Becoming a Pro

IN Mobile Applications Testing

Overview: *Mobile APPS*

- **Categories**
- Types
- Distribution/Installation/Logs
- Mobile Test Industry Standards
- Remote Device Access (RDA)
- Emulators
- Simulators
- Troubleshooting Guide
- App Risk Analysis

MOBILE APPS: Categories

Utilities

Entertainment

Games

News

Productivity

Lifestyle

Social Networking

MOBILE APPS: Utilities

Calculators

Note-pads

Communi-cation. apps

Weather apps

MOBILE APPS: Entertainment

Face Juggler

Ice Effex

Duolingo

DubSmash

MOBILE APPS: Games

Angry Birds

Sudoku

Trivia Crack

Candy Crash Saga

MOBILE APPS: NEWS

The NYT app

Buzzfeed

Flipboard

Reddit

MOBILE APPS: Productivity

Finance apps

Calendars

Translators

Grocery list makers

MOBILE APPS: Lifestyle

Music apps

Travel Apps

Food & Drink apps

Dating apps

MOBILE APPS: Social Networking

Facebook

Circles

Path

Instagram

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MOBILE APPS: Types

Tree basic types of "app“

Native

Built specifically to the needs of the various operating systems such as Apple's iOS or Android

Web

Websites built using HTML that are designed specifically for smaller screens

Hybrid

Native app shell with feeds from the website

MOBILE APPS: Native APP

Written using the default language for the mobile platform, which is Objective C or Swift for iOS and Java for Android.

Compiled and executed directly on the device.

Using the platform SDK (API), the app can communicate with the platform to access device data or load data from an external website using http requests.

MOBILE APPS: Native APP

PROS	CONS
Native APIs	Language requirements
Performance	Not cross platform
Same environment	High level of effort

MOBILE APPS: WEB APP

Mobile websites are applications that work well on a mobile device, but are accessed through the mobile browser.

These websites viewed on a mobile device in a mobile browser, with the exception of being designed to fit a mobile device screen size.

Responsive web design can be used to make a web application - whether a conventional web site or a single-page application viewable on small screens and work well with touchscreens.

MOBILE APPS: WEB APP

PROS

- Maintainability
- No installation.
- Cross platform.

CONS

- No native access
- Requires keyboard to load
- Limited user interface.

