



# Overview: Mobile APPS

➤ Categories

➤ Types

➤ Distribution/Installation/Logs

➤ Mobile Test Industry Standards

➤ Remote Device Access (RDA)

➤ Emulators

➤ **Simulators**

➤ Troubleshooting Guide

➤ App Risk Analysis

# Simulators : MOBILE

Mobile Simulator is a software application for a personal computer which creates a virtual machine version of a mobile device, such as a mobile phone, iPhone, other smartphone, or calculator, on the computer.

The mobile simulator allows the user to use features and run applications on the virtual mobile on their computer as though it was the actual mobile device.

A mobile simulator lets you test a website and determine how well it performs on various types of mobile devices.

A good simulator tests mobile content quickly on multiple browsers and emulates several device profiles simultaneously.

This allows analysis of mobile content in real-time, locate errors in code, view rendering in an environment that simulates the mobile browser, and optimize the site for performance.

Mobile simulators may be developed using programming languages such as Java and .NET



A **SIMULATOR** sets up a similar environment to the original device's OS, but doesn't attempt to simulate the real device's hardware.

Some programs may run a little differently, and it may require other changes (like that the program be compiled for the computer's CPU instead of the device's), but it's a close enough match that you can do most of your development against the simulator.

# Simulators Pros and Cons



1. Study the behavior of a system without building it.

2. Results are accurate in general, compared to analytical model.

3. Help to find un-expected phenomenon, behavior of the system.

4. Easy to perform 'What-If' analysis.

1. No support for placing or receiving actual phone calls.

You can simulate phone calls through the emulator console, however.

2. No support for USB connections

3. No support for camera/video capture (input).

4. No support for determining connected state

5. No support for Bluetooth

6. No support for actual GPS

7. No support for Accelerometer feature used in Gaming applications

# SIMULATORS vs EMULATOR

Functionality	Emulator	Simulator
What it mimics ?	Mobile device software Mobile device hardware Mobile operating system	Internal behavior of the device. It does not mimic hardware.
How to get it ?	It is generally provided by the device manufacturer.	It is generally provided by the device manufacturer or some other company.
Internal structure	It is written in machine-level assembly language.	It is written in high-level language.
Debugging	It is more suitable for debugging.	It is not suitable for debugging purpose.
Performance	Emulators are really slow. Emulating the actual hardware usually makes the software run slower than it would natively.	Faster than emulators.
Example	Google's Android SDK	Apple's iOS Simulator

# **SIMULATORS vs EMULATOR vs Real Device SUMMARY**

<b>Functionality</b>	<b>Real Device</b>	<b>Emulator / Simulator</b>
<b>Price</b>	Getting real devices will cost you a lot.	It is almost free, we just need to download and install them
<b>Processing Speed</b>	It has faster processing; however network latency may be normal.	It is slower as compared to actual devices. It has observed less latency than real devices connected to the local network or in the cloud.
<b>Debugging</b>	Debugging is not that easy.	It provides step-by-step debugging of an application. Also, it provides an efficient way for capturing screenshots.
<b>Web-app Testing</b>	Web applications can be tested in a normal way.	Testing a web application is much easier.
<b>Reliability</b>	Testing on a real device has a major advantage that it always gives accurate results.	It cannot simulate all types of user interactions; hence it may lead to false results sometimes. So it scores low when it comes to reliability.

# **SIMULATORS vs EMULATOR vs Real Device**

## **SUMMARY EXTRA “ADVANTAGES”**

<b>Issue</b>	<b>Emulator /Simulator Testing</b>	<b>Real Device Testing</b>
<b>Situation-based application</b>	There are specific situations where the deadline to produce text execution results are short and purchasing the required mobile devices may be not possible.	The real device allows the testers to test almost all the real time scenarios which can be tested for the mobile applications. These devices are operated using fingers and simulate real-life usage.
<b>Feeling of closeness towards the real handheld devices</b>	The wide gamut of mobile devices creates the problems, whereby the testers are not confident about which mobile devices to invest in.	The real device allows the testers to test even usability
<b>Ease of availability</b>	Emulator/simulator(s) are in most cases open and free software	The real devices allow stringent performance testing issues like working with a real time transport application for 15 hours continuously which cannot be successfully simulated by the emulators.
<b>Ease of opening an Web application through URL</b>	It is easier to do web application testing when it comes to opening the web application. The user just needs to copy and paste the application URL.	Testing on real devices provides more in terms of reliability.

# **SIMULATORS vs EMULATOR vs Real Device**

## **SUMMARY EXTRA "ADVANTAGES"**

<b>Issue</b>	<b>Emulator Testing</b>	<b>Real Device Testing</b>
Capturing screenshots of the situations where defects appear	Capturing issue of screenshots over simulator is very easy with the simulator since we just need to use Microsoft office facilities.	Testing with real world devices is very helpful in terms of interoperability testing.
Simulation of validation of battery scenarios	The emulator/simulators are not able to simulate the battery issues.	Real world devices can easily perform the same.
Validation of incoming interrupts	The emulator/simulators are not able to simulate the incoming interrupts for SMS as well as the incoming calls.	Real world devices can easily simulates incoming interrupts.
Validation of exact color displays	The emulator/simulator is not able to properly emulate/simulate the exact color display of the devices when the real device is in sunlight or in black.	Real world devices can easily simulates the exact color displays.
Validation of the performance	The performance of the emulator/simulator tends to be slower than the original devices at times.	The original devices tend to perform faster than the emulator or the simulators.
Simulating memory related issues	The memory available at the emulator/simulator tends to be far more than in the real devices	The memory storage level of the devices tend to be far less than the emulators thus it may

# **SIMULATORS vs EMULATOR vs Real Device**

## **SUMMARY EXTRA “DISADVANTAGES”**

<b>Emulator/Simulator Testing</b>	<b>Real Device Testing</b>
<p>The emulator/simulator is not always the best type of solution for scenarios such as the ones whereby the testing team needs to validate the performance of the application for a longer period of time.</p>	<p>The real devices are costly compared to the emulator/simulators. Thereby projects under budget and timeline constraints may risk profitability as well as the viability of the overall project.</p>
<p>The emulator/simulator is suitable mostly for certain types of functional test case executions.</p>	<p>There is a very wide variety of mobile devices from apple to Samsung to android and to Symbian and so on.</p>
<p>The emulator/simulator can some time not be supportive of certain types of application</p>	<p>Real Mobile devices when used in the developing stage for unit testing and similar purposes could turn out to be harder to connect to the IDE than the emulators</p>
<p>Not all the emulator/simulator supports the complete gamut of mobile applications.</p>	<p>In order to test with the real world devices, the devices need to be always connected to the USB port of the machines.</p>

# Simulators : iPhone

iPhone and iPad are popular devices from Apple. It has its own proprietary operating system, iOS. It's well known for its design and performance.

## ***Prerequisites:***

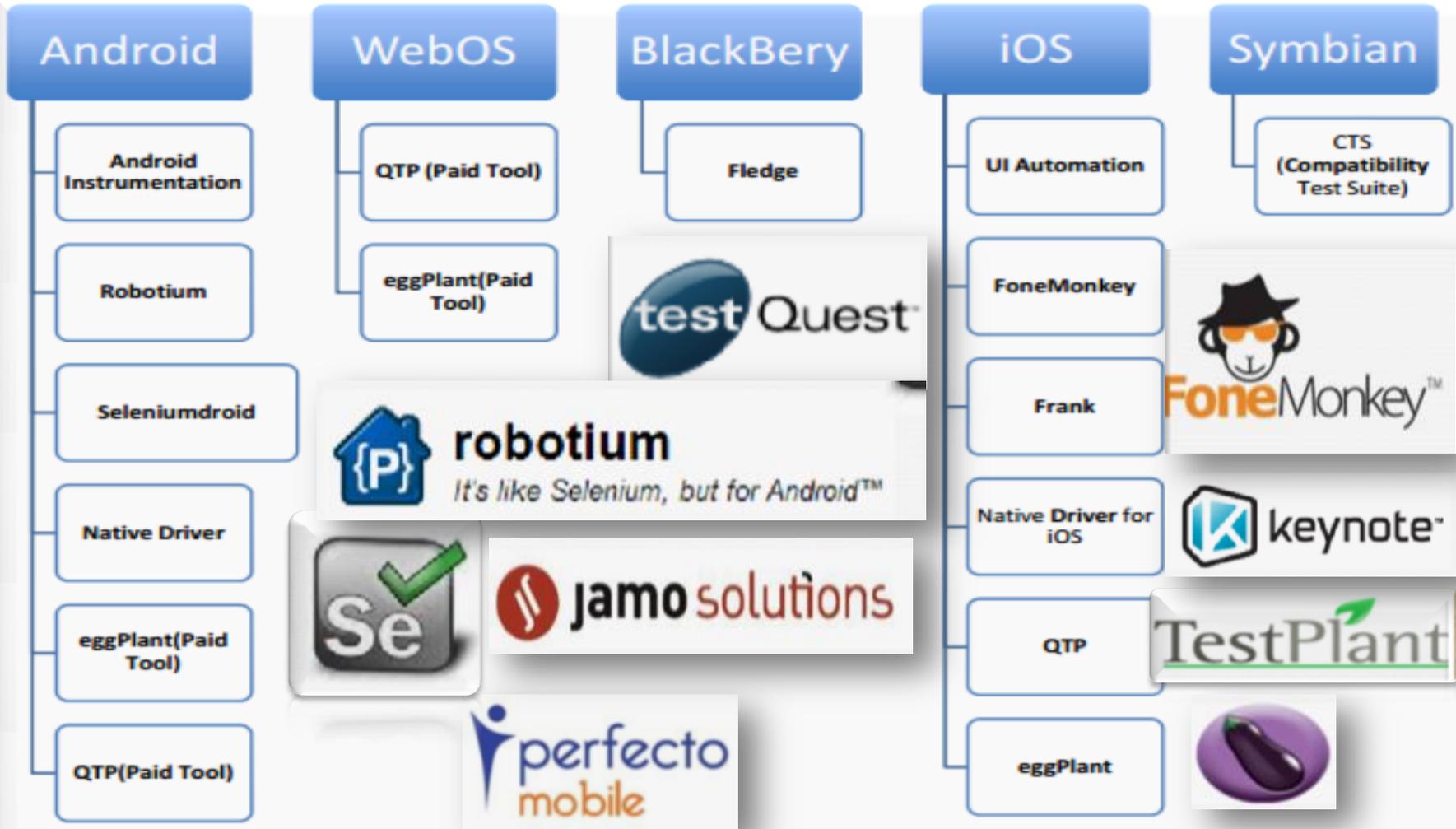
MAC Environment

## ***Getting Started:***

- Deploy Native app into iPhone Simulator using Xcode.
- Xcode - an integrated development environment that manages your application projects and lets to edit, compile, run, and debug code
- Once the native app is deployed, the app icon appears on simulator, thus aids to access the app directly from simulator
- Testing in UIAutomation can be done by both developer and tester, it requires knowledge of iPhone development.
- UIAutomation is the automation technique for iPhone.  
It uses JavaScript as test script to perform automation. This can be done both in device and simulator
- iPhone Simulator does not emulate an iPhone processor, disk drive, memory constraints

# Most Popular Mobile App Testing Tools

## Existing Mobile Platforms And Available Test Automation Tools





# Overview



**iOS**

**Android**

# ANDROID



**WHAT'S NEW** in Oreo 8.0 ( released Aug 21, 2017)

# ANDROID OREO 8.0



Zippy performance



Picture-in-picture is a great add-on



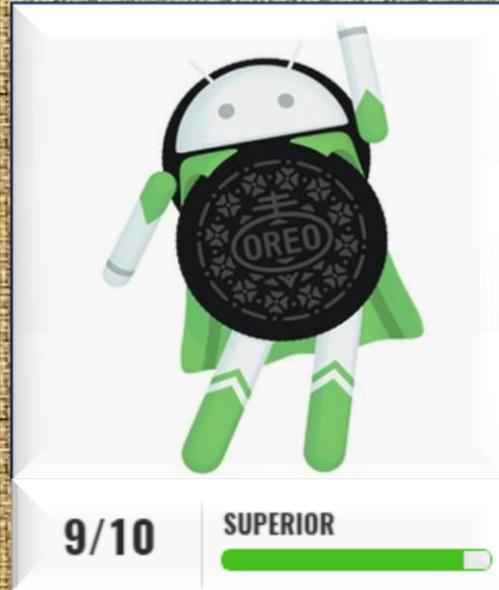
Smarter notifications



Cleaner settings menu



Performance improvements : much faster



Notification dots are annoying



Fragmentation remains an issue



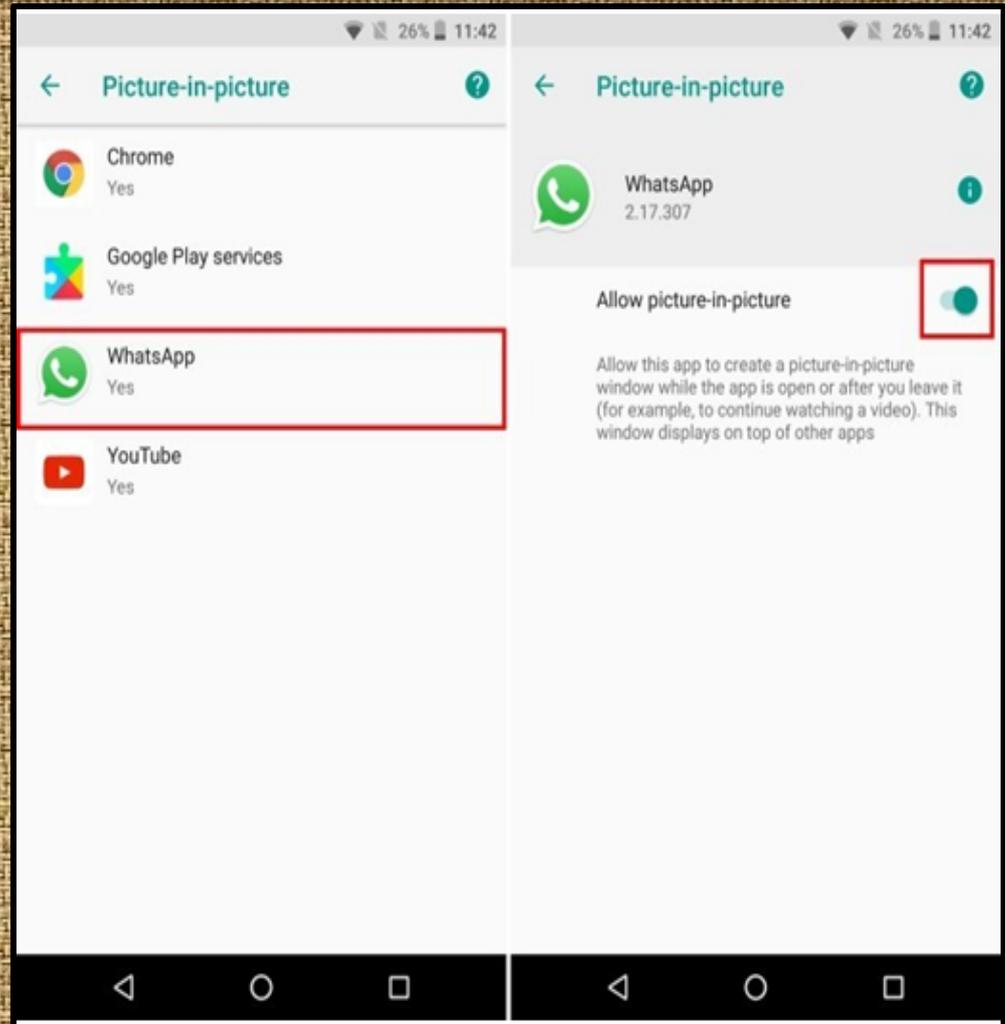
# ANDROID OREO 8.0

## 1. Picture in picture

You can move the video around the screen as you wish and then send the video away by pushing it to the bottom of the screen.

This feature will be especially welcome on tablets, so you can better use that extra screen real estate.

You can now use the **Picture-in-Picture** mode for the apps that you wish to



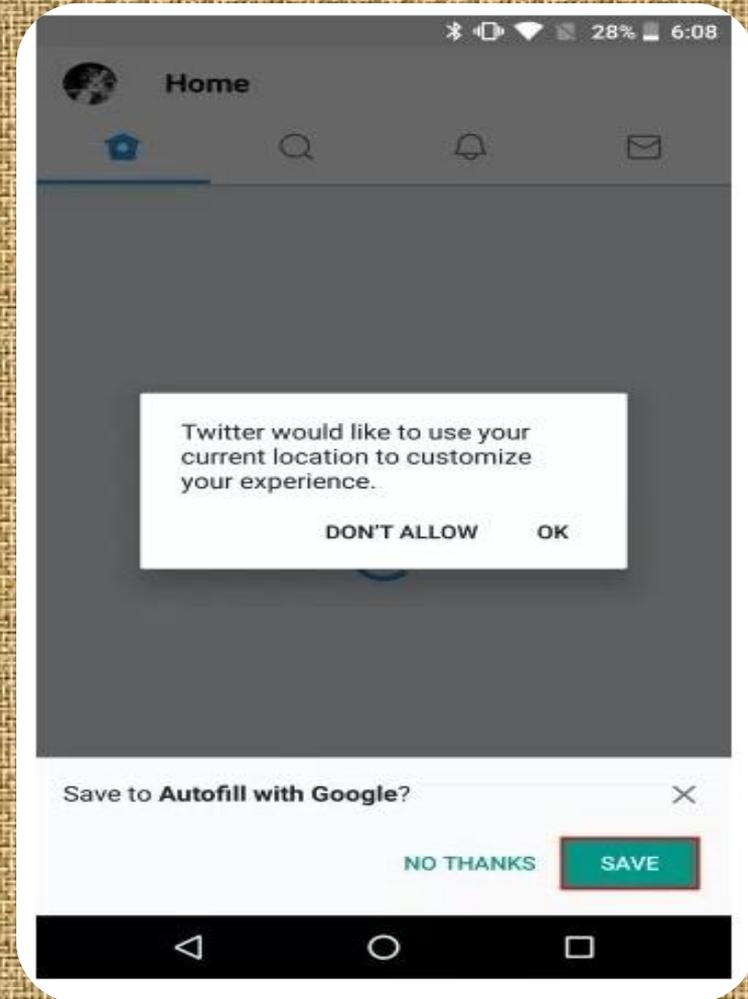
# ANDROID OREO 8.0

## 2. AutoFill Inside Apps

You may be familiar with Google Smart Lock, which saves your passwords when you log-in for the first time into a website.

It then presents the same credentials to you the next time that you wish to log-in to the website. This feature has been extended to work within apps as well.

Google will basically save your passwords and offer to easily input them directly the next time you try to log into an app.

