

# MAC OS & iOS TROUBLESHOOTING

OS X & iOS TROUBLESHOOTING

# RESTART YOUR COMPUTER

OS X & iOS TROUBLESHOOTING

THANK YOU



# iOS

(OUR OPTIONS ARE LIMITED)



iOS is much more secure, much more controlled, much more locked-down. There's not a whole lot we can do to troubleshoot a misbehaving app or device.

# STORAGE & iCloud USAGE

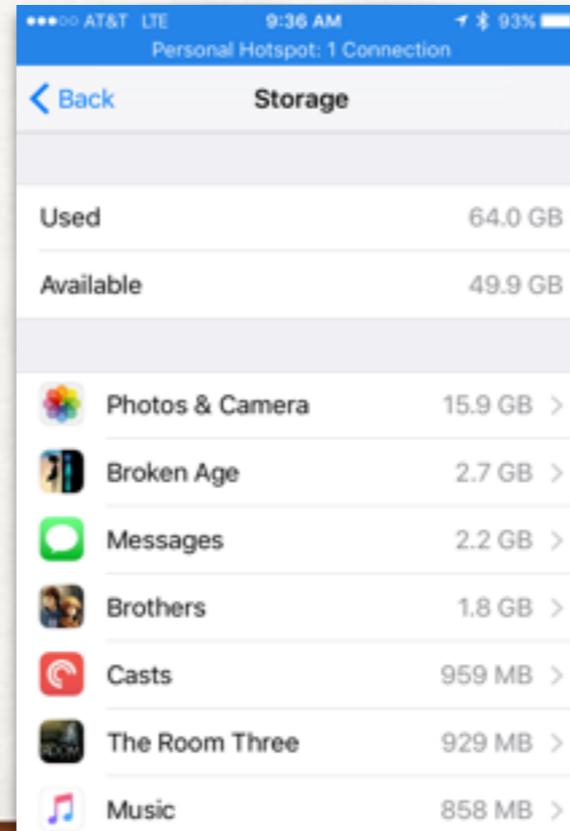
SETTINGS >  
GENERAL >  
STORAGE &  
iCLOUD USAGE



First question: are you out of local storage?

# STORAGE & iCloud USAGE

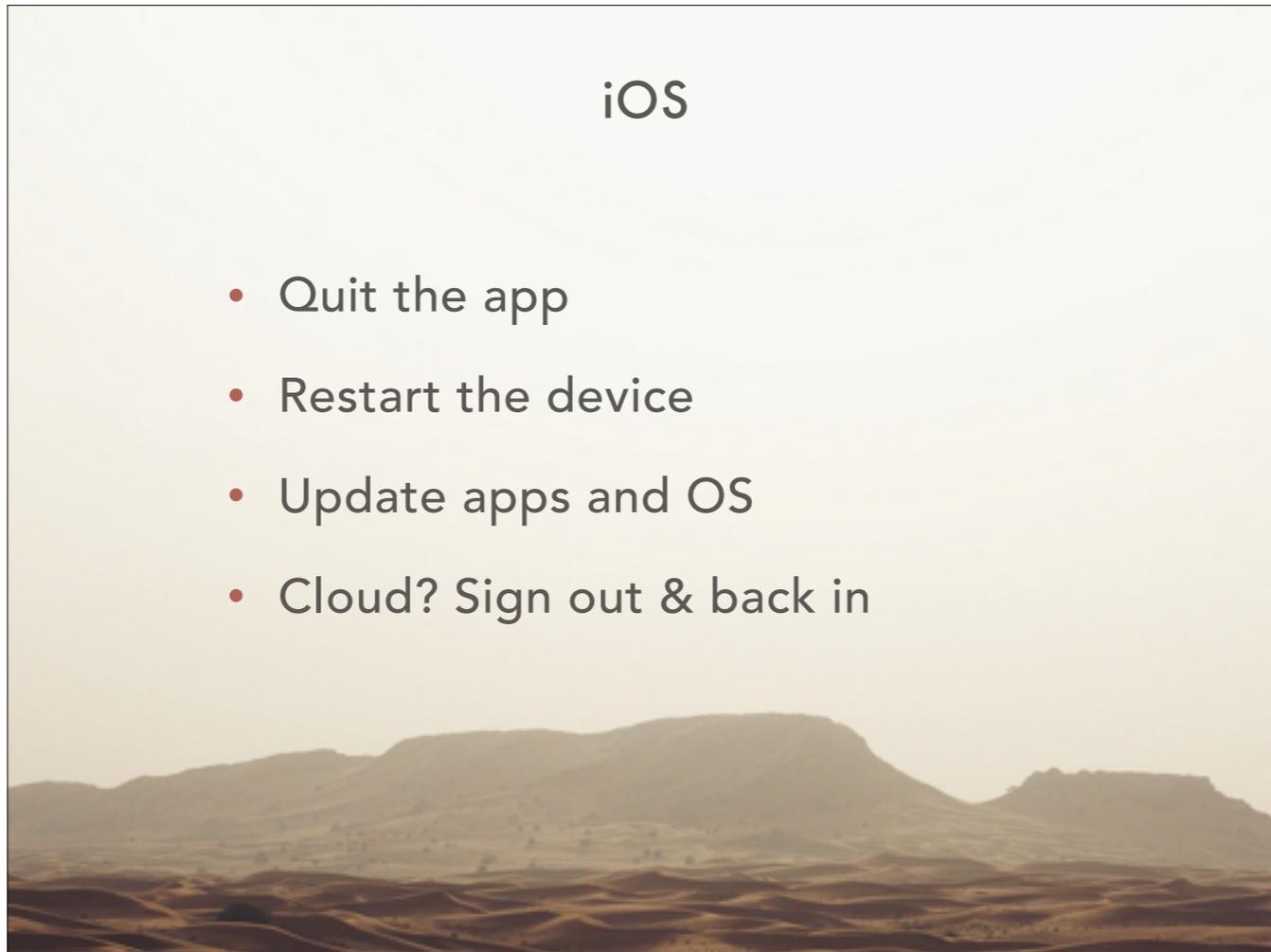
SETTINGS >  
GENERAL >  
STORAGE &  
iCLOUD USAGE >  
MANAGE STORAGE