MOBILE APPS: HYBRID APP

A hybrid app is one that combines elements of both native and Web applications

Hybrid apps are often mentioned in the context of mobile computing

For the most part, hybrid apps provide the best of both worlds

MOBILE APPS: HYBRID APP

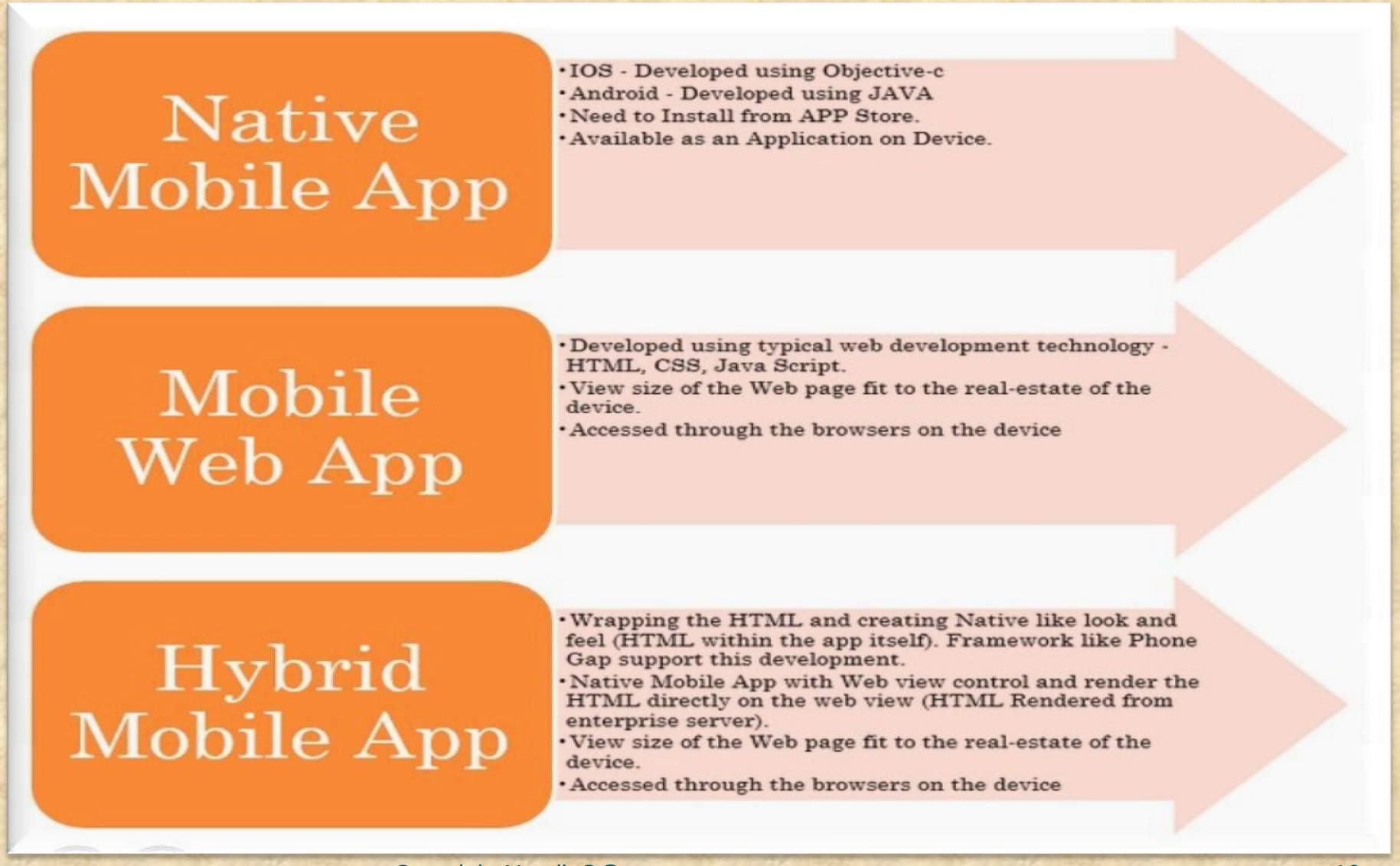
PROS

- Cross platform
- Same skills as web development
- Access to device
- Ease of development

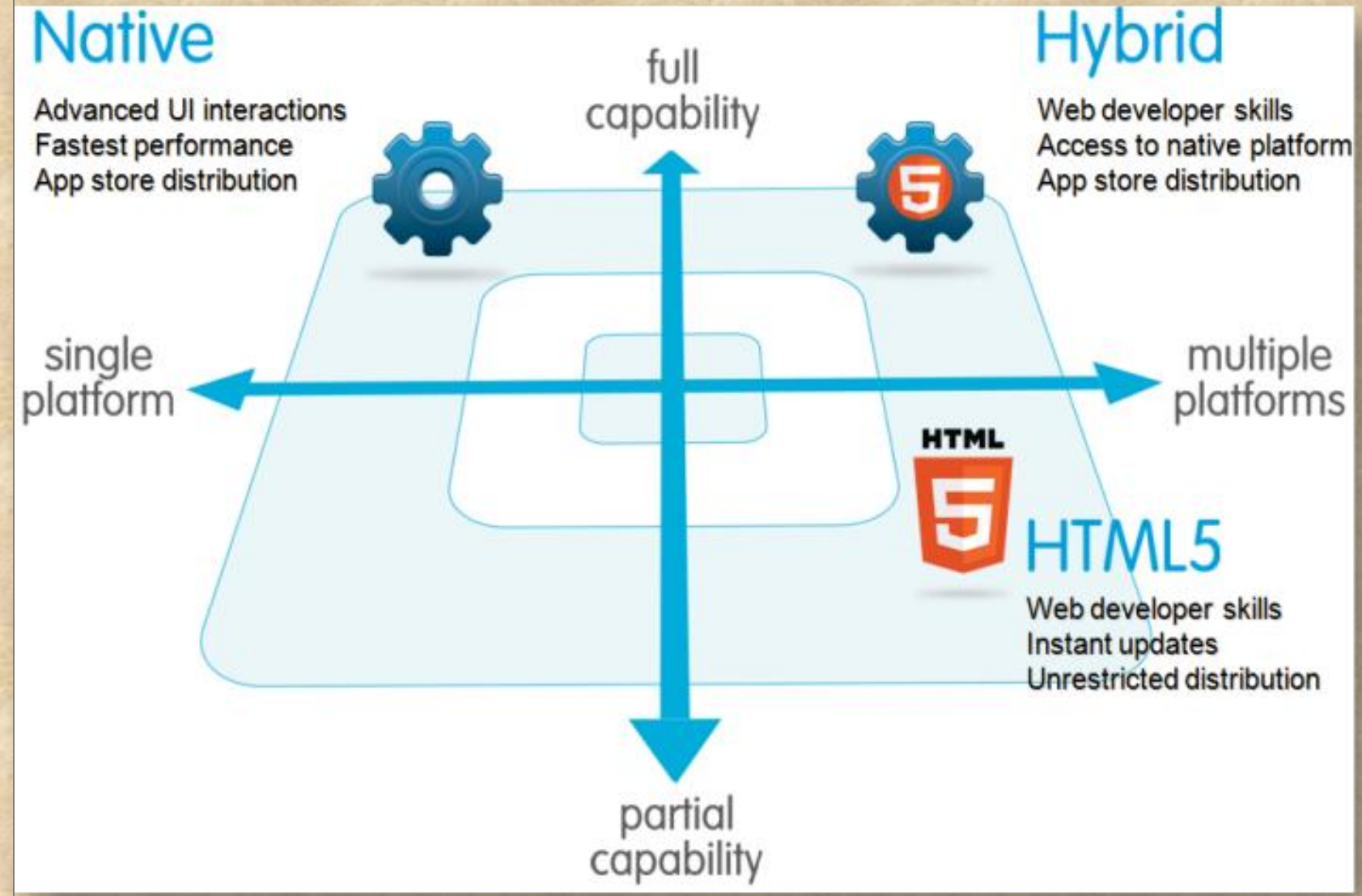
CONS

- Web view limitations
- Native via plugins
- No native user interface controls
- Experienced developers