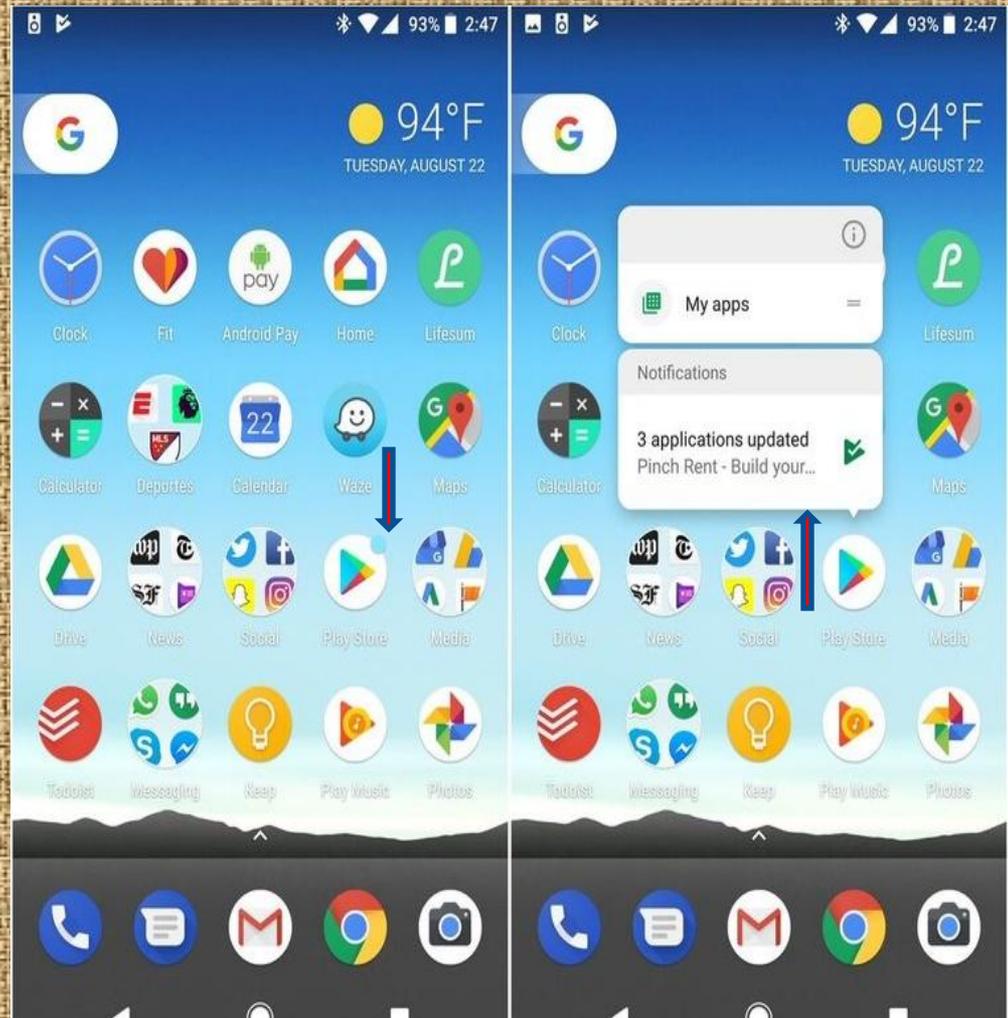


# ANDROID OREO 8.0

## 3. Notification Badges

When you have an app with a notification, you'll now see a colored dot at the top of the icon.

When you touch and hold the icon, you'll see the contents of the notification and be able to swipe it away.

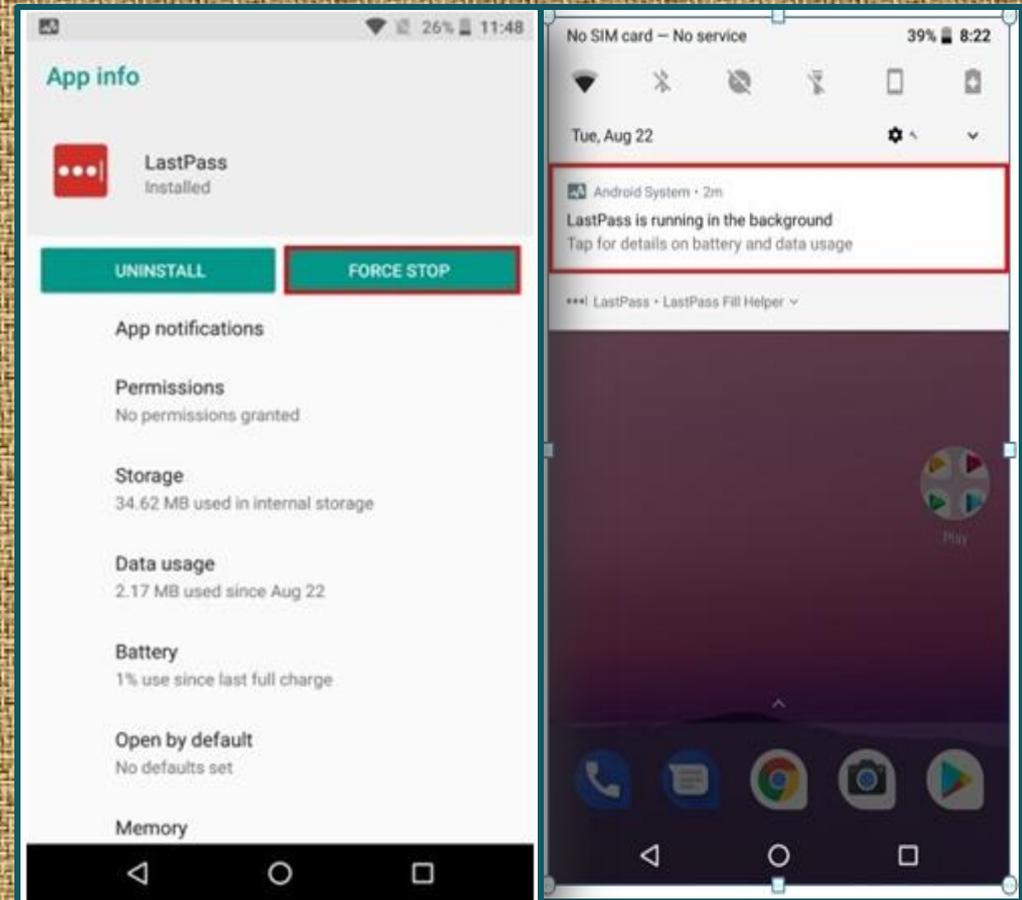


# ANDROID OREO 8.0

## 4. Control of APPs running in Background

While Android Oreo features tons of battery optimizations, it also gives the user control over what apps should one allow to run in the background.

Android Oreo shows the user what apps are currently running in the background, and allows force close them.



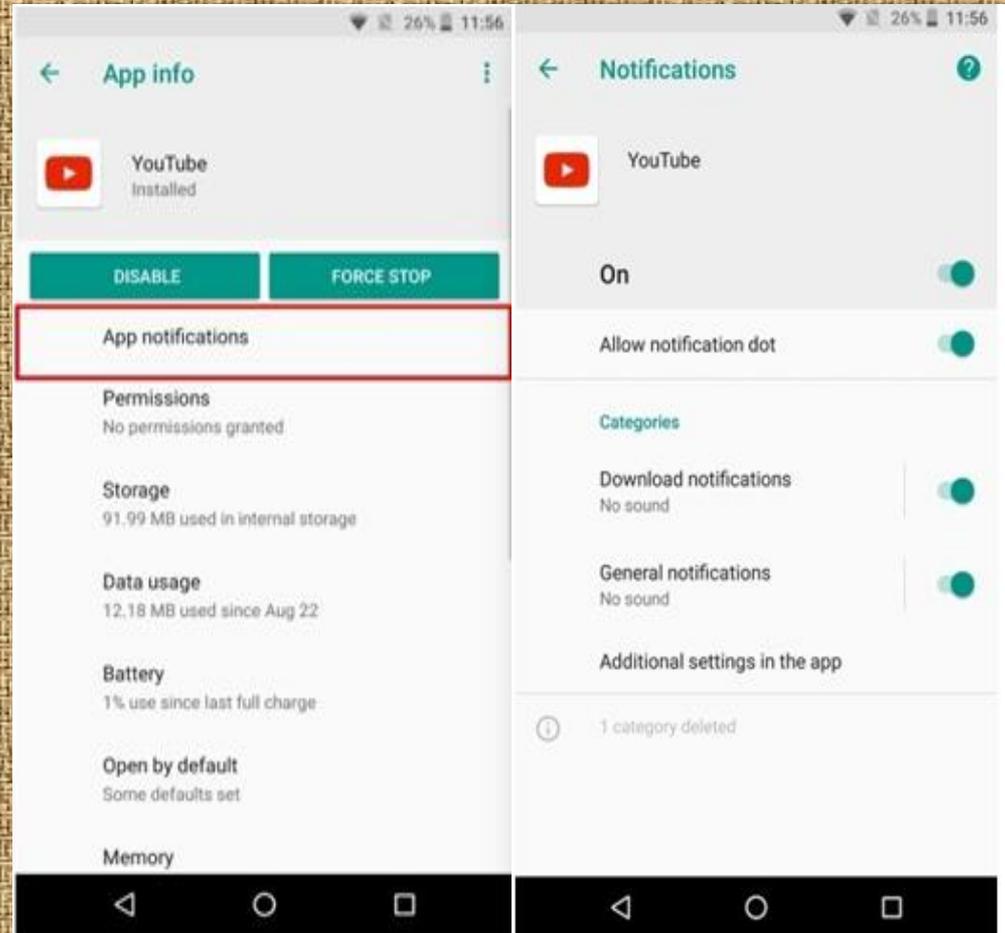
# ANDROID OREO 8.0

## 5. Filter Notifications

New feature, that is Notification Channels. Prior , notifications were set as one collective set, and the user had the option to either disable them entirely or bear them altogether.

In Oreo, the notifications are now divided into categories, based on their priority or functioning.

User can now easily disable one category of app notifications while keeping the other one enabled.

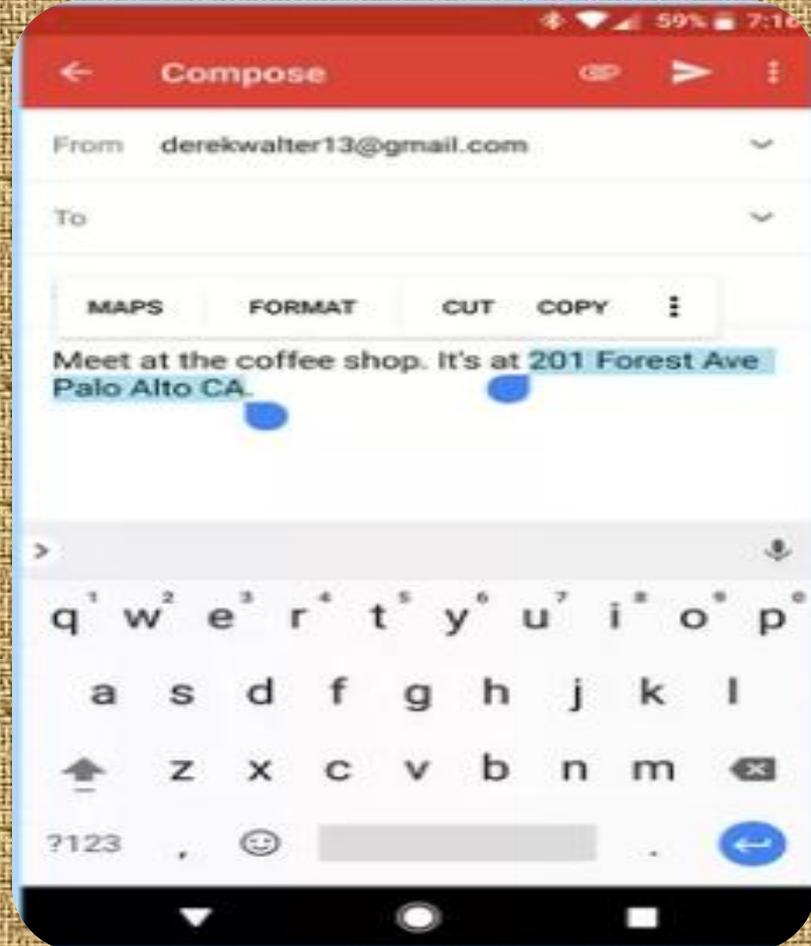


# ANDROID OREO 8.0

## 6. Smart Text Selection

When you highlight a piece of text, the device will offer specific actions based on the content.

**Example:** if you highlight an address you'll see a choice to open that location in Google Maps.



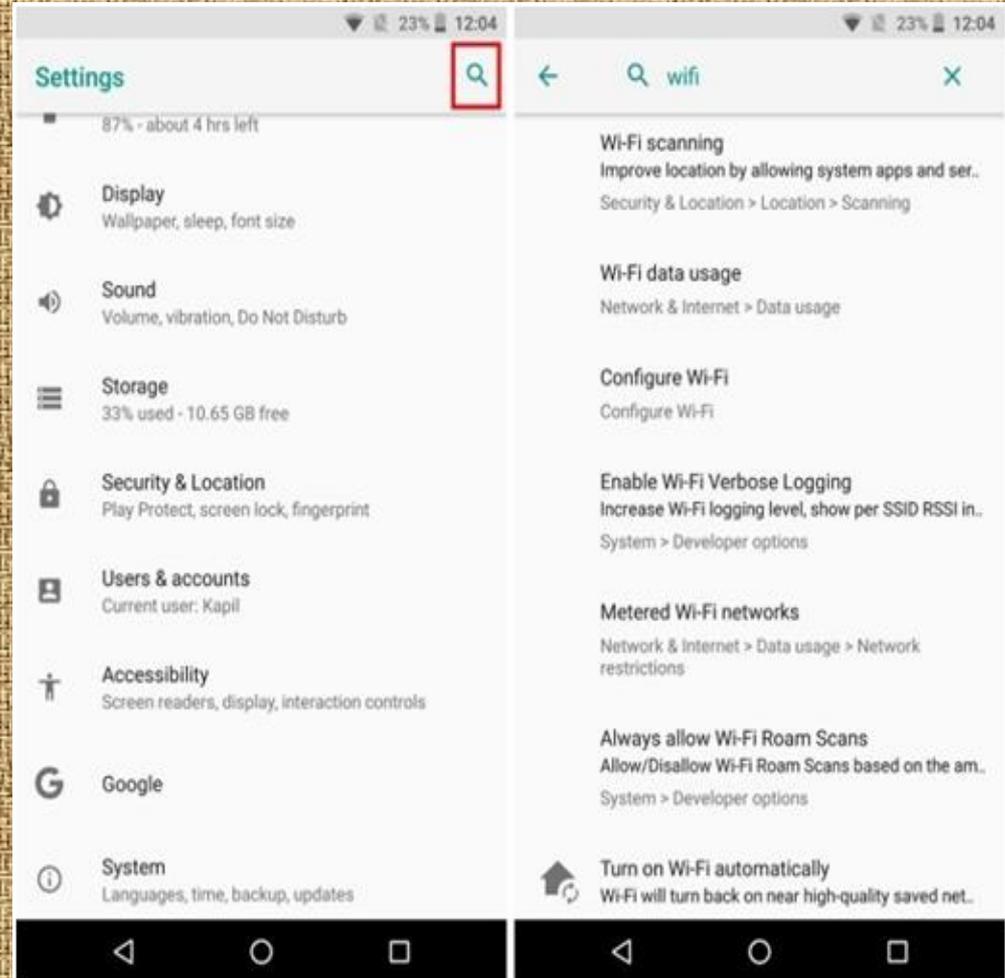
# ANDROID OREO 8.0

## 7. Settings Navigation

When Android Nougat debuted last year, it brought a redesigned settings menu that made it much easier to find your way around.

Different sections are categorized in a more straightforward manner.

There's also a search feature, which is often the best way to find what you need.



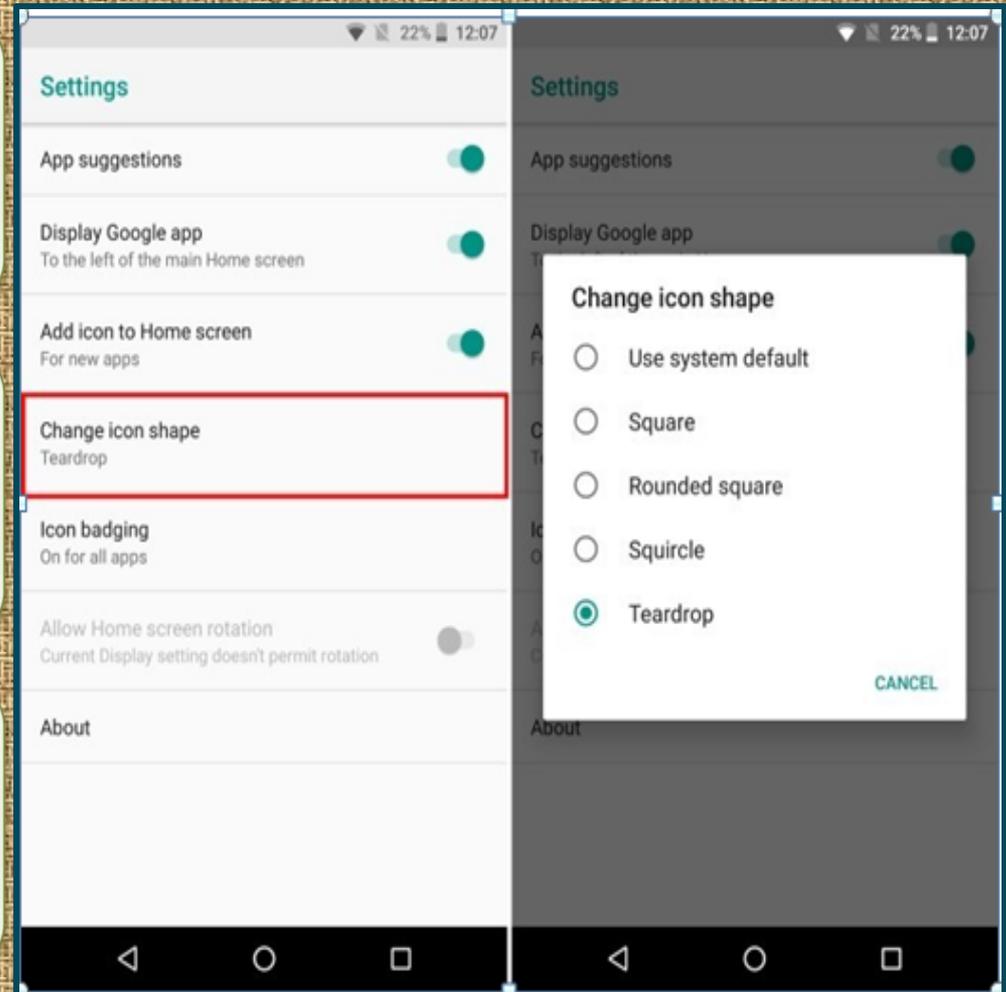
# ANDROID OREO 8.0

## 8. Icons Shape

While the Pixel Launcher is highly regarded as the stock and basic Android Launcher, when coupled with Android Oreo, it also allows the user to change the overall look of the app icons.

Tap on **“Change icon shape”** to continue.

Choose from **System default**, **Square**, **Rounded square**, **Squircle**, and **Teardrop**.