Category	Size
Used	64.0 GB
Available	49.9 GB
Photos & Camera	15.9 GB
Broken Age	2.7 GB
Messages	2.2 GB
Brothers	1.8 GB
Casts	959 MB
The Room Three	929 MB
Music	858 MB

# iOS

- Quit the app
- Restart the device
- Update apps and OS
- Cloud? Sign out & back in



# MULTITASKING



Press home button, iOS tells the app to quit! As a general rule, apps are NOT running in the background.

An app may say: wait, I'm playing audio, or wait, we're navigating. iOS allows the app to remain in the background.

An app may say: I need to finish downloading, uploading, syncing, saving. iOS allows the app to keep running for just a few minutes. That's it! After that, the app gets suspended: the code stays in memory so that it will open quickly if you switch back to it, but it gets dumped if that memory is needed by another app you open. It's not using battery, and it's not using CPU.

“  
YOU ARE MEANT TO BE THE  
USER OF YOUR DEVICE,  
NOT THE JANITOR.

— *Scotty Loveless*, <http://appinstructor.com/blog/2014/the-ultimate-guide-to-solving-ios-battery-drain#fn14>

”

- If you want to be sure apps aren't running in the background, turn off background app refresh for apps you don't rely on
- The exception to all this is Facebook. Uninstall it to save battery life. It's up to no good.
-

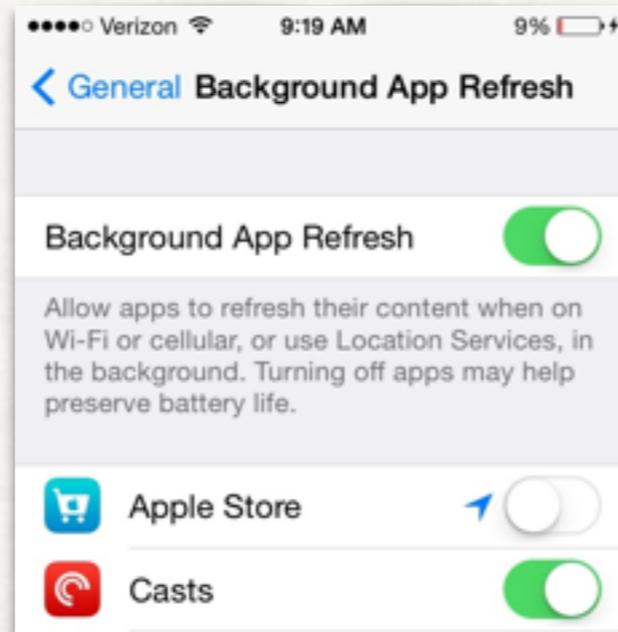
# BATTERY USAGE

SETTINGS >  
BATTERY



Tap that little clock to get more specific info, such as how much background activity the app is responsible for. If you don't like what you see, quit that app, or turn off background refresh for that app.