MOBILE APPS: SUMMARY



MOBILE APP types COMPARISSON



Mobile APPS : Conclusion

LIST	Native	HTML5	Hybrid
App Features			
Graphics	*Native APIs*	*HTML, Canvas, SVG*	*HTML, Canvas, SVG*
Performance	*Fast*	*Slow*	*Slow*
Native look and feel	*Native*	*Emulated*	*Emulated*
Distribution	*Appstore*	*Web*	*Appstore*
Device Access			
Camera	*Yes*	*No*	*Yes*
Notifications	*Yes*	*No*	*Yes*
Contacts, calendar	*Yes*	*No*	*Yes*
Offline storage	*Secure file storage*	*Shared SQL*	*Secure file system, shared SQL*
Geolocation	*Yes*	*Yes*	*Yes*
Gestures			
Swipe	*Yes*	*Yes*	*Yes*
Pinch, spread	*Yes*	*No*	*Yes*
Connectivity	*Online and offline*	*Mostly online*	*Online and offline*

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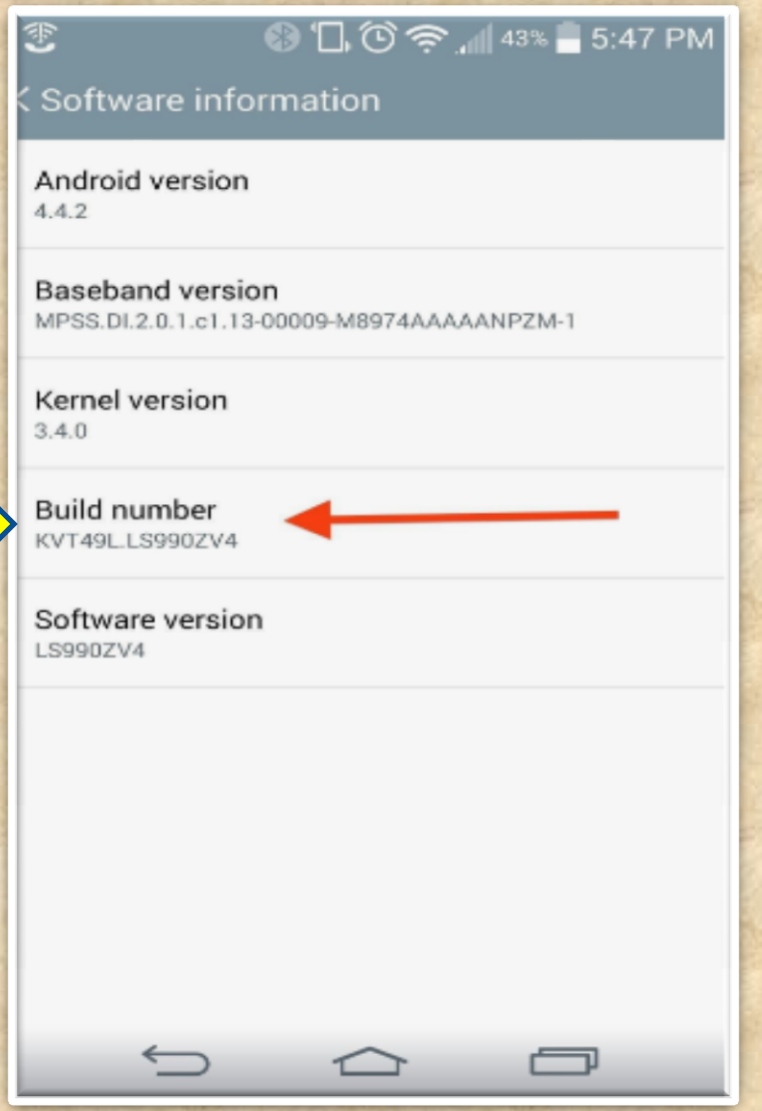
Mobile APPS: Distribution/Installation/Logs

How to enable Developers Options ?

1. Enable **USB debugging** in the device system settings, under **Developer options**.

2. To make it visible, go to **Settings > About phone** and tap **Build number seven times.**

3. Return to the previous screen to find **Developer options** at the bottom.



Mobile APPS: Distribution/Installation/Logs

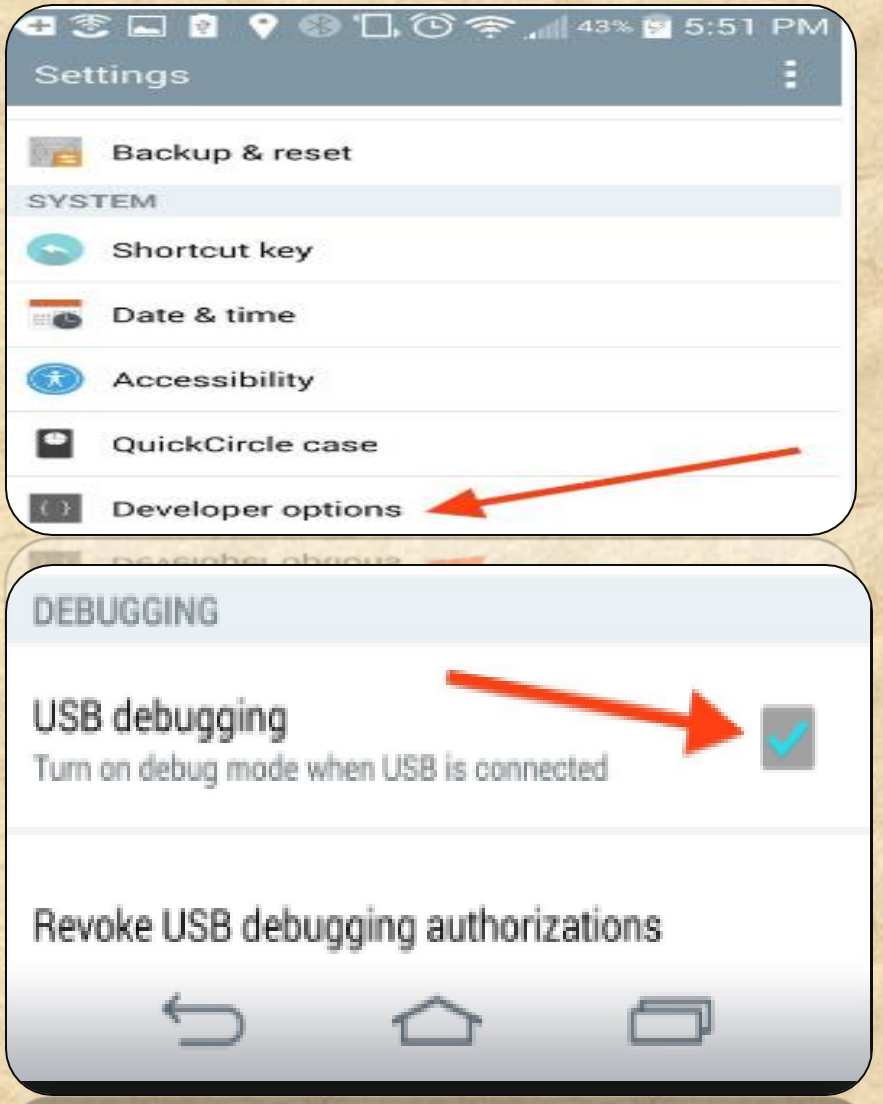
(contin.)How to enable Developers Options ?