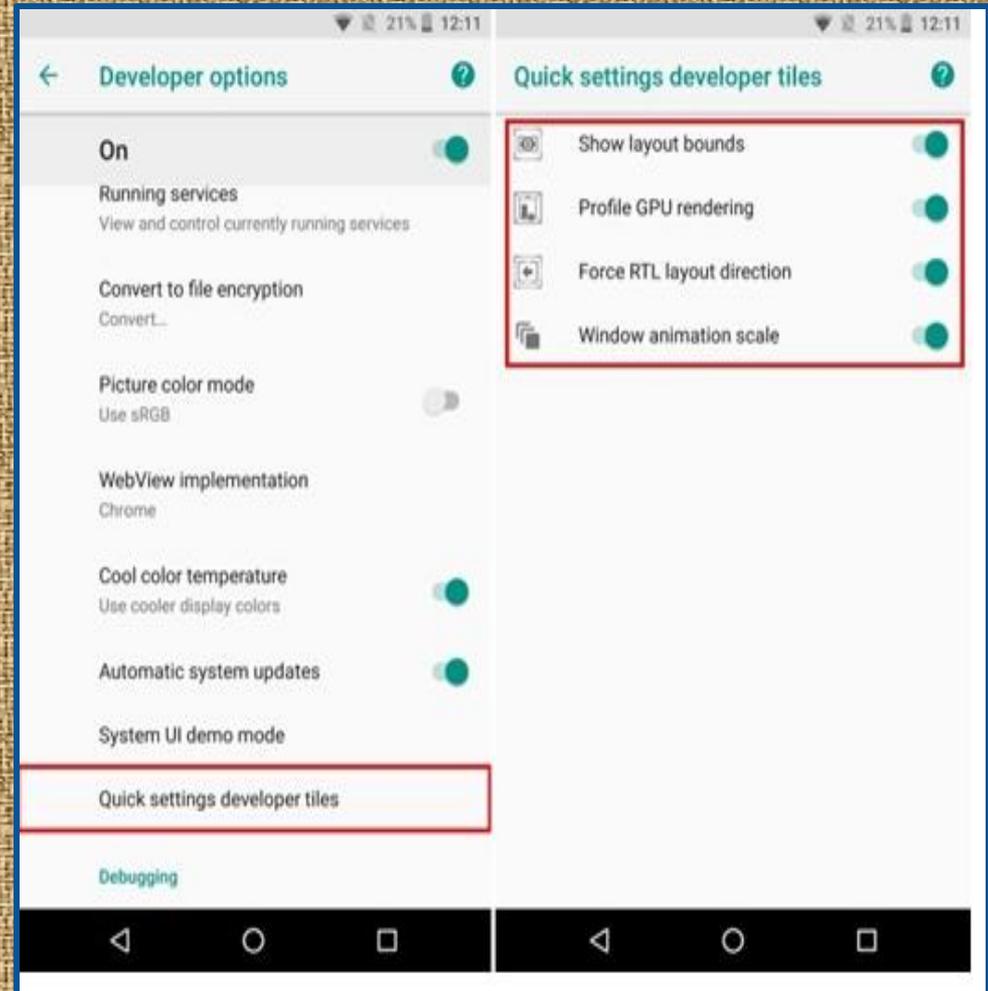
# ANDROID OREO 8.0

## 9. Developer Quick Settings

**Quick Settings** on Android allow for easy toggling and/or access to various functions of the system.

Previously it was disabled by default but now you may enjoy it.

Now, you can enable or disable various developer related tiles such as **“Show layout bounds, Profile GPU Rendering, Force RTL layout direction, and Window animation scale”**.



# ANDROID OREO 8.0

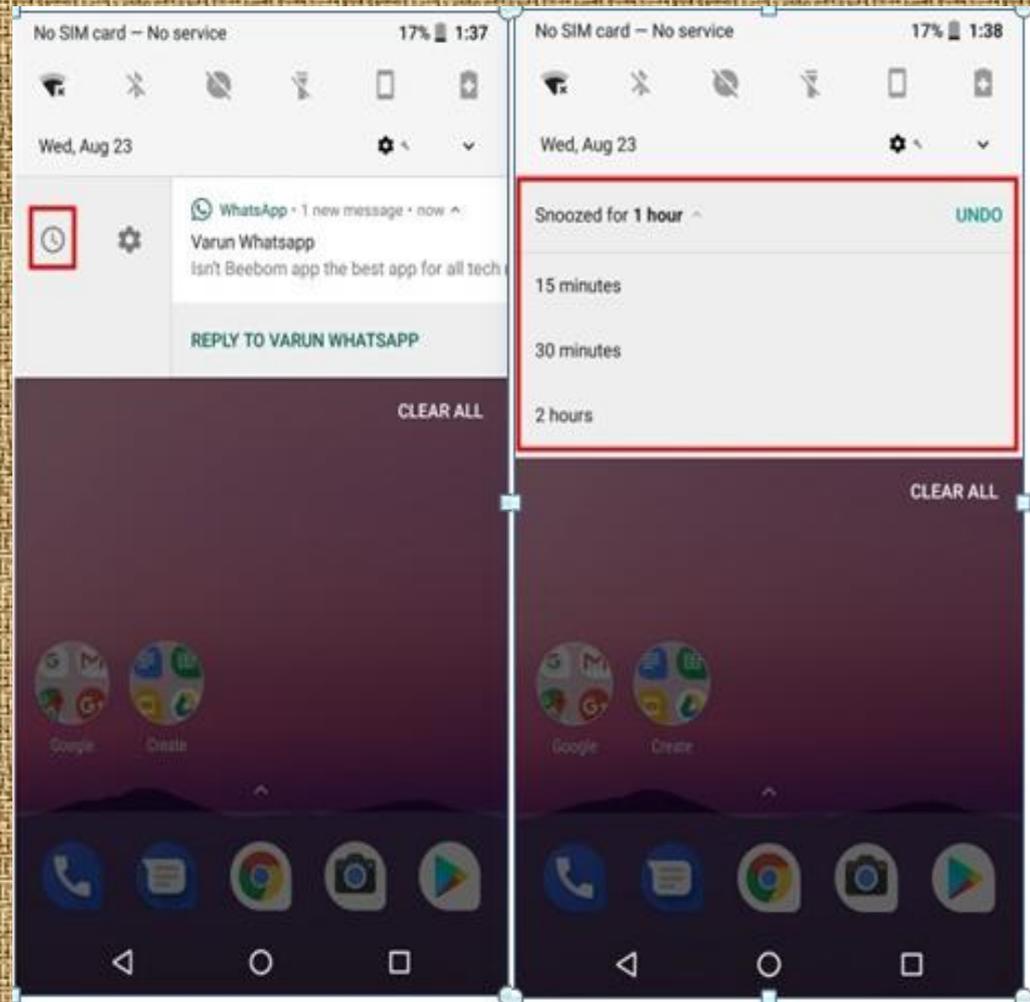
## 10. Snooze Notifications

Android notifications are great but there are times that it might come in the way of what you're currently doing.

You can simply snooze your notifications continue doing your work.

Once the timer runs out, you'll be presented with the same notification again.

Set it up to **15 min**, **30 min**, **1 hour** or **don't snooze**.



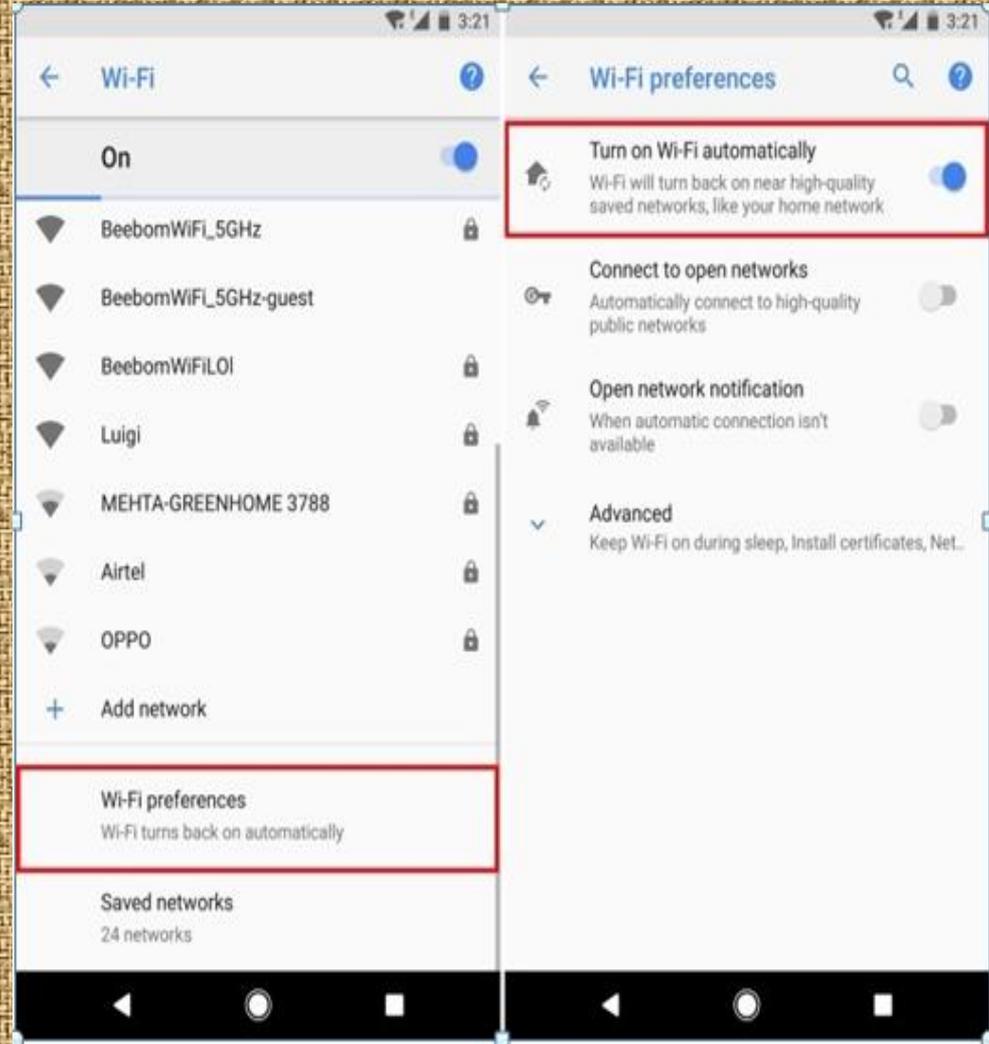
# ANDROID OREO 8.0

## 11. Smarter Wi-Fi

Android Oreo comes with the ability to automatically turn on **Wi-Fi** when you're in home or office, where there is a high-quality network available.

It comes as a nifty little feature that while conserving battery, also allows you to automatically switch to **high-speed networks**.

This is a smart feature that should save you some battery life and keep you from having to constantly turn on and off **Wi-Fi** on your phone.

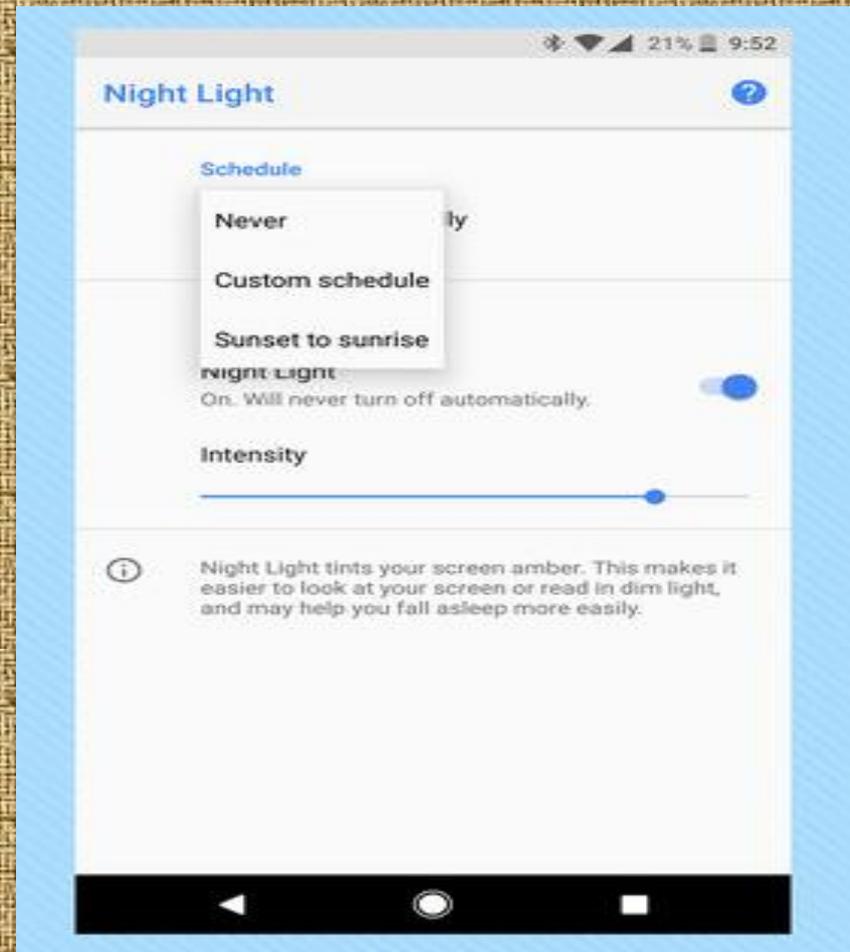


# ANDROID OREO 8.0

## 12.Nighttime Mode

The Night Light mode debuted in Nougat, but now it's better in Oreo, with a slider bar so you can change the hue of the light.

Just as with Nougat, you can schedule times for the Night Light to pop up so you don't keep yourself up for all hours of the night.



# iOS

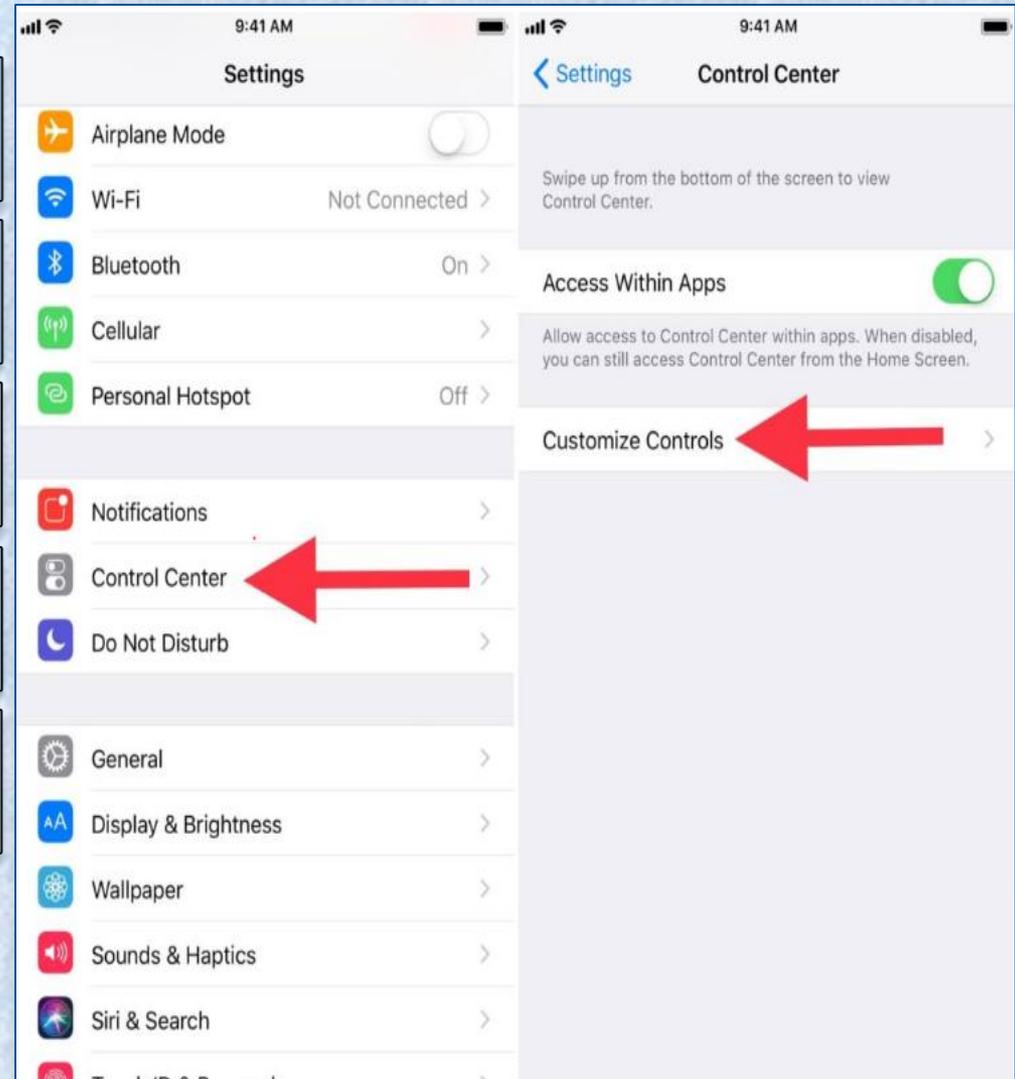
# 11

# Released 9/19/2017



iOS 11

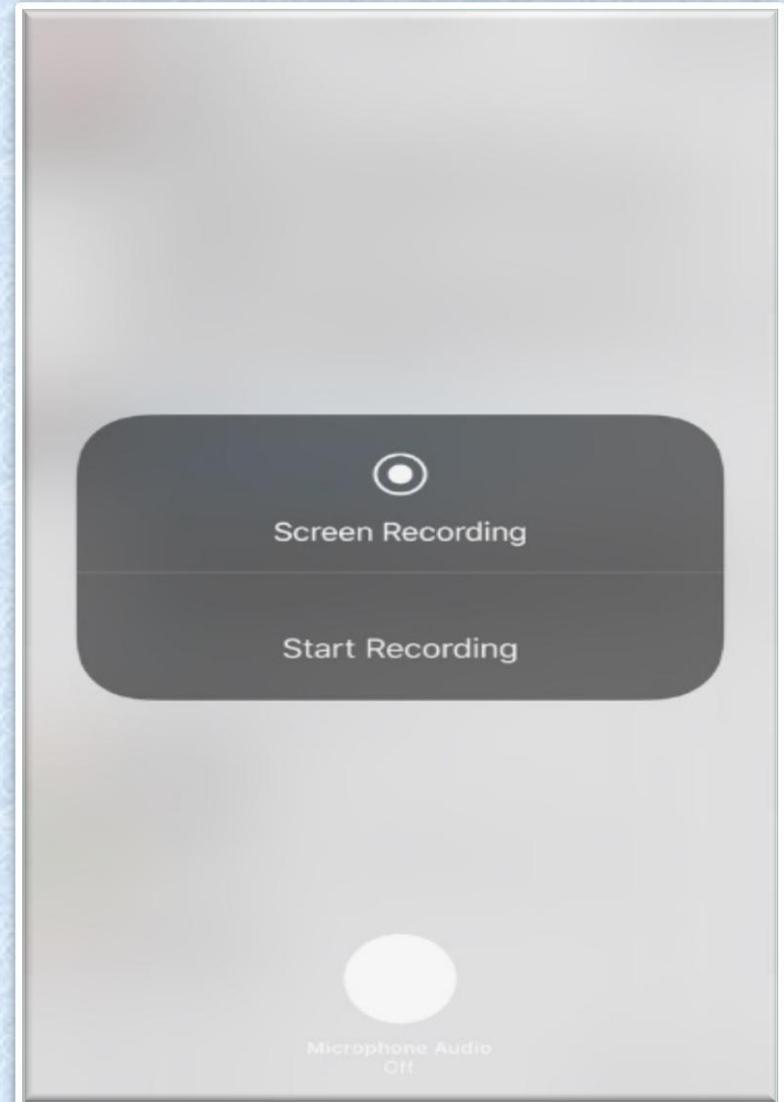
# 1. Customizing Control Center



iOS 11 allows you to record your display from the device itself with just the tap of a button from Control Center.

At one point, display recording was a jailbreak-only feature until Apple finally enabled the feature via macOS's QuickTime app.

