

LAB - 10

Aim :- Application signing by using the apksigner.

Definition:

Application Signing using apksigner refers to the process of digitally signing an Android APK file using the apksigner tool provided by the Android SDK. Signing an APK is mandatory for installation on Android devices, as it verifies the authenticity and integrity of the app. Without signing, the system will reject the installation.

The apksigner tool ensures that the APK is signed using v1 (Jar Signature), v2, v3, or v4 schemes for compatibility with various Android versions.

```
(kali@kali) [~/Desktop]
$ sudo apt install apksigner
The following packages were automatically installed and are no longer required:
crackmapexec libfreerdp2-2t64 libiniparser1 libpython3.12t64 python3-mistune0
firebird3.0-common libgdal34t64 libjim0.82t64 libqt5sensors5 python3-pathspect
firebird3.0-common-doc libgeos3.12.1t64 libjsoncpp25 libqt5webkit5 python3-pendulum
fonts-liberation2 libgeos3.13.0 liblbfgsb0 librados2 python3-pluggy
freerdp2-x11 libgxfapi0 libmbdencrypt07t64 librdmacm1t64 python3-pytzdata
hydra-gtk libgfrpc0 libmfx1 libre2-10 python3-rsa
ibverbs-providers libgfxdr0 libmimalloc3 libroc0.3 python3-setproctitle
icu-devtools libgl1-mesa-dev libmsgraph-0-1 libsuperlu6 python3-setuptools-scm
libarmadillo12 libglapi-mesa libndctl6 libtag1v5 python3-time-machine
libassuan0 libgles-dev libnetcdf19t64 libtag1v5-vanilla python3-trove-classifiers
libavfilter9 libgles1 libpaper1 libtagc0 python3.11
libbfio1 libglusterfs0 libperl5.38t64 libu2f-udev python3.11-dev
libboost-iostreams1.83.0 libglvnd-core-dev libplacebo338 libusbmuxd6 python3.11-minimal
libboost-thread1.83.0 libglvnd-dev libplist3 libwebRTC-audio-processing1 python3.12-tk
libcapstone4 libgspell-1-2 libpmem1 libwinpr2-2t64 ruby-zeitwerk
libcephfs2 libgtksourceview-3.0-1 libpoppler134 libzip4t64 ruby3.1
libconfig+9v5 libgtksourceview-3.0-common libpoppler145 linux-image-6.6.15-amd64 ruby3.1-dev
libconfig9 libgtksourceviewmm-3.0-0v5 libpostproc57 perl-modules-5.38 ruby3.1-doc
libdaxctl1 libgumbo2 libpython3.11-dev python3-appdirs rwho
libdirectfb-1.7-7t64 libhdf5-103-1t64 libpython3.11-minimal python3-diskcache rwhod
libegl-dev libhdf5-hl-100t64 libpython3.11-stdlib python3-hatch-vcs samba-vfs-modules
libflac12t64 libibverbs1 libpython3.11t64 python3-hatchling
libfmt9 libicu-dev libpython3.12-minimal python3-jose
libfreerdp-client2-2t64 libimobiledevice6 libpython3.12-stdlib python3-lib2to3

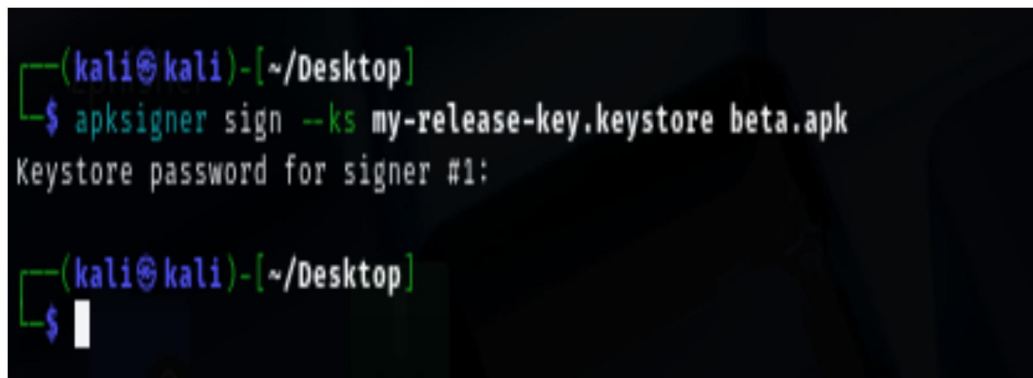
Use 'sudo apt autoremove' to remove them.

Installing:
apksigner

Installing dependencies:
libapksig-java

Summary:
Upgrading: 0, Installing: 2, Removing: 0, Not Upgrading: 124
Download size: 949 kB
Space needed: 1085 kB / 10.2 GB available

Continue? [Y/n] y
Get:1 http://kali.download/kali kali-rolling/main amd64 libapksig-java all 35.0.2-1 [452 kB]
Get:2 http://kali.download/kali kali-rolling/main amd64 apksigner all 35.0.2-1 [496 kB]
Fetched 949 kB in 3s (328 kB/s)
Selecting previously unselected package libapksig-java.
(Reading database ... 463861 files and directories currently installed.)
Preparing to unpack .../libapksig-java_35.0.2-1_all.deb ...
Unpacking libapksig-java (35.0.2-1) ...
Selecting previously unselected package apksigner.
Preparing to unpack .../apksigner_35.0.2-1_all.deb ...
Unpacking apksigner (35.0.2-1) ...
Setting up libapksig-java (35.0.2-1) ...
Setting up apksigner (35.0.2-1) ...
Processing triggers for kali-menu (2025.1.1) ...
Processing triggers for man-db (2.13.0-1) ...
```



```
(kali㉿kali)-[~/Desktop]
$ apksigner sign -ks my-release-key.keystore beta.apk
Keystore password for signer #1:

(kali㉿kali)-[~/Desktop]
$
```

Conclusion :-

Signing an APK with apksigner is a crucial step to ensure your Android application is recognized as trustworthy and installable. It authenticates the source of the app and protects it from tampering. By generating a keystore and using apksigner, developers can securely distribute their apps to users or publish them to the Play Store. Always keep your keystore and credentials safe, as they're essential for updating and maintaining your app.