Open Developers Options

Check the box **USB debugging**.

This setting will allow you to connect your device to your computer, then issue fastboot commands via ADB.

This is useful for rooting, unlocking bootloaders, installing recoveries, and a ton more.



Mobile APPS: Distribution/Installation/Logs

Mobile APPS: Distribution/Installation/Logs

What is ADB in Android Studio

Android Debug Bridge (adb) is a versatile command line tool that lets you communicate with an emulator instance or connected Android-powered device.

It is a client-server program that includes three components:

- **A client**, which sends commands. The client runs on your development machine. You can invoke a client from a shell by issuing an adb command. Other Android tools such as DDMS also create adb clients.
- **A daemon**, which runs commands on a device. The daemon runs as a background process on each emulator or device instance.
- **A server**, which manages communication between the client and the daemon. The server runs as a background process on your development machine.

Mobile APPS: Distribution/Installation/Logs

What is ADB LOCATS?

Logcat is a command-line tool that dumps a log of system messages, including stack traces when the device throws an error and messages that you have written from your app with the Log class

ANDROID MONITOR includes a logcat Monitor that displays debug messages.

The logcat Monitor displays system messages, such as when a garbage collection occurs, as well as messages that you can add to your app using the LOG class.

It displays messages in real time and also keeps a history so you can view older messages.

Mobile APPS: Distribution/Installation/Logs

What is ADB LOCATS?

To set a LOG LEVEL : in the log level MENU Select the Following Options

- Verbose - Show all log messages (the default).
- Debug - Show debug log messages that are useful during development only, as well as the message levels lower in this list.
- Info - Show expected log messages for regular usage, as well as the message levels lower in this list.
- Warn - Show possible issues that are not yet errors, as well as the message levels lower in this list.
- Error - Show issues that have caused errors, as well as the message level lower in this list.
- Assert - Show issues that the developer expects should never happen.

Mobile APPS: Distribution/Installation/Logs

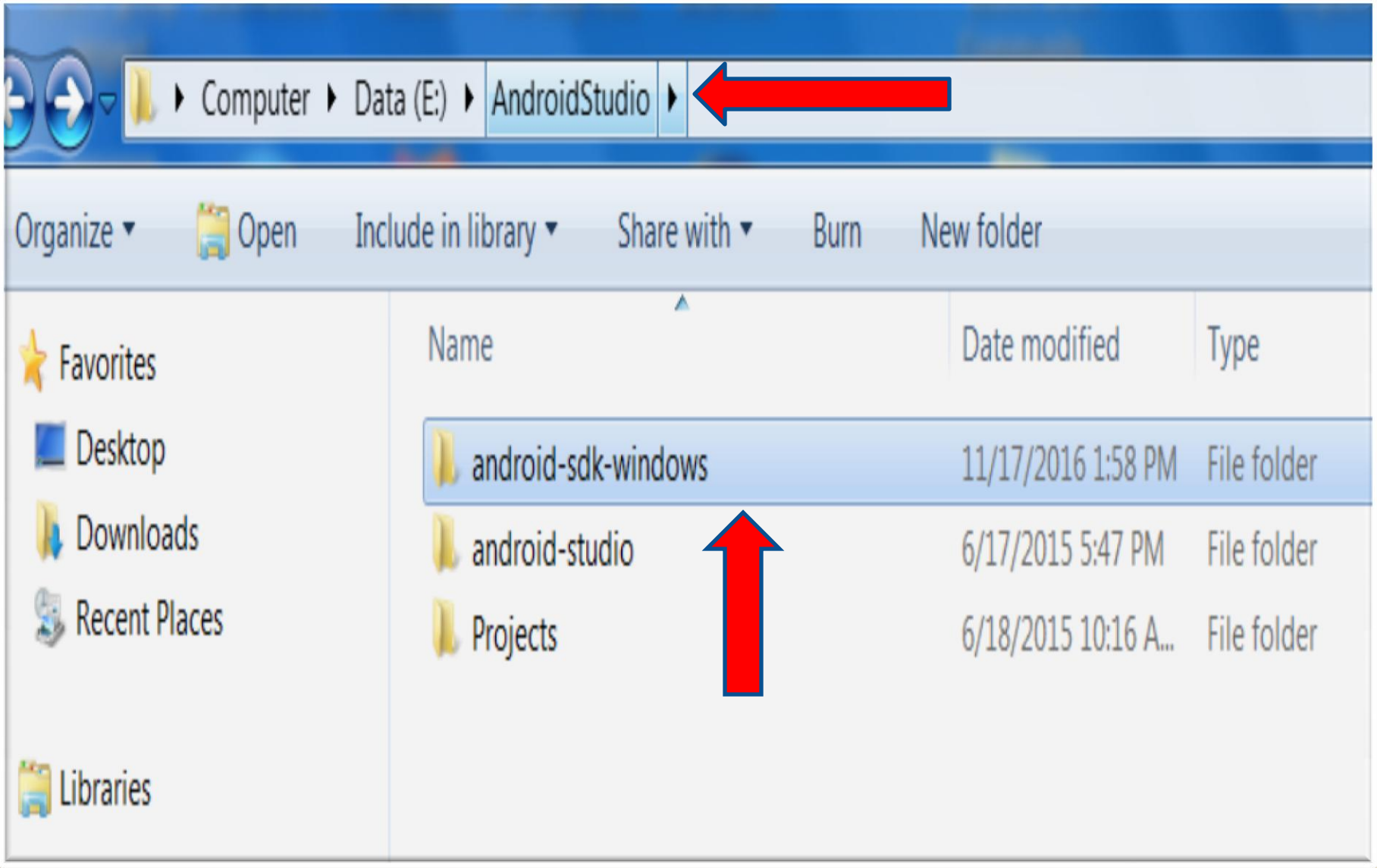
What is ADB LOCATS?