Even so, this required having a Mac to capture your iPhone or iPad's screen via video, and it wasn't convenient for everyone.



iOS 11

## 3. Pinning Important Notes

You Can Add Inline Drawings

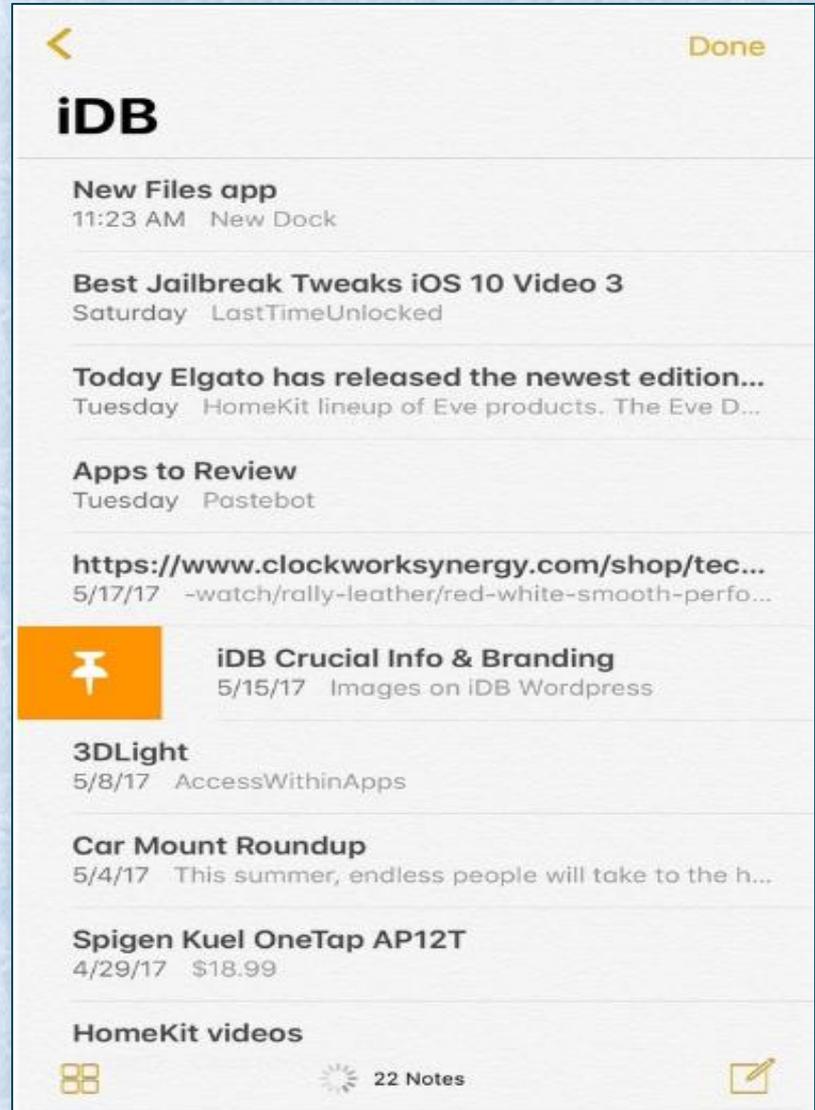
There Are Improved Formatting Options

You Can Scan Documents Using Your Camera

You Can Pin Notes to the Top

Locking Notes Is Easier

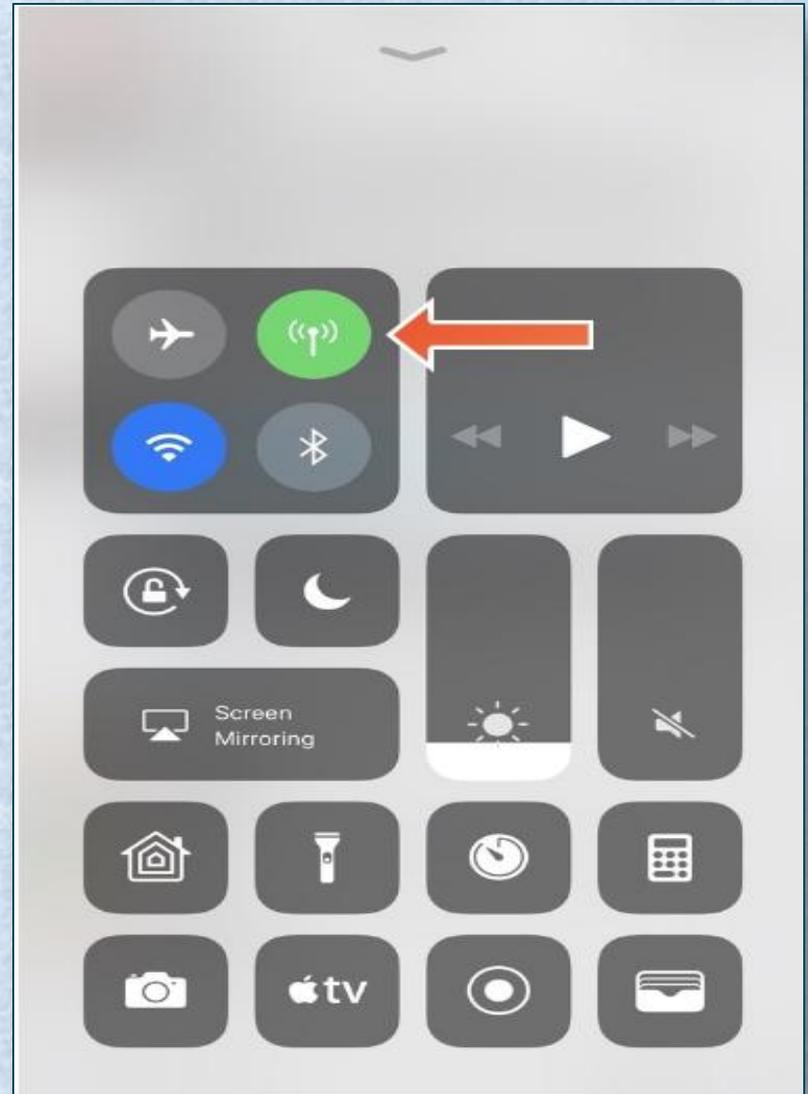
You can now add Tables



Apple is bringing a dedicated cellular data toggle to Control Center.

It lets you shut off all cellular radios without having to use Airplane Mode or go into the Settings app to switch everything off.

Perfect for saving additional battery when you don't need cellular access or for saving cellular data when you're close to your monthly allotment.

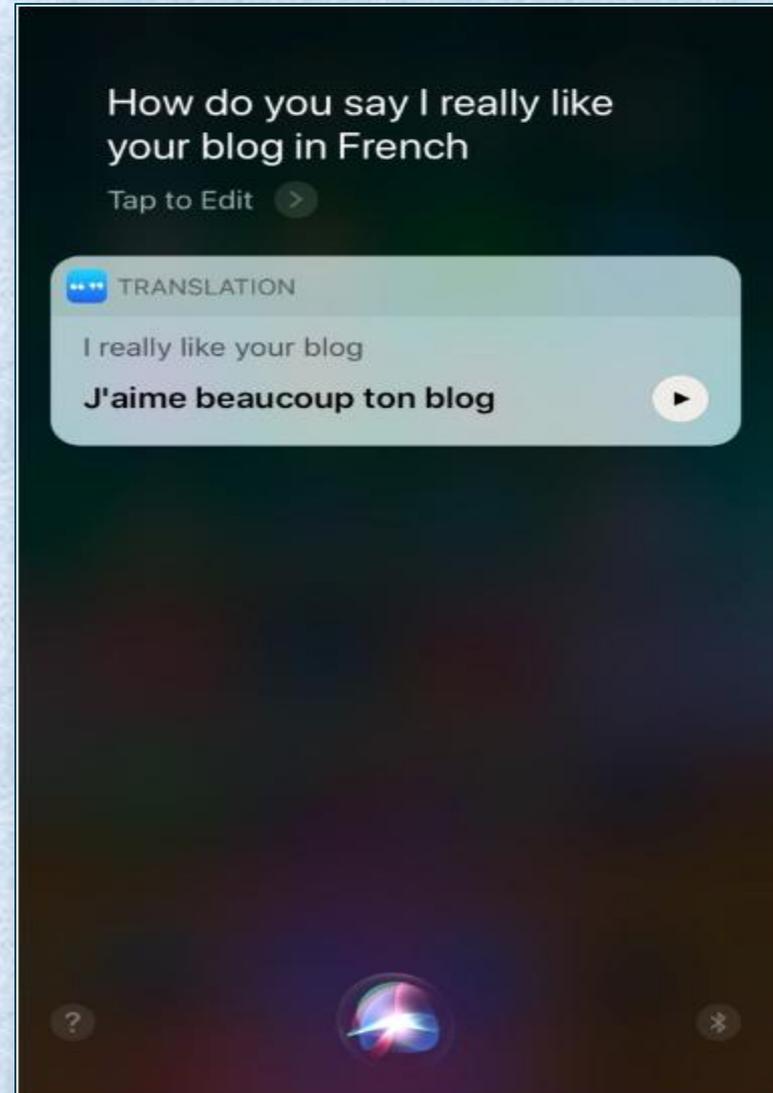


Apple made tons of improvements to Siri .

These include new fluent voices, music-driven commands, and wittier jokes and personality.

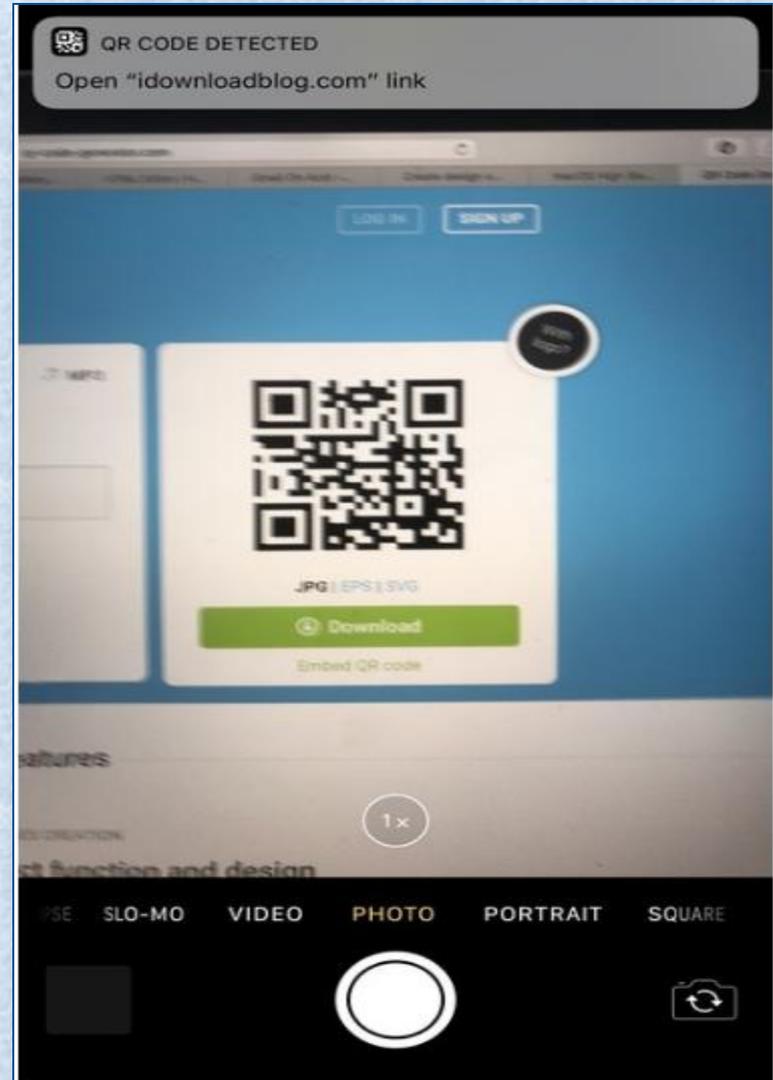
Another feature Apple is giving Siri for the first time is language translation.

Without the need to use third-party apps this feature is now embedded in a stock function of the device



Android devices have supported it forever, but one thing all stock iPhones have lacked since day one is the ability to scan QR codes.

It's integrated right into the Camera app for your convenience.



Previously anyone who wanted to edit their iPhone's Home Screen had to enter 'jiggle' mode and individually move each app icon one-by-one.

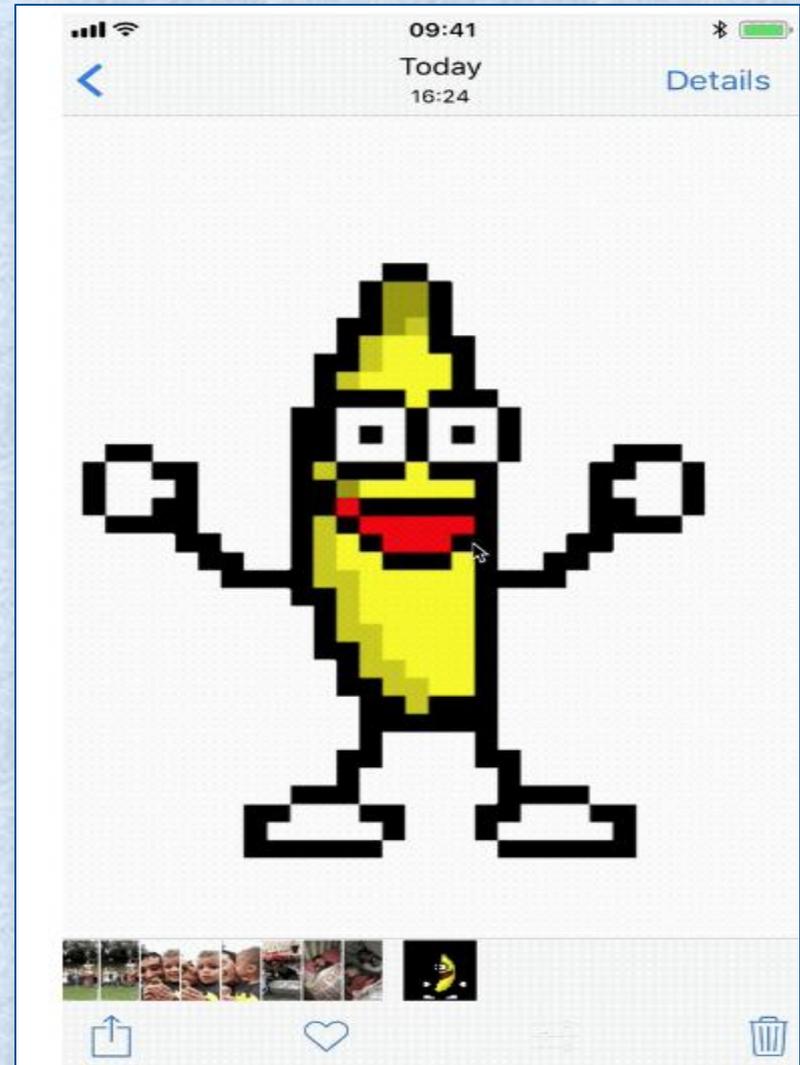
Not only do you not have to go into 'jiggle' mode anymore, but you can now move multiple app icons from one page to another simultaneously.



Apple's Photos app never supported animated GIFs out of the box;

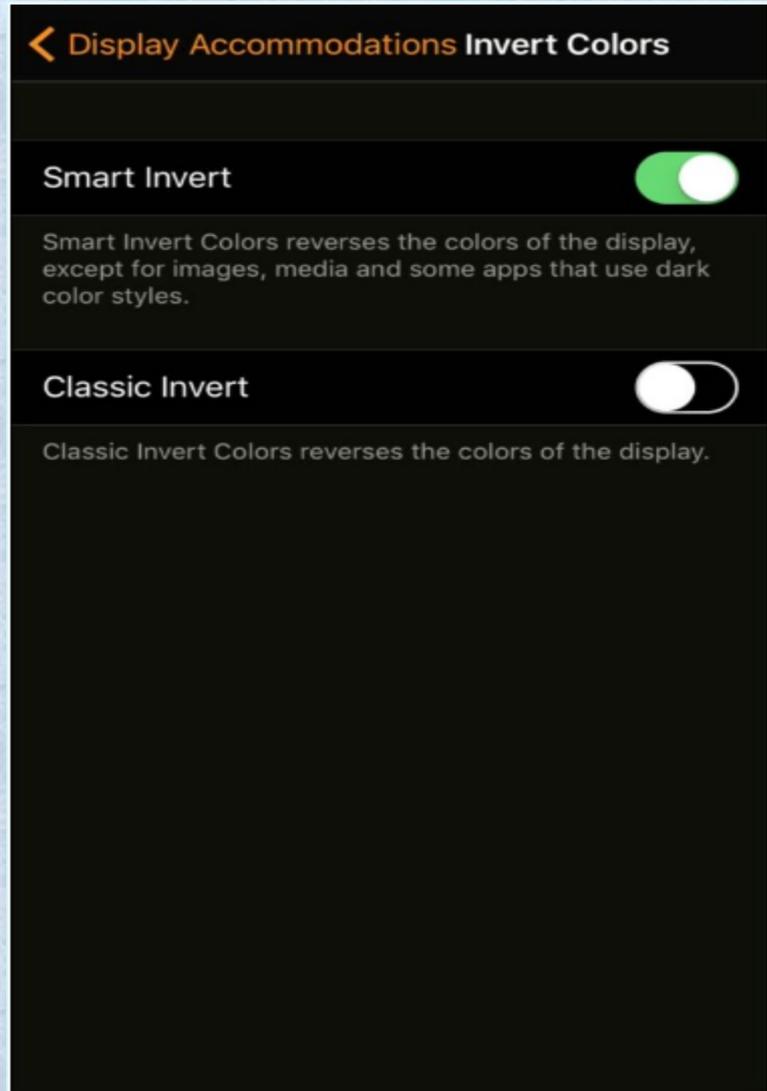
Rather they always looked like still images any time you viewed them.

Although it was quite a buzzkill for GIF-lovers, Apple seems to be taking a liking to animated GIFs in iOS 11 with native support.



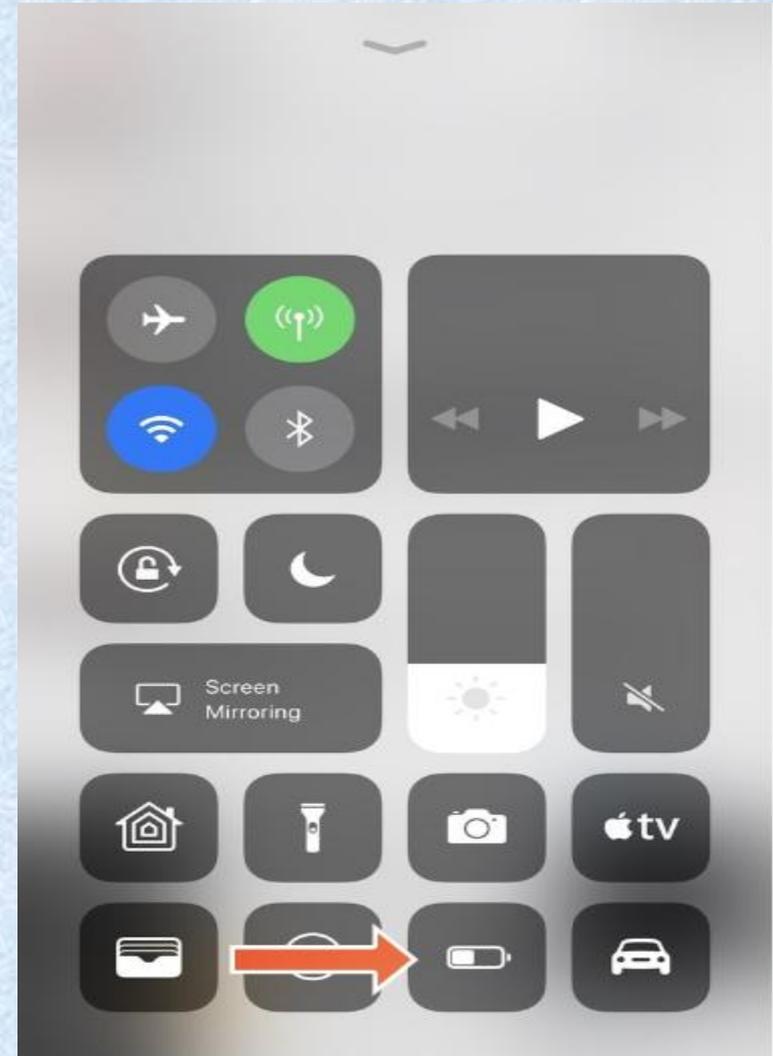
With Smart Invert enabled, you'll immediately see that the background for the Settings app turns black but the toggle switch background color remains green instead of turning purple like it does with Classic Invert.

