...
Unpacking libusb-1.0-0:amd64 (2:1.0.27-1) ...
Selecting previously unselected package android-liblog:amd64.
```

```

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Get:6 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 Components [377 kB]
Get:7 http://archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Components [212 B]
Get:8 http://archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 Components [940 B]
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Android Debug Bridge version 1.0.41
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```

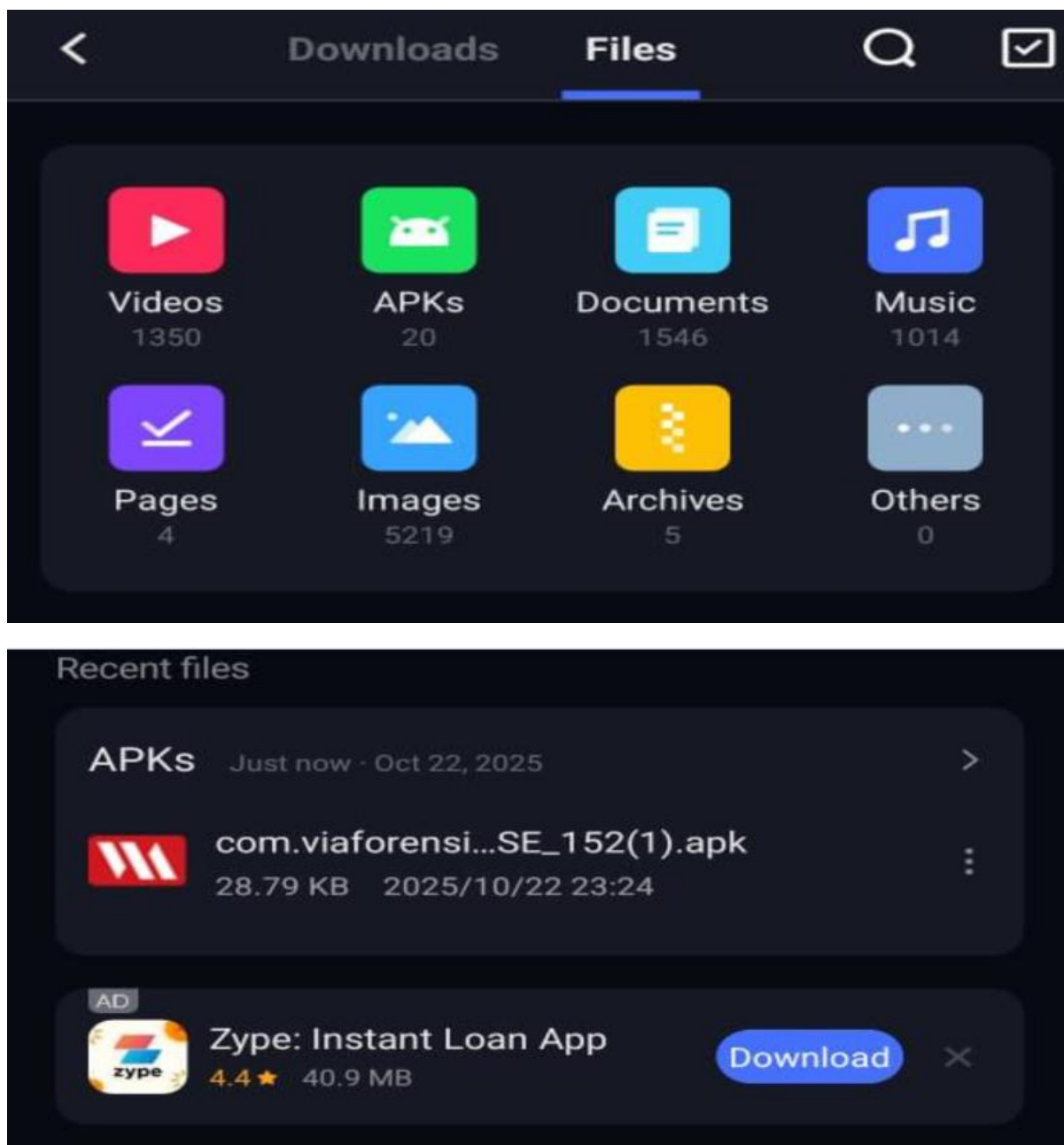
```

abinaya22@LAPTOP-F1KG4QN9:~$ sudo apt install android-tools-adb -y
sudo adb kill-server
sudo adb start-server
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Note, selecting 'adb' instead of 'android-tools-adb'
adb is already the newest version (1:34.0.4-1build3).
0 upgraded, 0 newly installed, 0 to remove and 193 not upgraded.
* daemon not running; starting now at tcp:5037
* daemon started successfully
abinaya22@LAPTOP-F1KG4QN9:~$ adb devices
List of devices attached

abinaya22@LAPTOP-F1KG4QN9:~$ lsusb
Command 'lsusb' not found, but can be installed with:
sudo apt install usbutils
abinaya22@LAPTOP-F1KG4QN9:~$ sudo apt install usbutils
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Suggested packages:
  usbutils-py
The following NEW packages will be installed:
  usbutils
0 upgraded, 1 newly installed, 0 to remove and 193 not upgraded.
Need to get 84.5 kB of archives.
After this operation, 329 kB of additional disk space will be used.
Get:1 http://archive.ubuntu.com/ubuntu noble/main amd64 usbutils amd64 1:017-3build1 [84.5 kB]
Fetched 84.5 kB in 3s (31.8 kB/s)
Selecting previously unselected package usbutils.
(Reading database ... 45512 files and directories currently installed.)
Preparing to unpack .../usbutils_1%3a017-3build1_amd64.deb ...
Unpacking usbutils (1:017-3build1) ...
Setting up usbutils (1:017-3build1) ...
Processing triggers for man-db (2.12.0-4build2) ...

```

## OUTPUT:



## RESULT:

AFLogical OSE produced a logical extraction of user data (contacts, SMS, call logs, calendar, browser artifacts, and other selected items). The extraction was pulled to the forensic workstation, hashed (SHA-256), and documented — ready for analysis.