HOMEWORK : http://adbshell.com/commands/adb-logcat

Some most useful commands

- adb logcat *:V *lowest priority, filter to only show Verbose level*
- adb logcat *:D *filter to only show Debug level*
- adb logcat *:I *filter to only show Info level*
- adb logcat *:W *filter to only show Warning level*
- adb logcat *:E *filter to only show Error level*
- adb logcat *:F *filter to only show Fatal level*
- adb logcat *:T *filter to show steps leading up to errors and warnings*

Mobile APPS: Distribution/Installation/Logs



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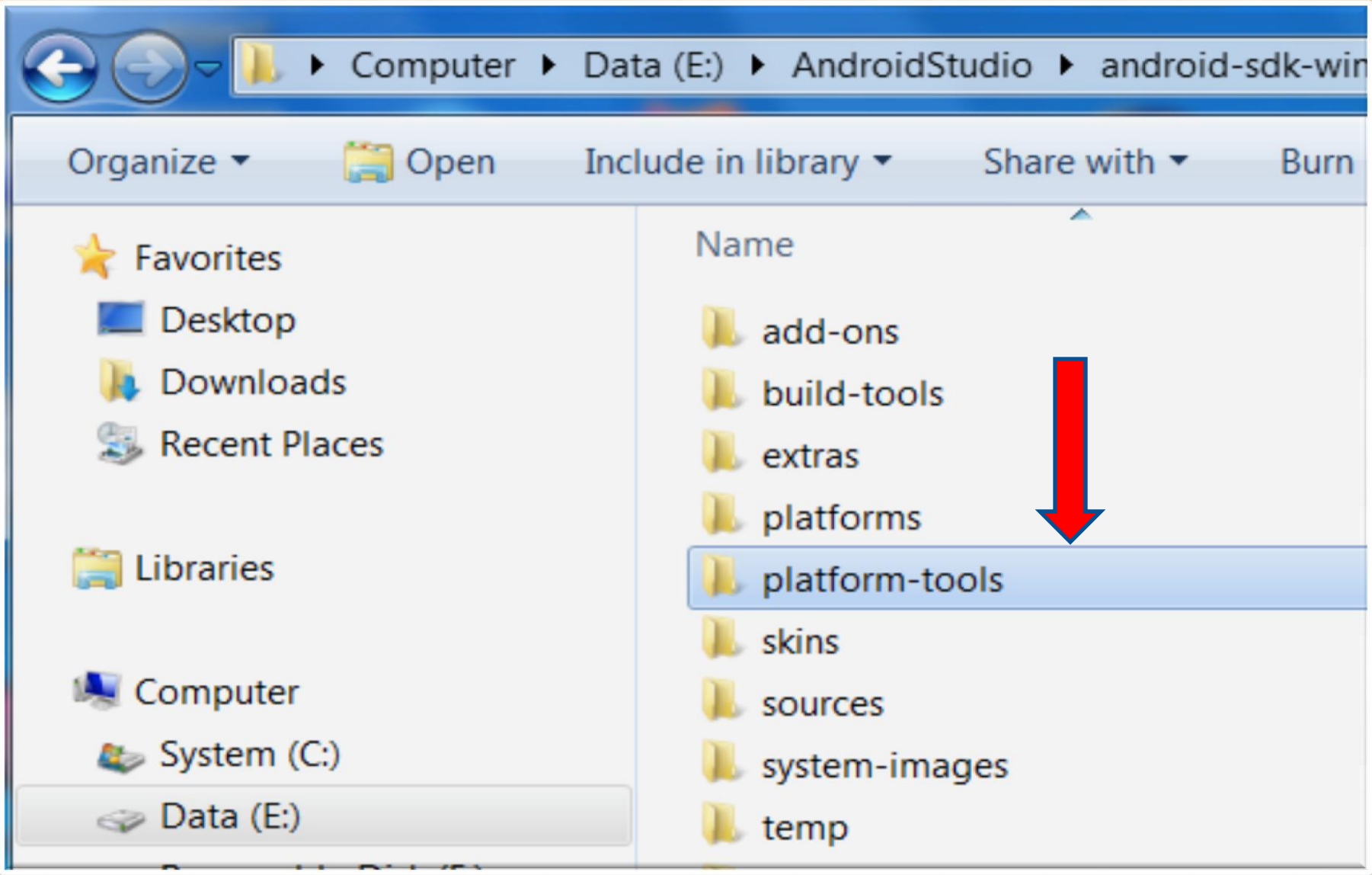