The app icons also remain unchanged. Open the Photos app and you'll see a similar effect -- the background is black but the photos are left alone so they don't look like photo negatives.



Low Power Mode is so useful for when you want to conserve power, but it has always been a cumbersome process to turn the feature on manually, as the toggle switch is buried deep within the iPhone's Settings.

New in iOS 11 is a toggle button for Control Center that makes it easier to conserve power when you're running low or expecting to be away from the power outlet for a while.



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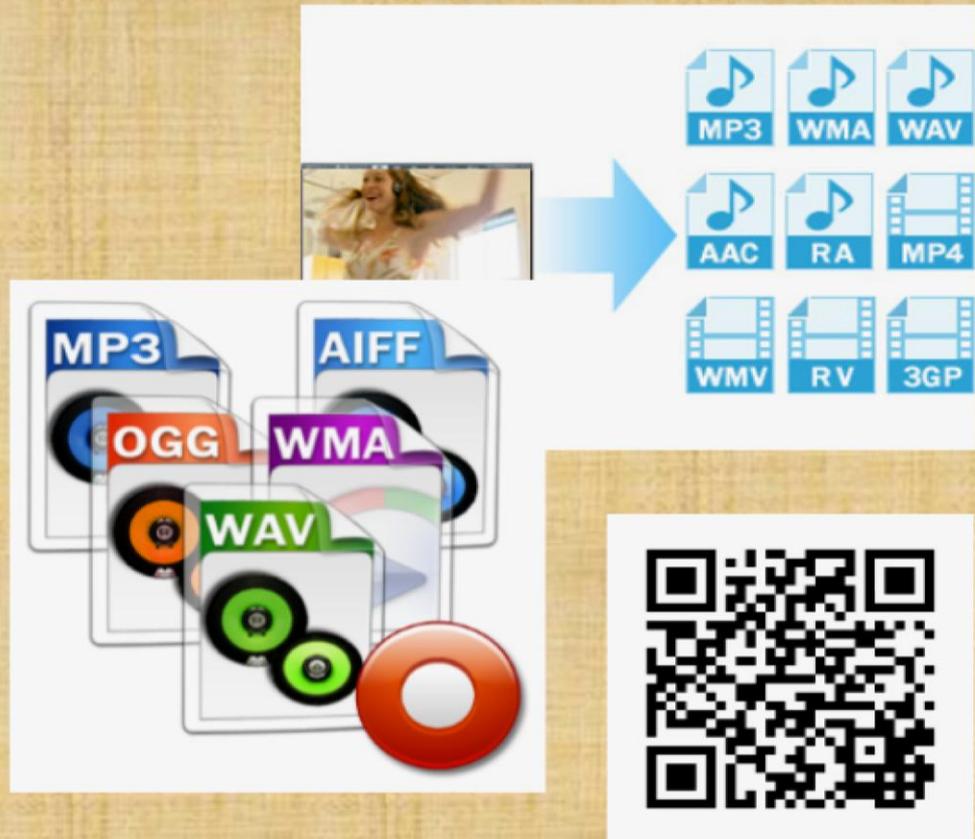
➤ Troubleshooting Guide

➤ App Risk Analysis

# Troubleshooting Guide

## Media File Formats: Audio

- ▶ **.aif** Audio Interchange File Format
- ▶ **.iff** Interchange File Format
- ▶ **.m3u** Media Playlist File
- ▶ **.m4a** MPEG-4 Audio File
- ▶ **.mid** MIDI File
- ▶ **.mp3** MP3 Audio File
- ▶ **.mpa** MPEG-2 Audio File
- ▶ **.ra** Real Audio File
- ▶ **.wav** WAVE Audio File
- ▶ **.wma** Windows Media Audio File



# Troubleshooting Guide

## Media File Formats: Video



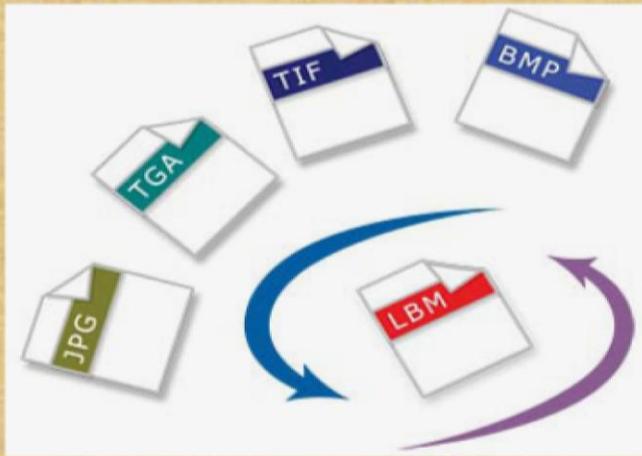
- ▶ [.3g2](#) 3GPP2 Multimedia File
- ▶ [.3gp](#) 3GPP Multimedia File
- ▶ [.asf](#) Advanced Systems Format File
- ▶ [.asx](#) Microsoft ASF Redirector File
- ▶ [.avi](#) Audio Video Interleave File
- ▶ [.flv](#) Flash Video File
- ▶ [.mov](#) Apple QuickTime Movie
- ▶ [.mp4](#) MPEG-4 Video File
- ▶ [.mpg](#) MPEG Video File
- ▶ [.rm](#) Real Media File
- ▶ [.srt](#) SubRip Subtitle File
- ▶ [.swf](#) Shockwave Flash Movie
- ▶ [.vob](#) DVD Video Object File
- ▶ [.wmv](#) Windows Media Video File

# Troubleshooting Guide

## Media File Formats: Image

### 3-D Images

- ▶ **.3dm** Rhino 3D Model
- ▶ **.3ds** 3D Studio Scene
- ▶ **.max** 3ds Max Scene File
- ▶ **.obj** Wavefront 3D Object File



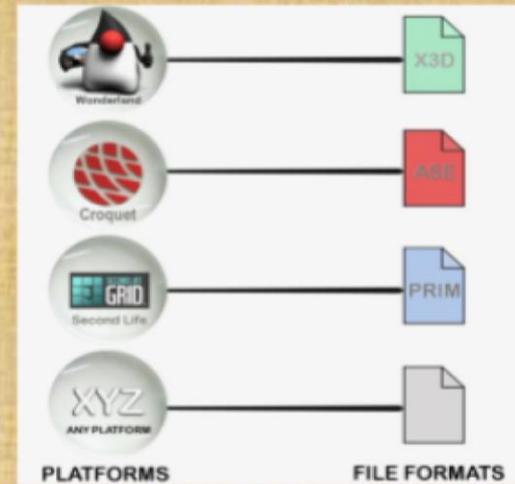
### Raster Image Files

- ▶ **.bmp** Bitmap Image File
- ▶ **.dds** DirectDraw Surface
- ▶ **.gif** Graphical Interchange Format File
- ▶ **.jpg** JPEG Image
- ▶ **.png** Portable Network Graphic
- ▶ **.psd** Adobe Photoshop Document
- ▶ **.pspimage** PaintShop Pro Image
- ▶ **.tga** Targa Graphic
- ▶ **.thm** Thumbnail Image File
- ▶ **.tif** Tagged Image File
- ▶ **.tiff** Tagged Image File Format
- ▶ **.yuv** YUV Encoded Image File

# Troubleshooting Guide

## Media File Formats: Game

- .dem** Video Game Demo File
- .gam** Saved Game File
- .nes** Nintendo (NES) ROM File
- .rom** N64 Game ROM File
- .sav** Saved Game



# Troubleshooting Guide

## Media File Formats: Executable Files



- ▶ **.apk** Android Package File
- ▶ **.app** Application file
- ▶ **.bat** DOS Batch File
- ▶ **.cgi** Common Gateway Interface Script
- ▶ **.com** DOS Command File
- ▶ **.exe** Windows Executable File
- ▶ **.gadget** Windows Gadget
- ▶ **.ipa** iPhone archive File
- ▶ **.jar** Java Archive File
- ▶ **.pif** Program Information File
- ▶ **.vb** VBScript File
- ▶ **.wsf** Windows Script File

# Troubleshooting Guide

## Media File Formats: Web Files

- ▶ **.asp** Active Server Page
- ▶ **.aspx** Active Server Page Extended File
- ▶ **.cer** Internet Security Certificate
- ▶ **.cfm** ColdFusion Markup File
- ▶ **.csr** Certificate Signing Request File
- ▶ **.css** Cascading Style Sheet
- ▶ **.htm** Hypertext Markup Language File
- ▶ **.html** Hypertext Markup Language File
- ▶ **.js** JavaScript File
- ▶ **.jsp** Java Server Page
- ▶ **.php** PHP Source Code File
- ▶ **.rss** Rich Site Summary
- ▶ **.xhtml** Extensible Hypertext Markup Language File



# Troubleshooting Guide

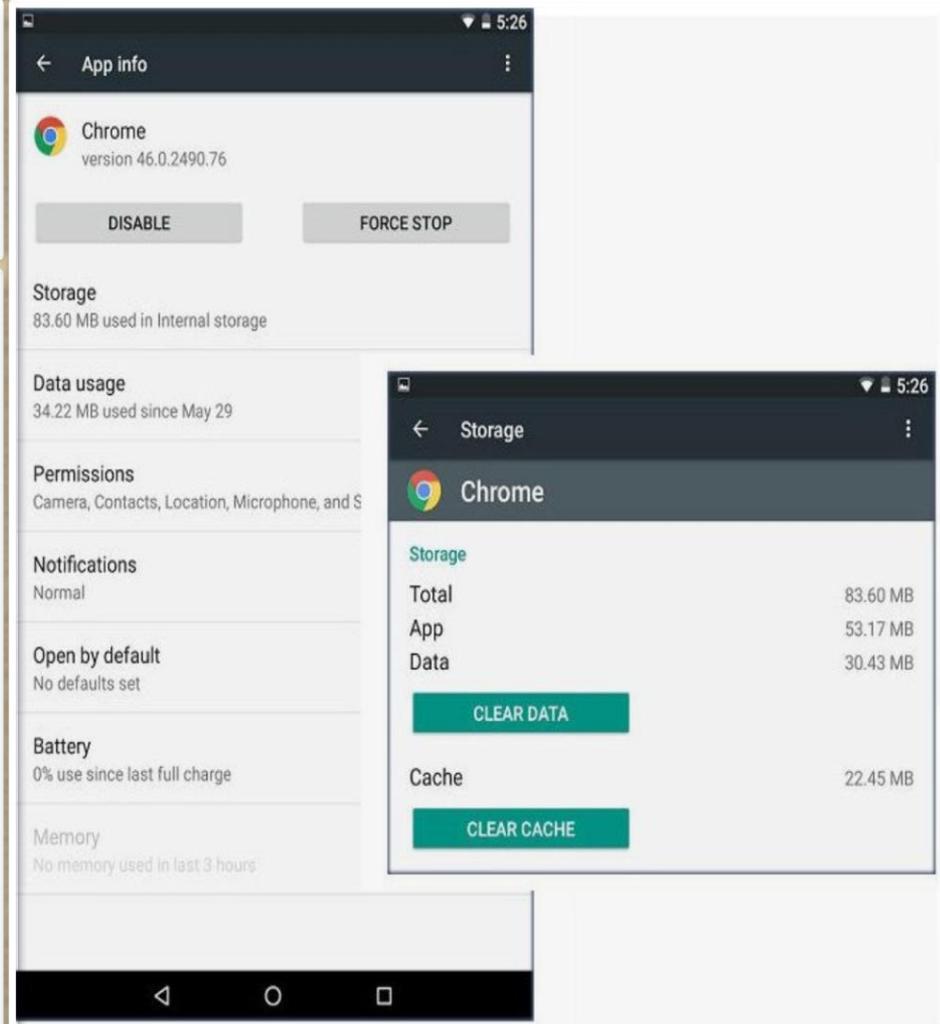
## Clear App Cache And App Data : ANDROID

Among the changes that happened between Android 5.0 and 6.0 is the placement of the buttons for clearing the app caches and data.

**Step 1:** Head to the Settings menu. This can be done by tapping the cog icon in your notification shade.

**Step 2:** Find Apps (or Applications, depending on your device) in the menu, then locate the app that you want to clear the cache or data for.

**Step 3:** Tap on Storage and the buttons for clearing the cache and app data will become available (See Right→).



# Troubleshooting Guide

## Clear App Cache And App Data : iOS

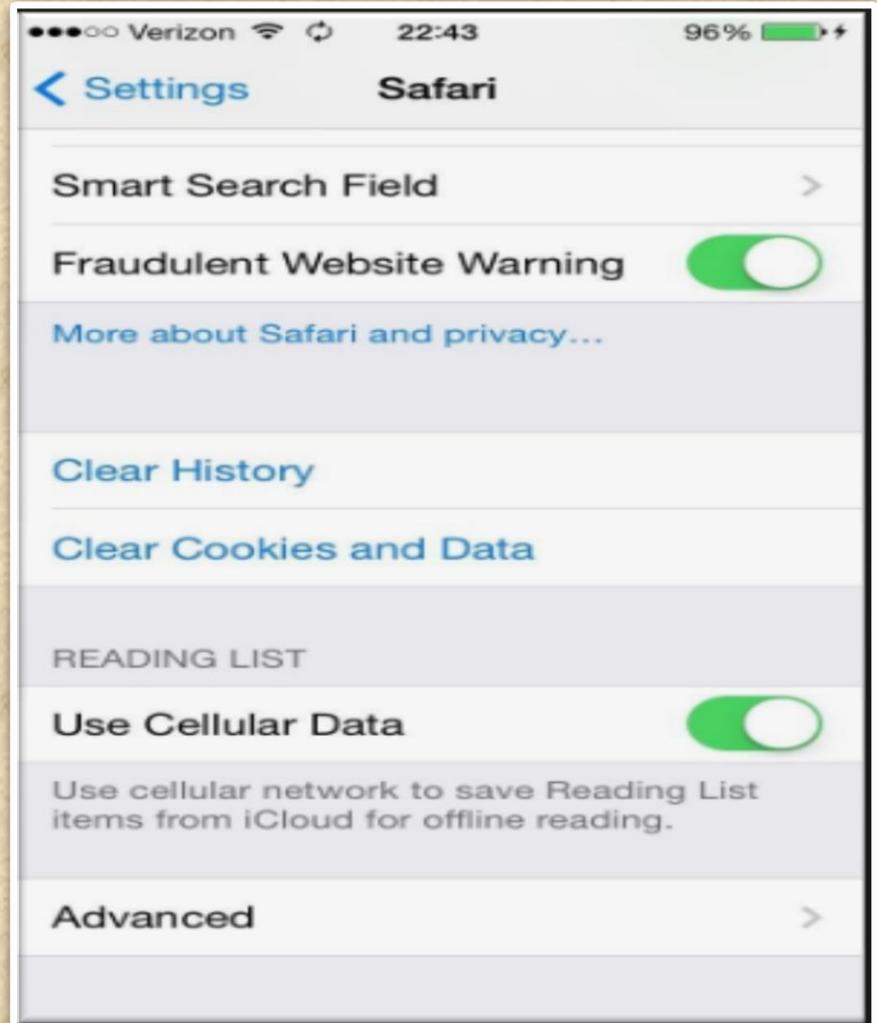
Delete Safari Cache :

1. Press Settings > Safari
2. Scroll down and tap Clear History and Website Data.
3. Tap Clear History and Data.

How to clean out your iPhone's memory:

Remove file data

1. Tap Settings > General > Storage & iCloud Usage
2. Tap Manage Storage.



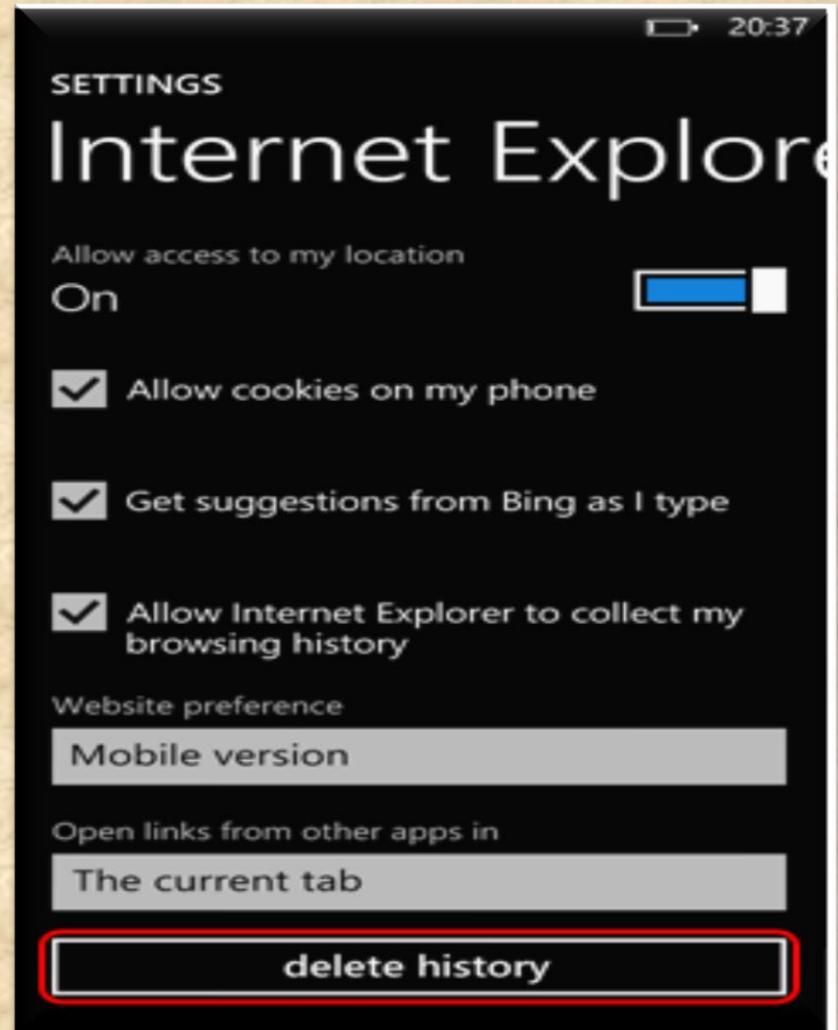
# Troubleshooting Guide

## Clear App Cache And App Data : WinPhone

### Internet Explorer (Windows Phone) - Clearing Cache and Cookies

1. Tap the Internet Explorer live tile on the home screen.
2. Tap on the ellipses (...) at the bottom right.
3. Scroll down and tap settings.
4. Scroll down and tap delete history.
5. Tap delete to confirm.

Wait a few seconds for the cache and cookies to clear.



# Troubleshooting Guide

## Clear App Cache And App Data : BlackBerry

1. On the Home screen of the **BlackBerry** smartphone TAP BROWSER.
2. Tap Menu key
3. Tap Options.
4. Scroll to the very bottom of the options list where there will be a section called **Clear** Browsing Data.
5. Select the desired options and choose **Clear**

### For more options

<http://support.blackberry.com/kb/articleDetail?articleNumber=000003865>



# Troubleshooting Guide

## COMMON ANDROID PROBLEM TROUBLESHOOTING

### Common Android USB Connection Problems

- One of the most often reasons for the Android USB connection problem is the faulty USB cable.
- They wear down very quickly, so make sure have a new and working one.