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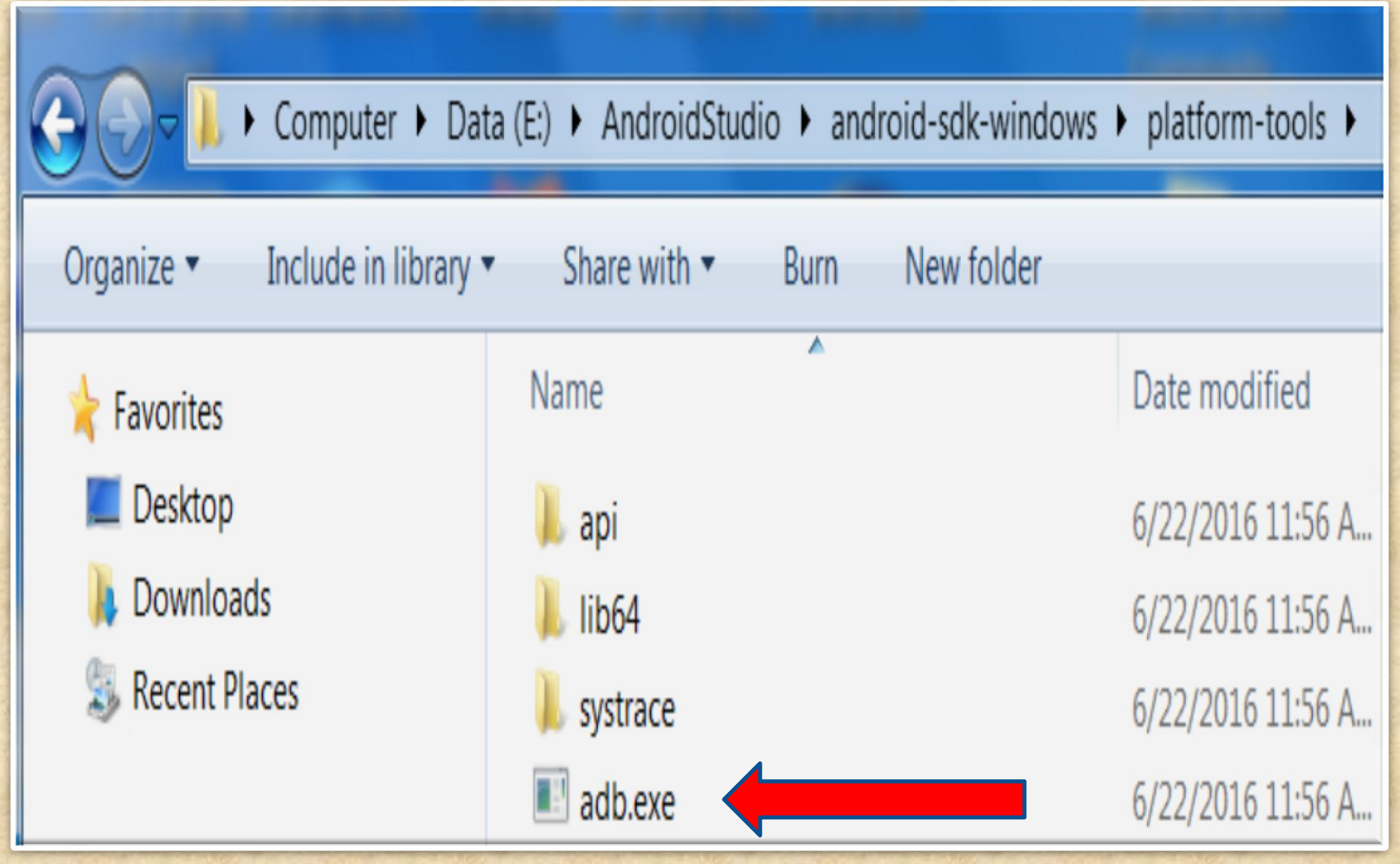

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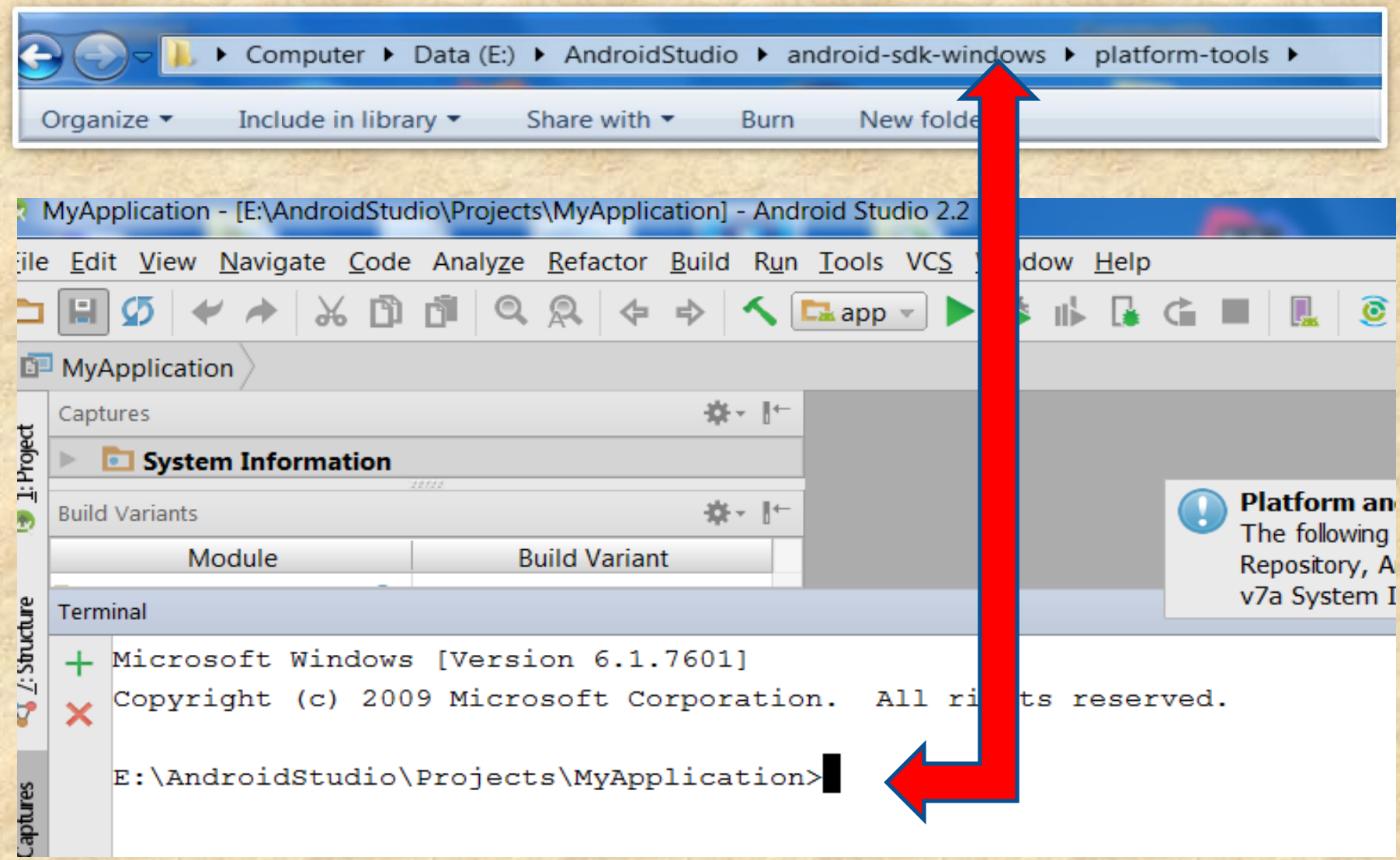

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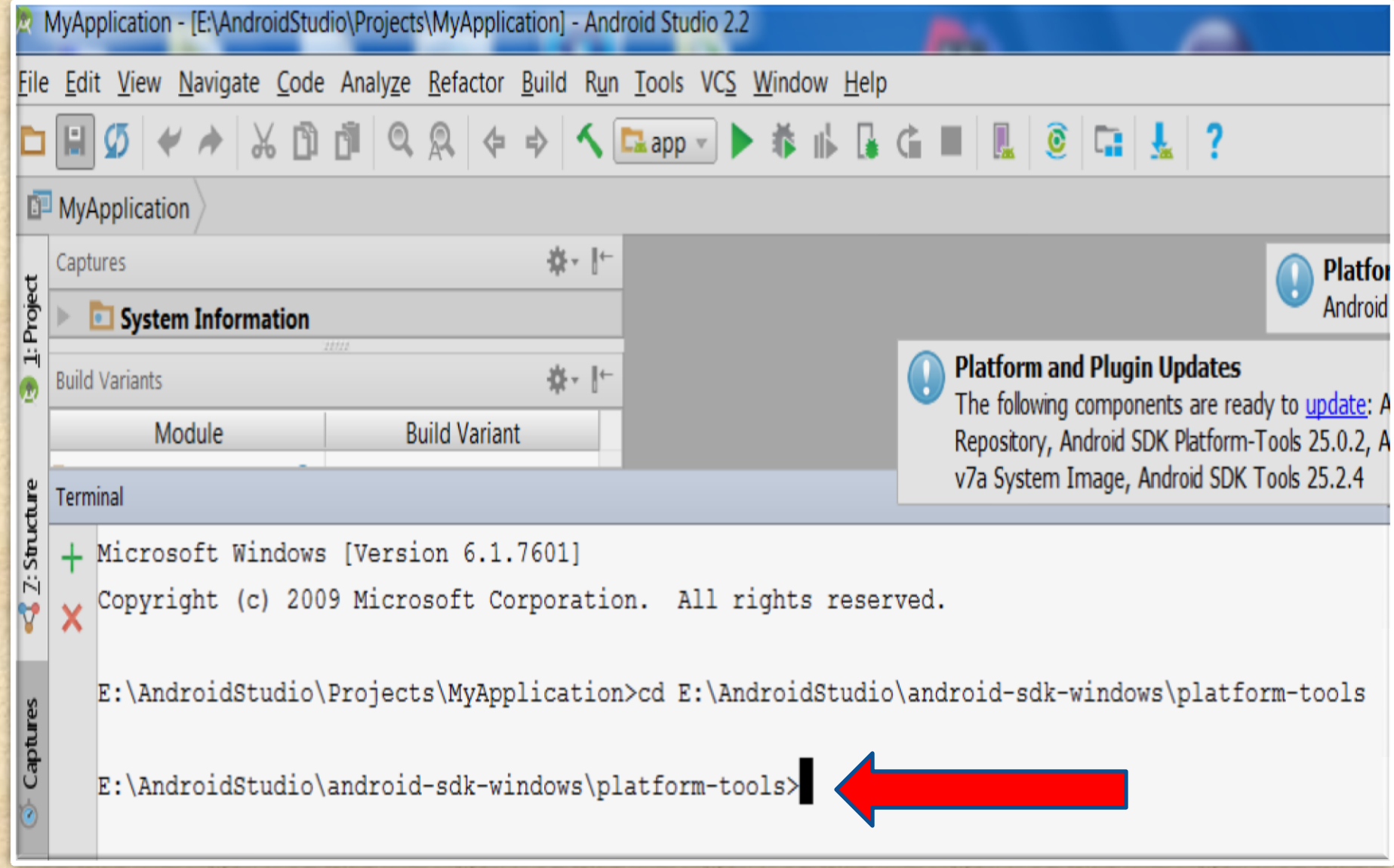