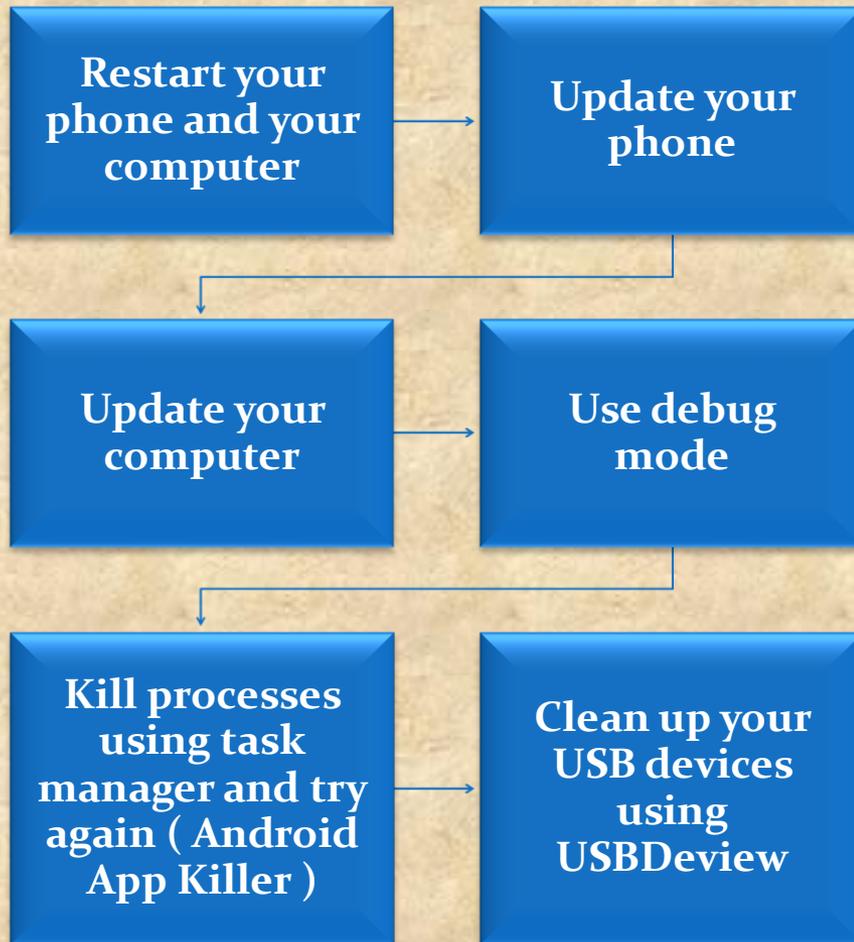


- the computer doesn't recognize your plugged Android device (your Android USB connection now showing up)
- the computer does recognize it but you still can't access its memory (your Android USB connection not working properly)
- either the phone or the computer hangs up after plugging in your device
- you plug your Android device in but "nothing happens" (your Android USB is connected but now showing up or your PC is not detecting phone)
- you plug your Android device in but Windows fails to install necessary drives so you can't access phone storage
- the automatic installation of PC suite provided by your device's manufacturer fails

# Troubleshooting Guide

## COMMON ANDROID PROBLEM TROUBLESHOOTING

### Common Android USB Connection Problems Possible Solutions



### Android Heating Problem

- Problems with the USB cable, charger or battery (Android battery overheating)
- You are using your phone too heavily (Android CPU heating)
- External conditions may impact your Android phone overheating too.

- There may be in fact a lot of possible reasons why your Android phone keeps heating up.
- However, some reasons are much more prominent than others.



# Troubleshooting Guide

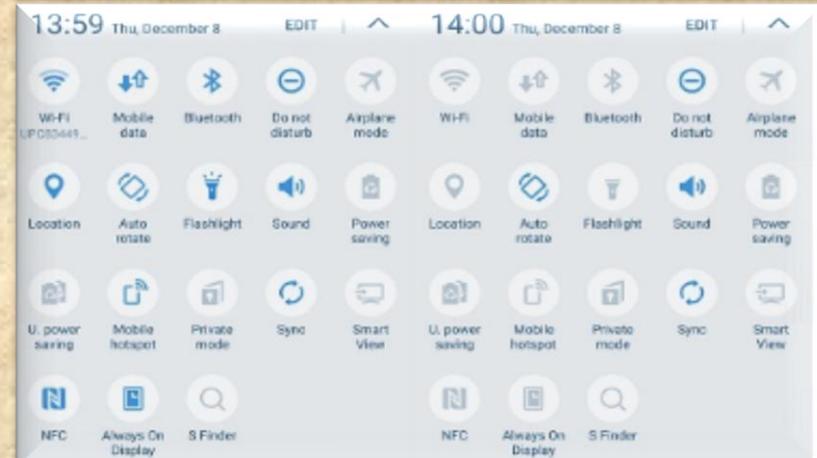
## COMMON ANDROID PROBLEM TROUBLESHOOTING

### Common Android Heating Problems Possible Solutions



Don't enable a feature unless you are going to actively use it. Each feature, when enabled, consumes some CPU resources and overloads your phone in some way.

If there are just too many such features enabled (in addition to useless apps running in the background), your device may quickly end up overheating.



# Troubleshooting Guide

## COMMON ANDROID PROBLEM TROUBLESHOOTING

### Common Android Wi-Fi Problems

- If you don't have the unlimited data plan, you must rely on the Wi-Fi connection almost entirely.
- It may become really frustrating if you are experiencing Wi-Fi problems on your Android phone at the moment when you really need to be online.
- In most cases the reasons for Android Wi-Fi problems are very trivial and you can solve them within seconds.

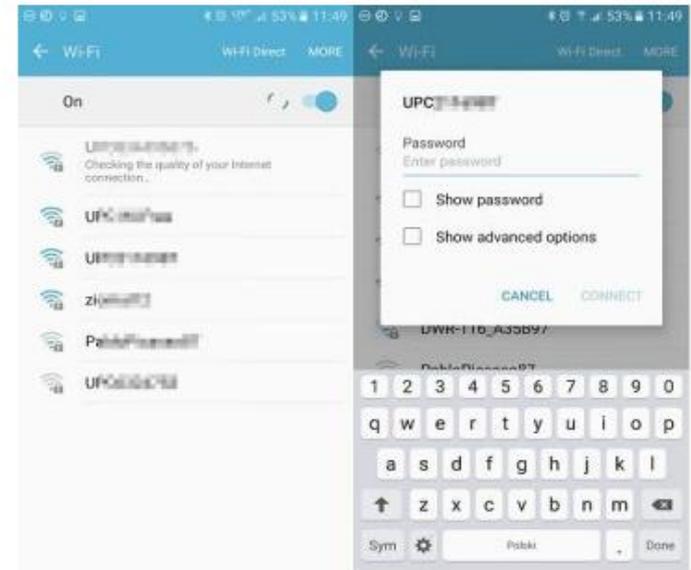
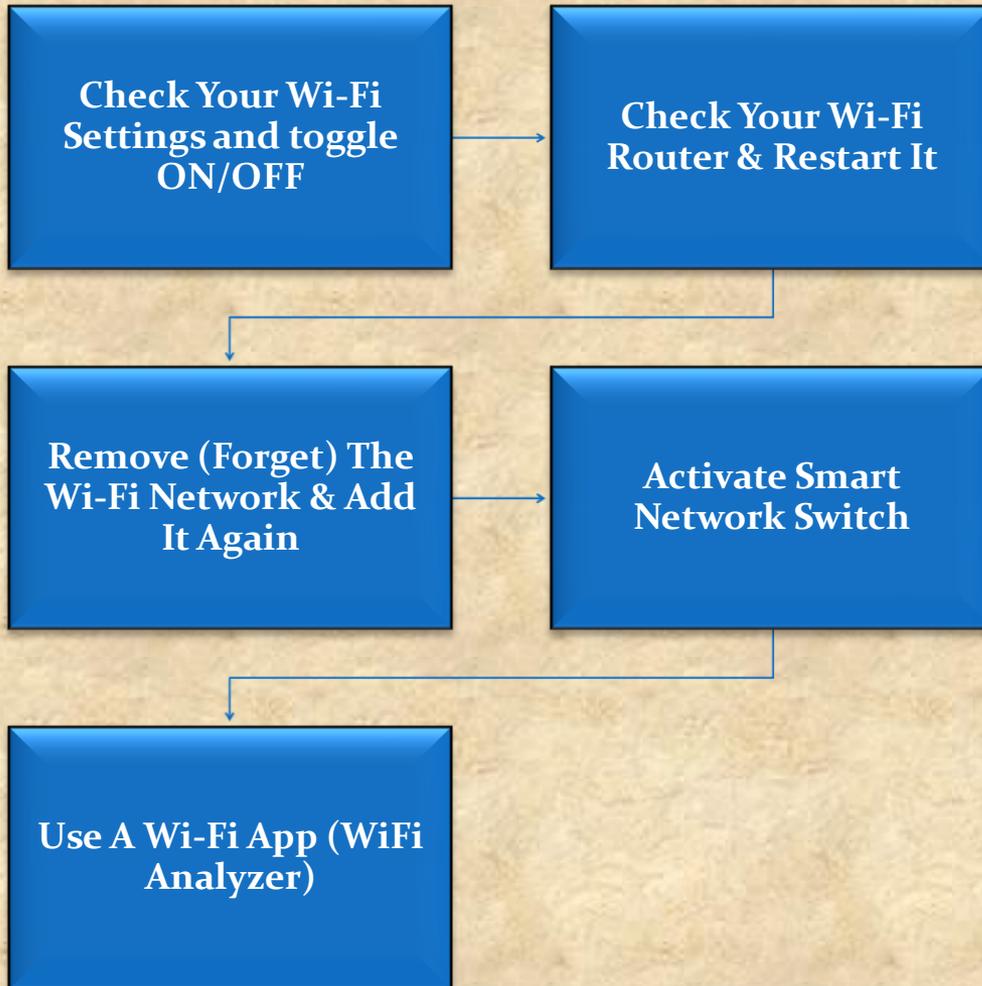
- In 95% of cases the five (next slide) methods worked.
- In the remaining 5% the problem was very specific or software/hardware related



# Troubleshooting Guide

## COMMON ANDROID PROBLEM TROUBLESHOOTING

### Common Android Wi-Fi Problems Possible Solutions



Android WiFi Problem Fix: Connect to the right Wi-Fi network and type the correct password.

If you type the password correctly, your phone will connect to the network and you will see the Wi-Fi on the upper part of the screen.



If you don't see the Wi-Fi icon on the screen of your phone as showed on the screenshot above, you didn't connect to the Wi-Fi network properly.

### Flashlight Android App Problems

- The most often symptoms of problems with flashlight apps include:
  - One or more flashlight apps installed simply don't turn the flash on. They seem to work perfectly, but no flashlight comes from our Android device.
  - One or more flashlight apps crash after installing so there is not even a chance to check if they really work.
  - Generally, a flashlight app works but some of its specific options (e.g. Morse code) don't.

- Even though flashlight apps are generally great and very useful, they sometimes create problems



# Troubleshooting Guide

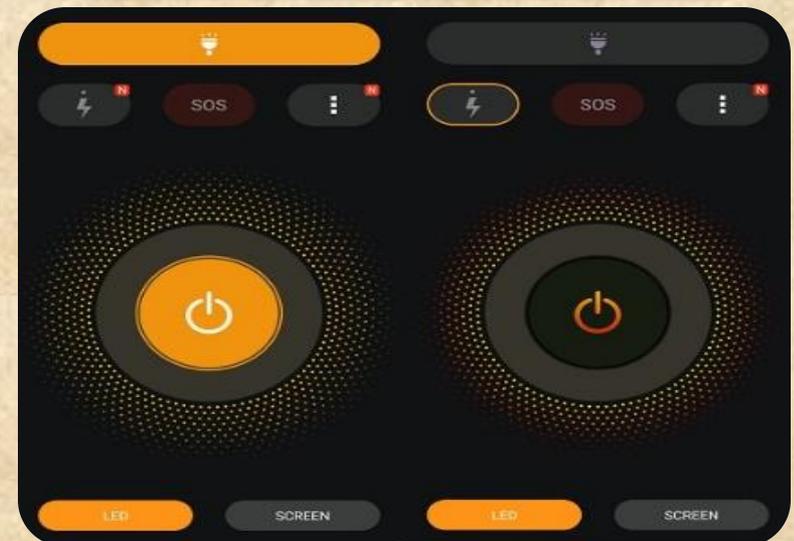
## COMMON ANDROID PROBLEM TROUBLESHOOTING

### Flashlight Android App Problems Possible Solutions



Download other free Android flashlight apps

[High-Powered Flashlight](#)  
[Flashlight by smallte.ch](#)  
[Flashlight by App Phobia](#)  
[Flashlight for Kindle](#)



### Android Photo Contact Problems

- Even though Android phones are the most reliable devices, you may sometimes experience a few problems.
- One of the most often ones concern contact photos. We want them to appear but they just won't do it.
- We want them to be in high quality, but they will appear downsized and pixelated.

**There are three main issues with Android contact photos:**

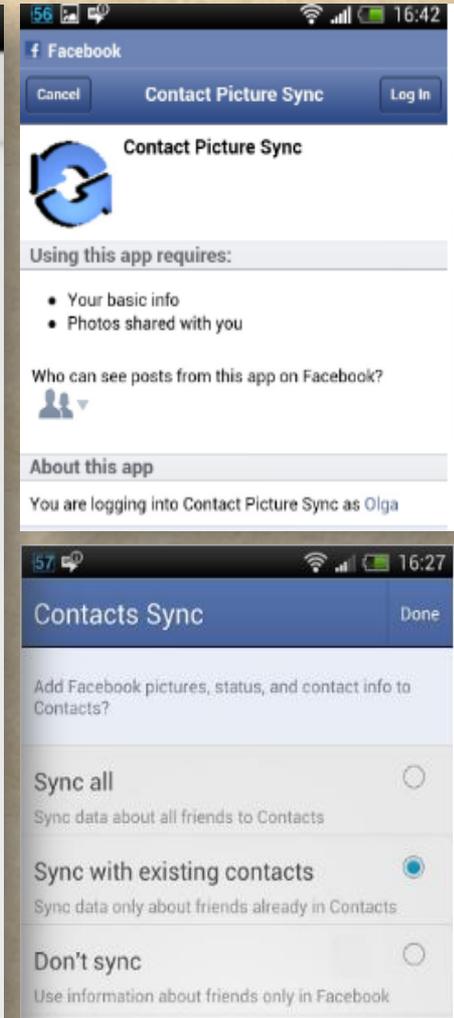
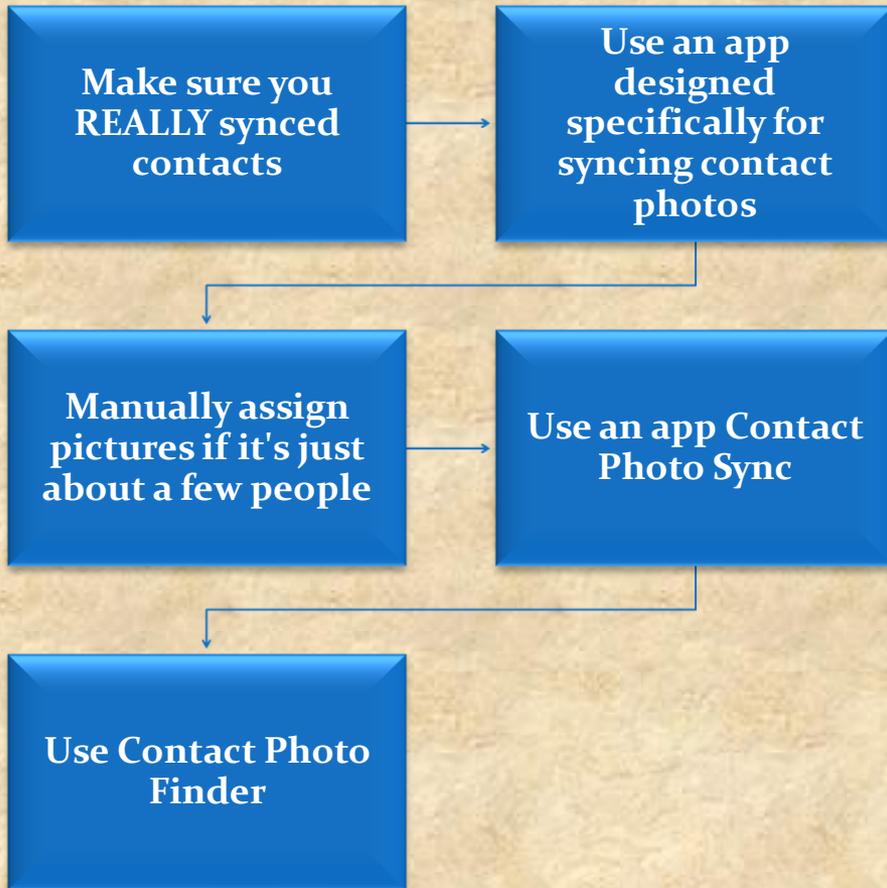
1. Facebook contact picture sync problem
2. Poor quality of contact photos after syncing back
3. Problems with assigning many different contact photos to a greater number of contacts



# Troubleshooting Guide

## COMMON ANDROID PROBLEM TROUBLESHOOTING

### Android Photo Contact Problems Possible Solutions



### Memory Problems With Android

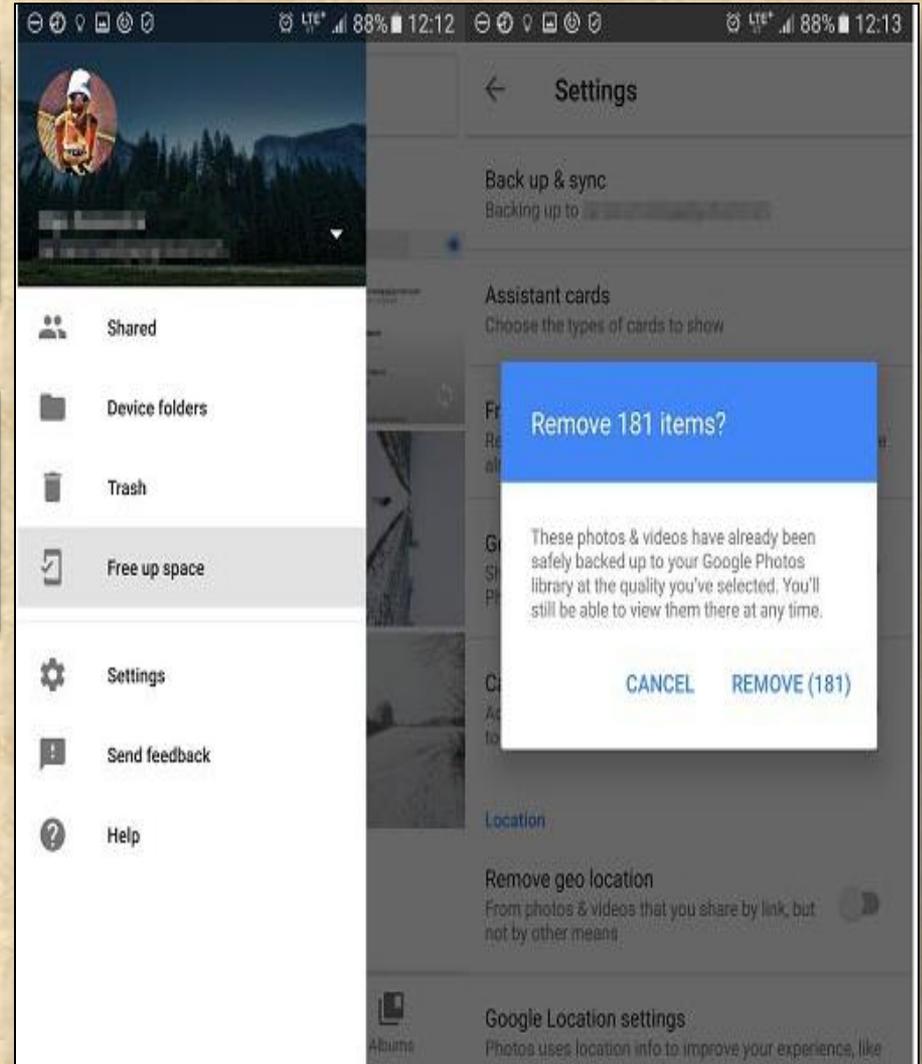
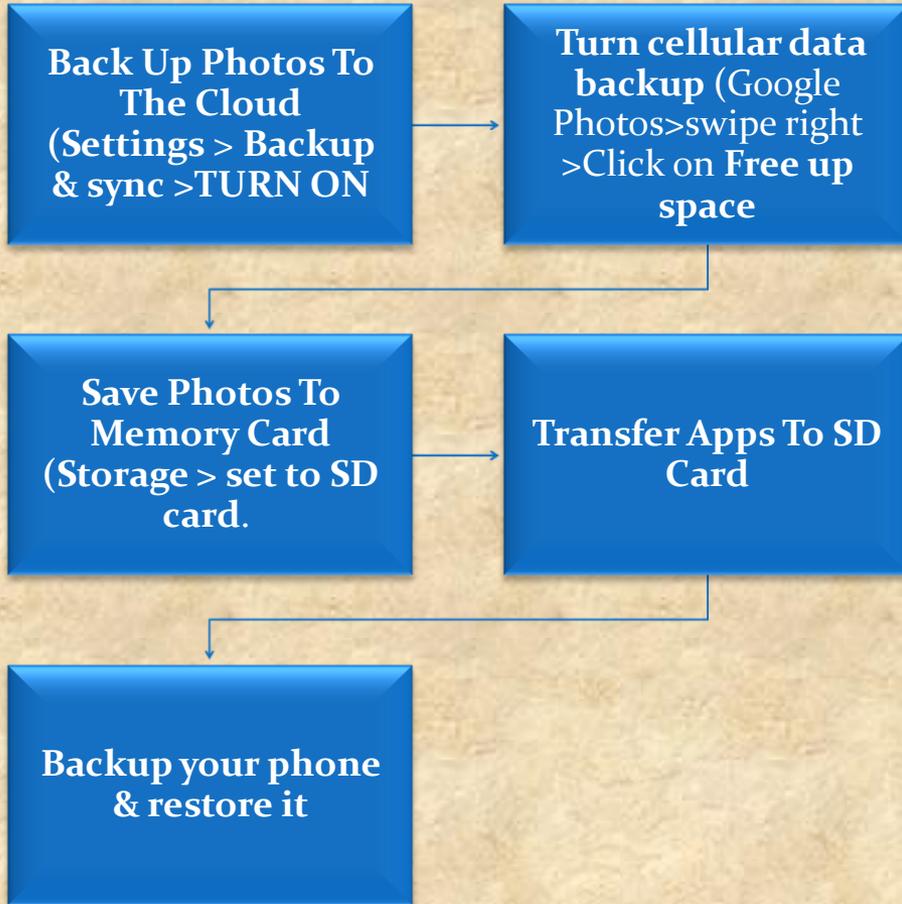
- Memory problems with Android are quite popular especially among users of a bit older phones (and older versions of Android)
- Android phones after a couple of months begin to display tons of different notifications, such as, memory full problem (or memory low) or memory card problem and much more.



# Troubleshooting Guide

## COMMON ANDROID PROBLEM TROUBLESHOOTING

### Memory Problems With Android and Possible Solutions



# Troubleshooting Guide

## COMMON ANDROID PROBLEM TROUBLESHOOTING

### Android Apps & Problems Downloading From Google Play

- Do you experience problems with downloading Android apps from Google Play?
- Does everything seem O.K. but suddenly download of your favorite game or app fails?

<a href="#">Error DF-BPA-09</a>	<a href="#">DF-BPA-30 error</a>	<a href="#">DF-DLA-15 error</a>	<a href="#">Rpc error: AEC: 0</a>
<a href="#">Error rh01 / rpc: s-5: AEC-0</a>	<a href="#">Recovery error</a>	<a href="#">Error-06 BM-GVHD</a>	<a href="#">Error rpc: s-3</a>
<a href="#">Error: "Authentication required"</a>	<a href="#">Error "Package file invalid"</a>	<a href="#">Error 8</a>	<a href="#">Error 18</a>
<a href="#">Error 20</a>	<a href="#">Error 24</a>	<a href="#">Error 101</a>	<a href="#">Error 103</a>
<a href="#">Error 110</a>	<a href="#">Error 194</a>	<a href="#">Error 403</a>	<a href="#">Error 406</a>
<a href="#">Error 413</a>	<a href="#">Error 481</a>	<a href="#">Error 491</a>	<a href="#">Error 492</a>
<a href="#">Error 495</a>	<a href="#">Error 497</a>	<a href="#">Error 498</a>	<a href="#">Error 501</a>
<a href="#">Error 504</a>	<a href="#">Error 505</a>	<a href="#">Error 905</a>	<a href="#">Error 906</a>
<a href="#">Error 907</a>	<a href="#">Error 911</a>	<a href="#">Error 919</a>	<a href="#">Error 920</a>
<a href="#">Error 921</a>	<a href="#">Error 923</a>	<a href="#">Error 924</a>	<a href="#">Error 927</a>
<a href="#">Error 940</a>	<a href="#">Error 941</a>	<a href="#">Error 944</a>	<a href="#">Error 961</a>
<a href="#">Error 963</a>	<a href="#">Error 975</a>		

# Troubleshooting Guide

## COMMON ANDROID PROBLEM TROUBLESHOOTING

### Android Apps & Problems Downloading From Google Play and Possible Solutions

Restart Your Android Device

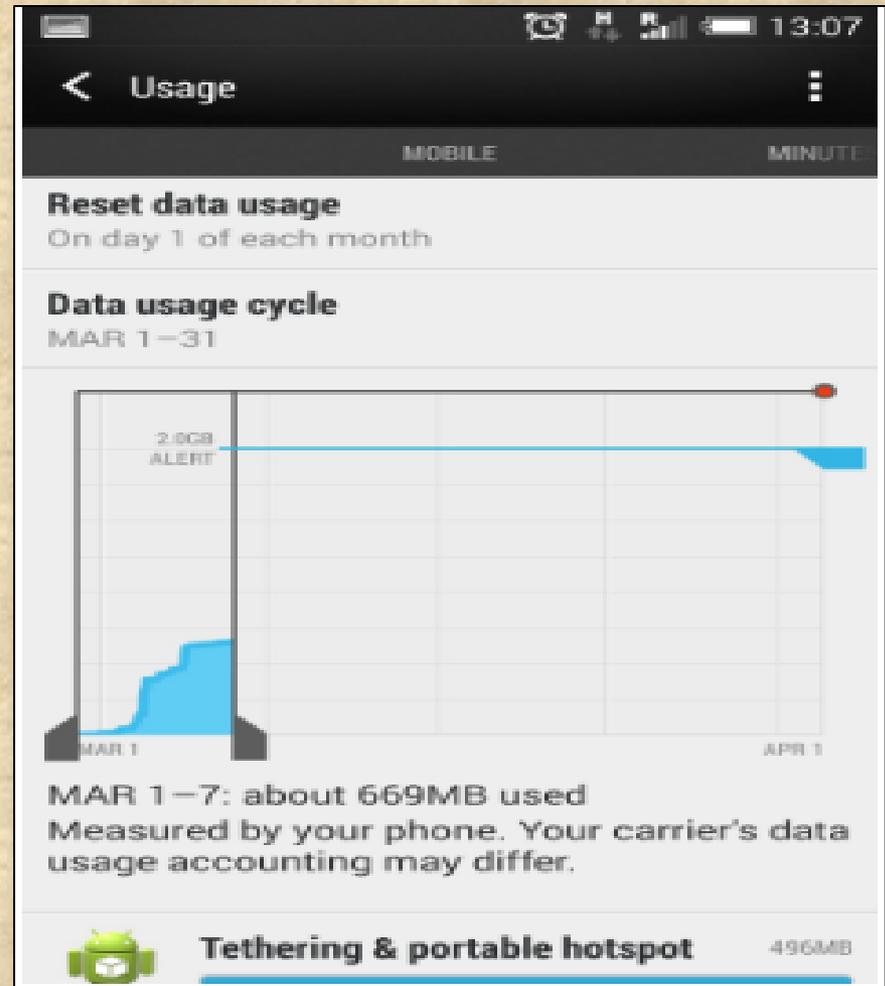
Make Sure Your Data Connection/WiFi Is Turned On And Working

Clear Cache Of Google Play App

Make Sure You Have Data Enough Phone Storage Available

Update Your Phone And Google Play App

Restore Factory Settings If Nothing Helps



### Android Reboot Problem

#### ➤ Most Often Symptoms Of The Android Phone Reboot Problem:

- Device restarts in specific situations
- Device restarts when many apps are running simultaneously
- Device restarts "on its own" (known as Android self reboot problem) for no apparent reason

#### • There Are Actually Two Types of Reboot

1. The phone restarts completely (all apps are loaded again), which takes up to a few minutes. With this kind of restart, you usually hear the welcome ringtone and see your manufacturer's logo.
2. There is also a softer type of reboot when only Android OS restarts. It usually takes a few seconds and you see a white screen for a few moments



# Troubleshooting Guide

## COMMON ANDROID PROBLEM TROUBLESHOOTING

### Android Reboot Problem and Possible Solutions



# Troubleshooting Guide

## COMMON IOS PROBLEM TROUBLESHOOTING ( 10 AND 10.1)

### How to Fix : iOS 10 Software Update Failed Error

#### Method 1:

Tap on the Close option and try to update again.

#### Method 2:

Wait for few hours or even several days and then download iOS 10 again.

#### Method 3:

Try updating via iTunes on computer.

#### Method 4:

For advanced users: try upgrading with IPSW File.



# Troubleshooting Guide

COMMON IOS PROBLEM TROUBLESHOOTING ( 10 AND 10.1)

## How to Fix : iPhone Stuck on Verifying Update

### Method 1 :

Try locking and waking your iDevice using power button and repeat it.

### Method 2:

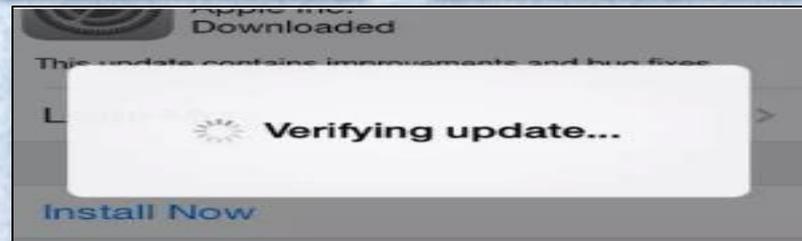
Do a hard reset or hard reboot.

### Method 3:

Restore your iDevice with iTunes.

### Method 4:

Update to iOS 10 with iTunes on computer.



# Troubleshooting Guide

## COMMON IOS PROBLEM TROUBLESHOOTING ( 10 AND 10.1)

### How to Fix : iOS 10 Stuck on Slide to Upgrade Screen

#### Step 1 :

Update your iTunes to the latest version.  
Connect your iPhone and run iTunes.

#### Step 2:

Click the device button.

#### Step 3:

Select Restore Backup...  
and choose a recent backup file.

#### Step 4 :

click Restore.



# Troubleshooting Guide

## COMMON IOS PROBLEM TROUBLESHOOTING ( 10 AND 10.1)

### How to Fix : iPhone Stuck in Recovery Mode

#### Method 1 :

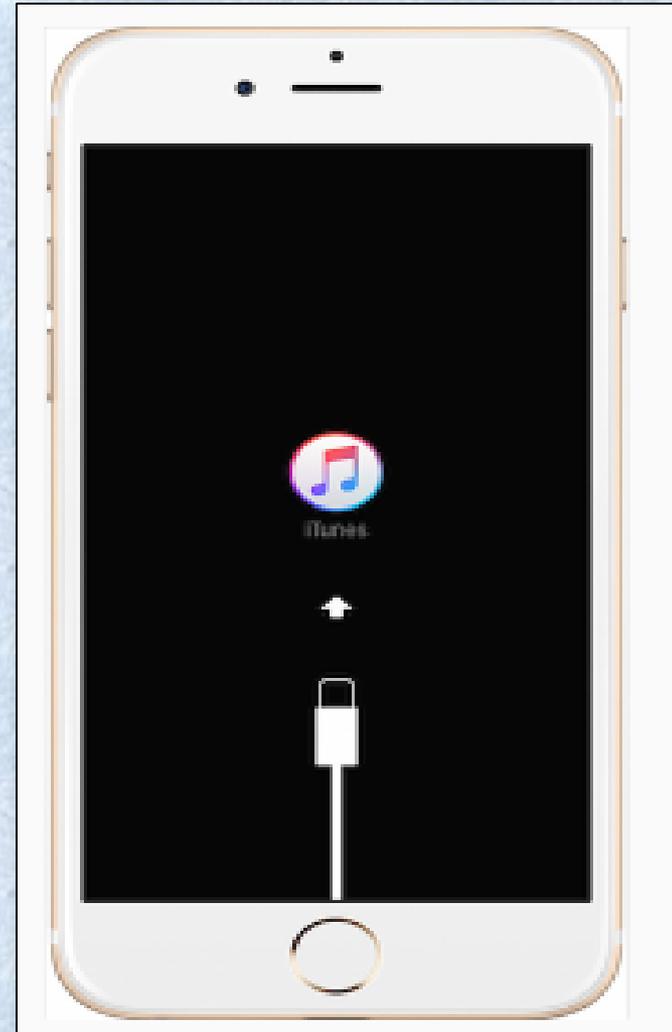
"Force Restart" your device by holding both Power and Home buttons.

#### Method 2:

Recover your device using iTunes. You can connect your device to iTunes on your computer and recover in Recovery Mode.

#### Method 3:

Use iOS repairing software to fix this issue.



# Troubleshooting Guide

## COMMON IOS PROBLEM TROUBLESHOOTING ( 10 AND 10.1)

### How to Fix : iPhone Stuck on Apple Logo During iOS 10 Update

#### Method 1:

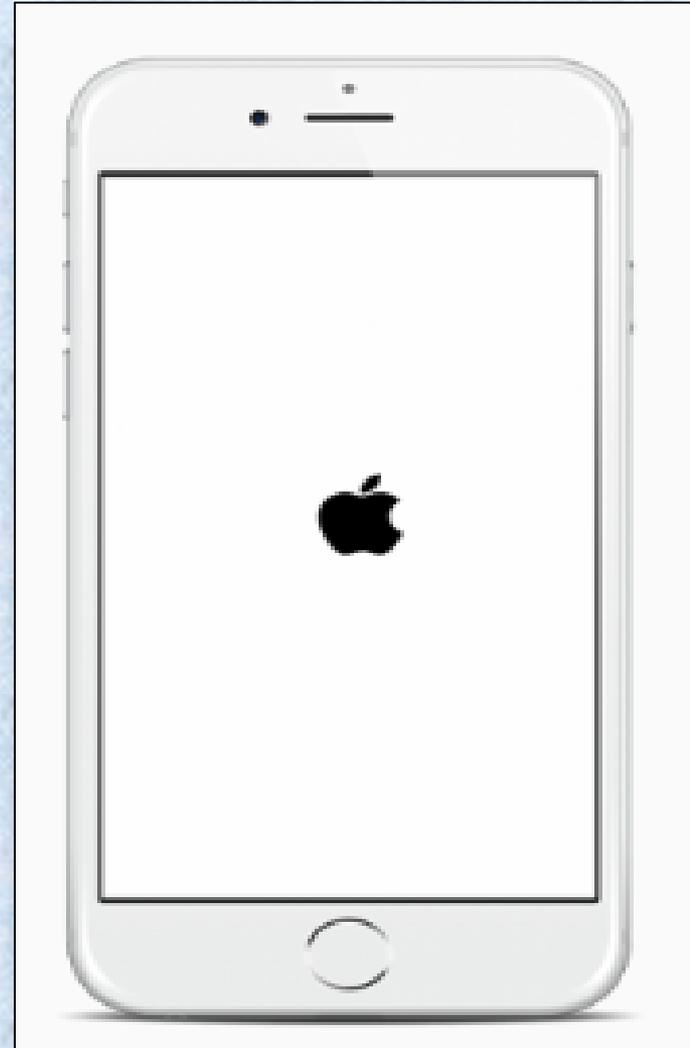
Force Restart your iPhone or iPad. Usually, this tip can make your device work again.

#### Method 2:

If Method 1 doesn't work, you may need to recovery your device in Recovery Mode.

#### Method 3:

There are some professional tools that you can use to repair your device.



### How to Fix : Failed to Activate iPhone After iOS 10/10.1 Update

#### Method 1: Wait and Retry

- There are a lot of people waiting for activation after the release of iOS 10.
- You can try again later to activate your iPhone/iPad/iPod.

#### Method 2: Continue the Activation via iTunes

- Step 1. Download the latest version of iTunes and open it > Plug in your device.
- Step 2. Select your device > Then you will see the activate screen on iTunes.
- Step 3. Enter your Apple ID and password > Click on Continue

#### Method 3: Release the Activation Lock in iCloud

- Step 1. Turn off the power of your device.
- Step 2. Go to [iCloud.com](https://www.icloud.com) > Sign in with your Apple ID.
- Step 3. Click on Find iPhone > Click on All Devices > Choose the device that can't be activated > Remove from Account.
- Step 4. Turn on your device and try to activate it again.

# Troubleshooting Guide

## COMMON IOS PROBLEM TROUBLESHOOTING ( 10 AND 10.1)

### How to Fix : iOS 10/10.1 Bluetooth Issues

#### Method 1:

Check and make sure Bluetooth is turn on.

#### Method 2:

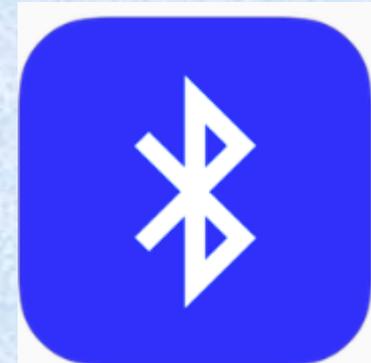
Confirm your iDevice and Bluetooth accessory are close to each other.

#### Method 3:

Turn off Bluetooth and restart your iPhone, iPad.

#### Method 4.:

Pair the iDevice or car you connect again:  
Settings > Bluetooth > Choose the device you are having issues with > Tap on the info button next to the device > Tap on Forget This Device.



# Troubleshooting Guide

## COMMON IOS PROBLEM TROUBLESHOOTING ( 10 AND 10.1)

### How to Fix : Message/iMessage Not Working

#### Method 1 :

Make sure you have connected to Wi-Fi or 3G/4G network.