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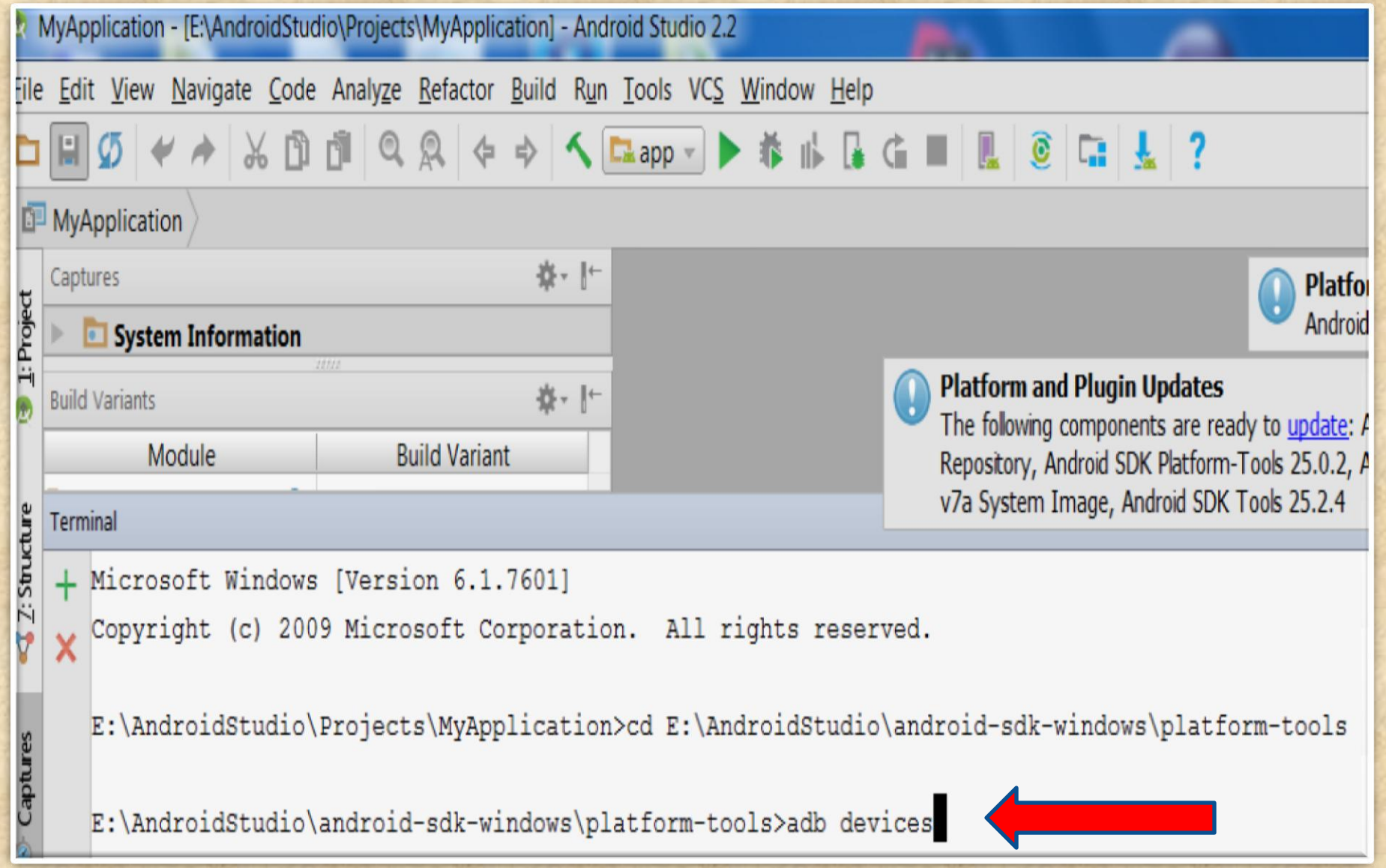

Mobile APPS: Distribution/Installation/Logs