#### Method 2:

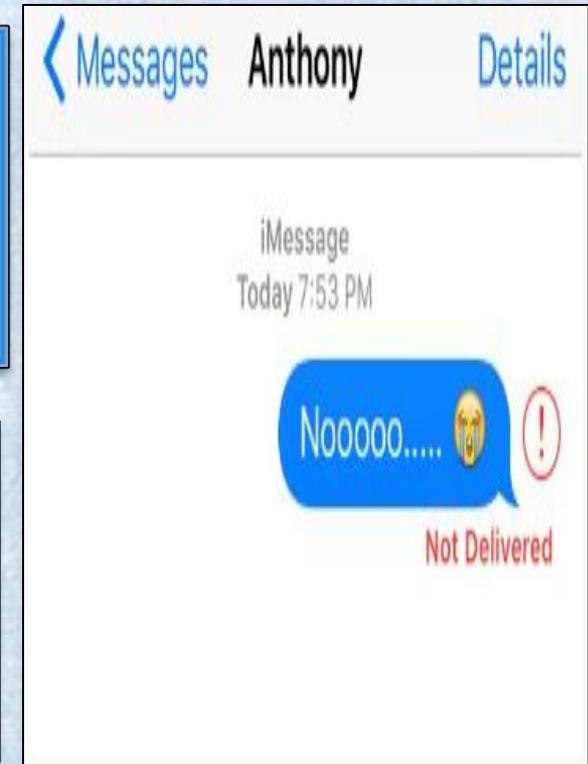
Turn iMessage off and then turn it on again.

#### Method 3:

Make sure Date & Time are correct.

#### Method 4:

Turn on Airplane mode and turn it off.



### How to Fix : Wi-Fi Issues on iPhone iPad

***1. Potential Solutions to iPhone/iPad not connecting to Wi-Fi After iOS Update***

1. Check Wi-Fi router.

2. Ensure your iPhone/iPad's Wi-Fi button is on, and you can see your network.

3. Input password when it is necessary.

4. Check all the cables and connections, and make sure your router is connected to the modem and it is turned on.

5. Restart Your iPhone/iPad, Router, Cable/DSL mode.

6. Reset network settings on your iPhone iPad.

### How to Fix : Wi-Fi Issues on iPhone iPad

#### 2. Potential Solutions to iPhone iPad Wi-Fi Greyed out/won't turn on After iOS 10 Upgrade

1. Check if this problem also happened on your other devices

2. Renew Lease

3. Forget this network

4. Reset network settings

### How to Fix : Wi-Fi Issues on iPhone iPad

### 3. Potential fixes to iPhone iPad Keeps Dropping Wi-Fi After iOS 10 Upgrade

1. Upgrade your iPhone iPad to the latest iOS version

2. Reset network settings on iDevice

3. Forcibly reboot iDevice

4. Backup and restore iDevice

5 .Reset your router

### How to Fix : Wi-Fi Issues on iPhone iPad

#### 4. How to Fix: iPhone iPad Slow on Wi-Fi After iOS 10 Upgrade

1. Find out it is a network problem or iDevice problem.

2. Update iDevice to the current iOS version.

3. Reset network settings.

4. Change iOS Default DNS to Google DNS.

5. Disable QoS, MMS, WMM on your router.

6. Changing the wireless channel between 1, 6 and 11.

7. Turn off the background Apps.

### How to Fix : Wi-Fi Issues on iPhone iPad

#### 5. Quick Solutions to iPhone iPad Unable to Join Wi-Fi After iOS 10 Update

1. Find out it is a network problem or iDevice problem.

2. Update iDevice to the current iOS version.

3. Reset network settings.

4. Change iOS Default DNS to Google DNS.

5. Disable QoS, MMS, WMM on your router.

6. Changing the wireless channel between 1, 6 and 11.

7. Turn off the background Apps.

# Troubleshooting Guide

## COMMON IOS PROBLEM TROUBLESHOOTING ( 10 AND 10.1)

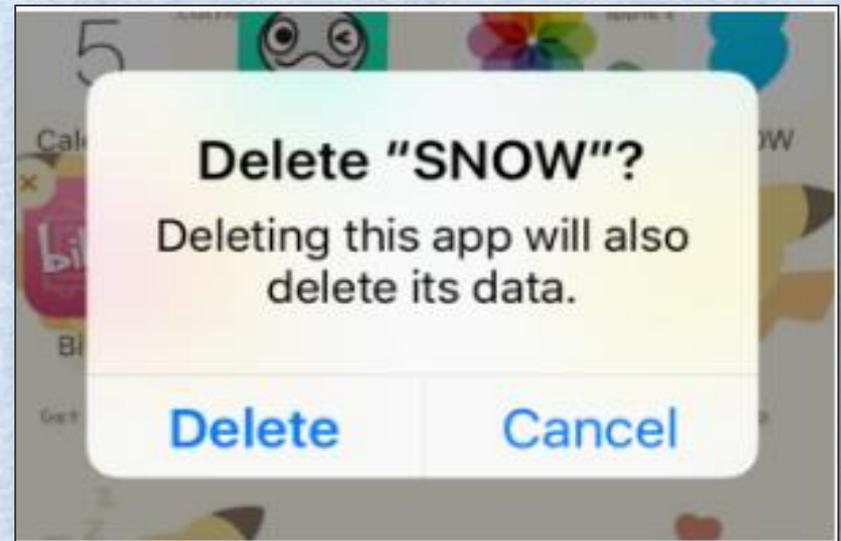
### How to Fix : App Issues on iPhone/iPad After iOS 10/10.1 Update

**Solution 1: Reboot Your iDevice.**

**Solution 2: Update the App to the Latest Version.**

**Solution 3. Delete the App and Reinstall.**

There are certain issues with apps on your iPhone or iPad after downloading iOS 10. Several iPhone users have been reported that app keeps crashing and some apps getting crashed at launch



# Troubleshooting Guide

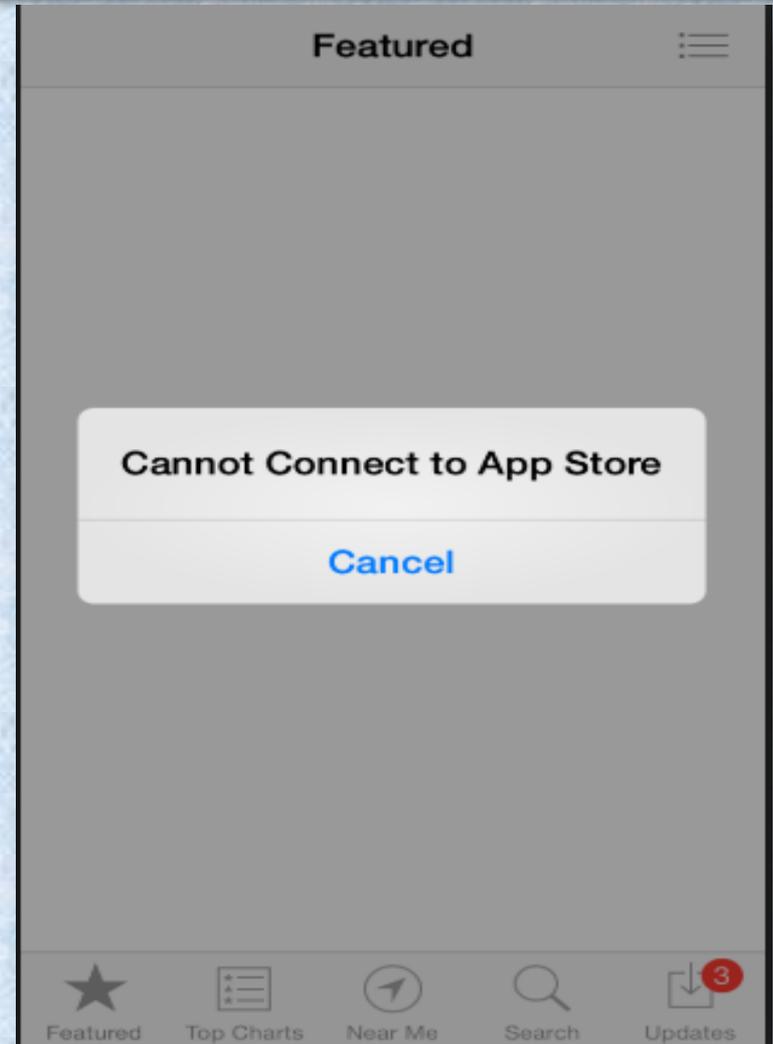
## COMMON IOS PROBLEM TROUBLESHOOTING ( 10 AND 10.1)

### How to Fix : App Store Problems

Tip 1. You can check whether your device is connected to a stable network.

Tip 2. If the network goes well, you can restart or force restart your device, and run App Store to see whether it works normally.

Tip 3. Some caches may save the old images and texts on your App Store, and when you view your visited pages, it doesn't refresh and shows you the latest interface or info. So you can clean these cached files to make your App Store work in normal.



# Troubleshooting Guide

## COMMON IOS PROBLEM TROUBLESHOOTING ( 10 AND 10.1)

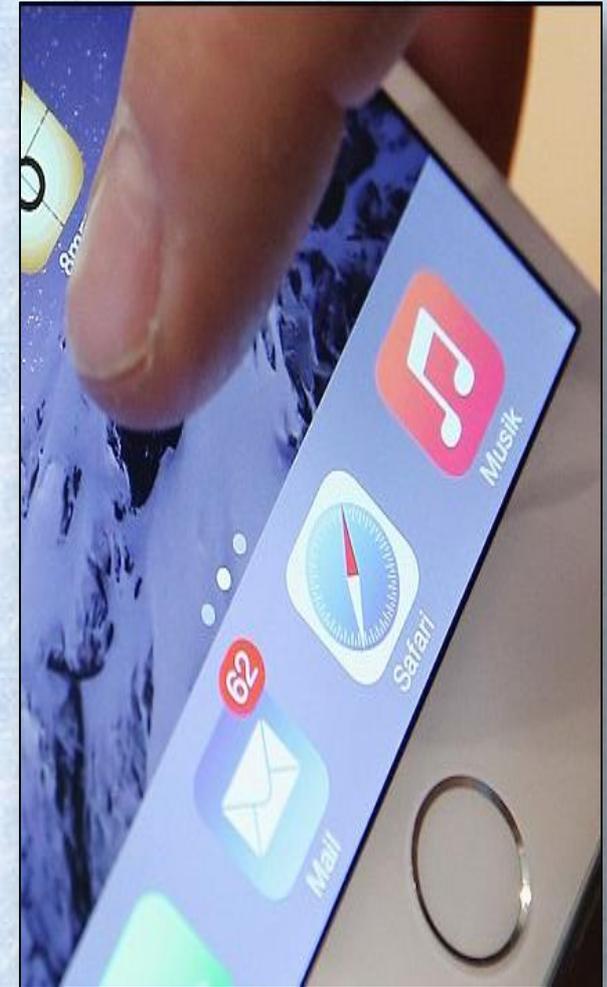
### How to Fix : Safari Issues on iPhone iPad

Actually this common problem is usually caused by bad network.

Try to change another network, or reset your Network Settings.

Cleaning Safari junk could be another tip to fix this Safari problem in iOS 10.

Simple "Restart" works to fix this iOS issue.



# Troubleshooting Guide

## COMMON IOS PROBLEM TROUBLESHOOTING ( 10 AND 10.1)

### How to Fix : Battery Issues on iPhone or iPad After iOS 10/10.1 Update

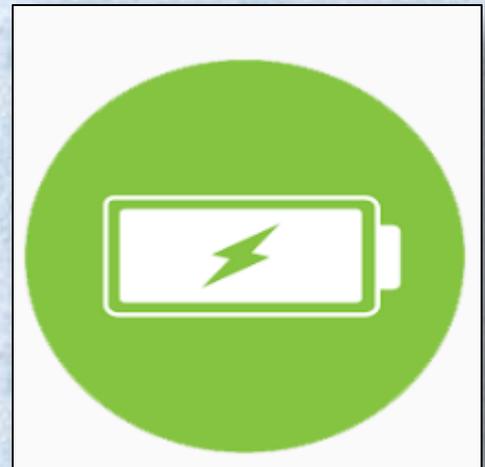
**Solution 1:**  
**Reboot your device.**

**Solution 2:**  
**Erase All Settings.** Open Settings app > General > Reset > Reset All Settings to factory default.

**Solution 3:**  
**Turn on Airplane Mode** if you don't use Device for a long time.

**Solution 4:**  
**Turn off Background App Refresh.** When you enable this feature, the app will work in the background and use the battery.

**Solution 5:**  
**Enable Location Services When Using the App.** Go to Settings app > Privacy > Location Services to set it.



# Troubleshooting Guide

## COMMON IOS PROBLEM TROUBLESHOOTING ( 10 AND 10.1)

### How to Fix : Cellular Data Issues

#### Solution 1:

**Turn Cellular Data Off and On.** Go to Settings to turn off Cellular data and turn it on again after a few seconds.

#### Solution 2:

**Check Out Carrier Update.** Settings app > General > About to have a check.

#### Solution 3:

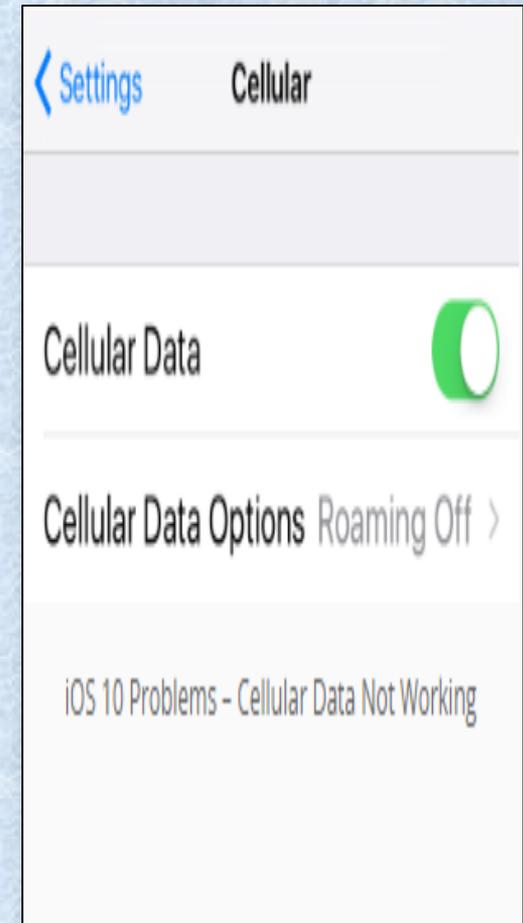
**Reset Network Settings.** Settings > General > Reset > Reset Network Settings.

#### Solution 4:

**Turn Airplane Mode On and Off.** Open Control Center > Turn on Airplane Mode > Turn it off after 30 seconds.

#### Solution 5:

**Restart Your iDevice.** Press and hold down the wake/sleep button > Drag slide to power off > Open your device.



# Troubleshooting Guide

## COMMON IOS PROBLEM TROUBLESHOOTING ( 10 AND 10.1)

### How to Fix : Touch Screen Issues on iOS 10/10.1 Devices

#### Solution 1:

**Restart Your iDevice.** Press and hold down the on/off button and drag slide to power off, and then turn on your iPhone/iPad/iPod touch after a few seconds.

#### Solution 2:

**Reset Your iDevice.** If you cannot restart your device, then you can reboot your device. Hold down the on/off button and the Home button until the Apple logo appears.

#### Solution 3:

**Clean Your Screen.** Have a check on your screen to see if there are some oily or liquid splits and clean the screen with soft cloth. If you have a screen protector, you can remove it to have a try.

#### Solution 4:

**Restore Your iDevice.** Restore your device via iTunes. Make sure to download and install the latest version of iTunes.



# Troubleshooting Guide

## COMMON IOS PROBLEM TROUBLESHOOTING ( 10 AND 10.1)

### How to Fix : How to Fix Charging Problems on iOS 10/10.1 Devices

1. Use an Apple-matched USB cable, and don't use any cheap low quality cables.

2. Check and make sure your USB cables is not damaged.

3. Try hard resetting your iPhone or iPad.

4. Change a USB cable if you have one.

5. Use an iPad Charger will make it faster to charge your iPhone.

# Troubleshooting Guide

## COMMON IOS PROBLEM TROUBLESHOOTING ( 10 AND 10.1)

### How to Fix : Siri Issues on iOS 10/10.1

1. Restart Siri: Settings > General > Siri > Turn off Siri > Turn Siri on again.

2. Reset Network Settings: Go to Settings app > General > Tap on Reset > Tap on Reset Network Settings > Enter your Passcode > Tap on Reset Network Settings to Confirm.

3. Enable Hey Siri: Settings > General > Siri > Tap on Allow Hey Siri.

4. Clean your iPhone/iPad Microphone and make sure it is unobstructed and not damaged.



# Troubleshooting Guide

## COMMON IOS PROBLEM TROUBLESHOOTING ( 10 AND 10.1)

### How to Fix : iPhone Ringtone Not Working Problem in iOS 10/10.1

#### Method 1:

Go to Settings > Sounds to adjust the volume of ringtone.

#### Method 2:

Make sure you have "mute" button set to ring instead of silent.

#### Method 3:

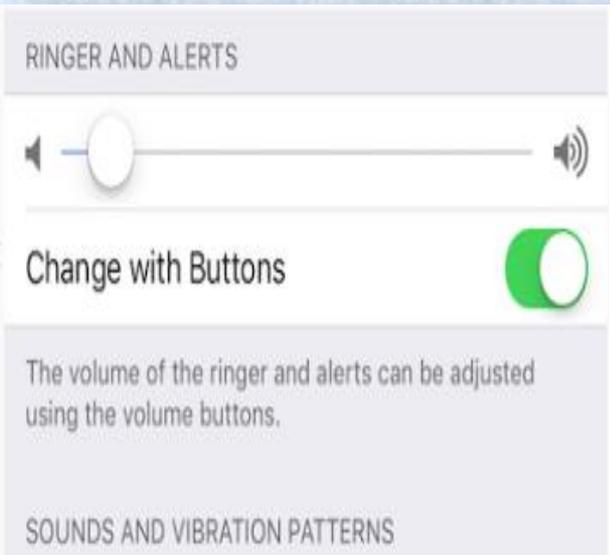
Restart your iPhone.

#### Method 4:

Update to new iOS 10 update.

#### Method 5:

Contact Apple.



# Troubleshooting Guide

## COMMON IOS PROBLEM TROUBLESHOOTING ( 10 AND 10.1)

### How to Fix : iPhone Won't Make or Receive Calls After Update

1. Reset Network Settings.

2. Update your carrier.

3. Verify blocked phone numbers.

4. Try re-inserting the SIM card.

5. Try to restore your phone and set it up as new.

iOS 10 Issues: iPhone Won't Make/Receive Calls



Cancel



Call Back

# Troubleshooting Guide

## COMMON IOS PROBLEM TROUBLESHOOTING ( 10 AND 10.1)

### How to Fix : Fix iTunes Error 14 When Installing iOS 10/10.1

#### Solution 1:

Check Your USB Cable. iTunes error 14 may happens when you have a USB connection issue.

#### Solution 2:

Backup and Try Clean Restore. First backup your device and then perform a clean restore of iOS 9.3.5. Then have a clean restore of iOS 10. Finally restore your device with the backup you created after installing iOS 10 successfully.

#### Solution 3:

Update iTunes to the Latest Version. Apple has always released new version of iTunes to work with the new operating system, so go to have a check and update the iTunes to the latest version.

### How to Fix : iPhone/iPad Software Update Server Could Not Be Contacted

#### Solution 1:

Check Your Network Connection. Open a browser to see if it can load a webpage. You can also restart your computer to have a try.

#### Solution 2:

Wait and Retry. There might be too many people waiting for update, just wait for a while.

#### Solution 3:

Update Your iDevice Over the Air. Go to Settings > General > Software Update to make it.