# BACKGROUND REFRESH



# FORCE RESTART?

<http://apple.stackexchange.com/questions/216402/does-a-force-restart-in-ios-do-anything-different-from-a-normal-restart>

The screenshot shows a question on the Ask Different platform. The question title is "Does a force restart in iOS do anything different from a normal restart?". The question body contains two paragraphs: the first describes the asker's experience at a talk where several members thought a "hard reset" or "force restart of an iPhone or iPad" was a useful troubleshooting procedure, suggesting it does something like clearing caches or resetting; the second paragraph states that the asker has searched Apple's support site, discussion forums, and news websites but found no corroboration. The asker clarifies they are looking for firsthand knowledge or a published reference. The question has 18 votes, is tagged with "ios" and "restart", and was asked by Adam Rice on Nov 19 at 15:12. The asker's profile shows 91 reputation and 4 badges.

Only Apple knows for sure, but I don't think so.

“

THE "HARD RESET" IS A  
USEFUL TROUBLESHOOTING  
FEATURE, BECAUSE IT'S  
VERY OFTEN THE ONLY WAY  
TO RESTART AN IOS DEVICE  
THAT'S MALFUNCTIONING.

— *William T Froggard*

”

“

NORMALLY IT ISN'T  
ADVISABLE TO DO IT FOR  
THE SAME REASON AS ON  
A MAC: IT MAY CAUSE  
CORRUPTION.

— *William T Froggard*

”

“

IT ACTUALLY DOES LESS  
THAN A REGULAR RESTART,  
BECAUSE IT PREVENTS THE  
OS FROM FOLLOWING  
NORMAL SHUTDOWN  
PROCEDURES.

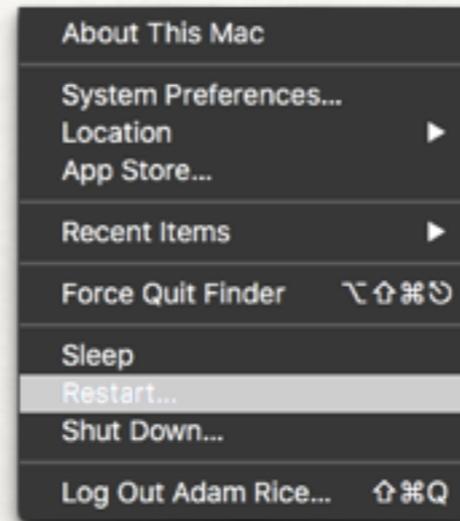
— *William T Froggard*

”

# OS X QUICK FIXES

- Things that are safe to do at any point
- These things may fix the issue without you ever knowing how or why

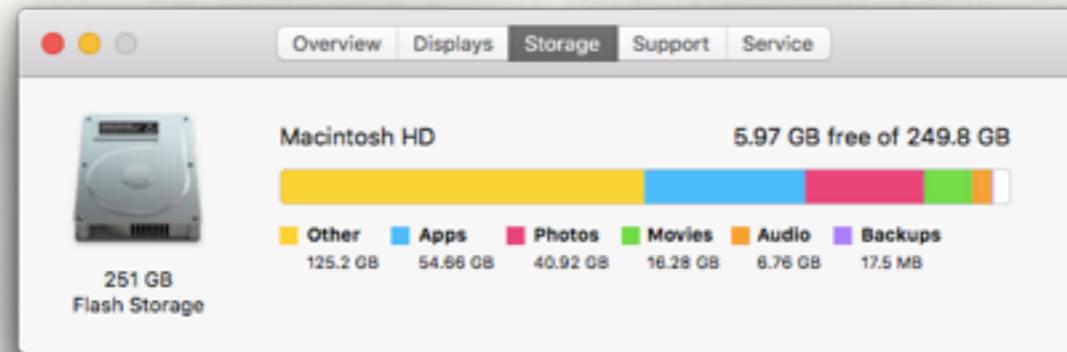
# DID YOU RESTART?



## WHY SHOULD YOU RESTART?

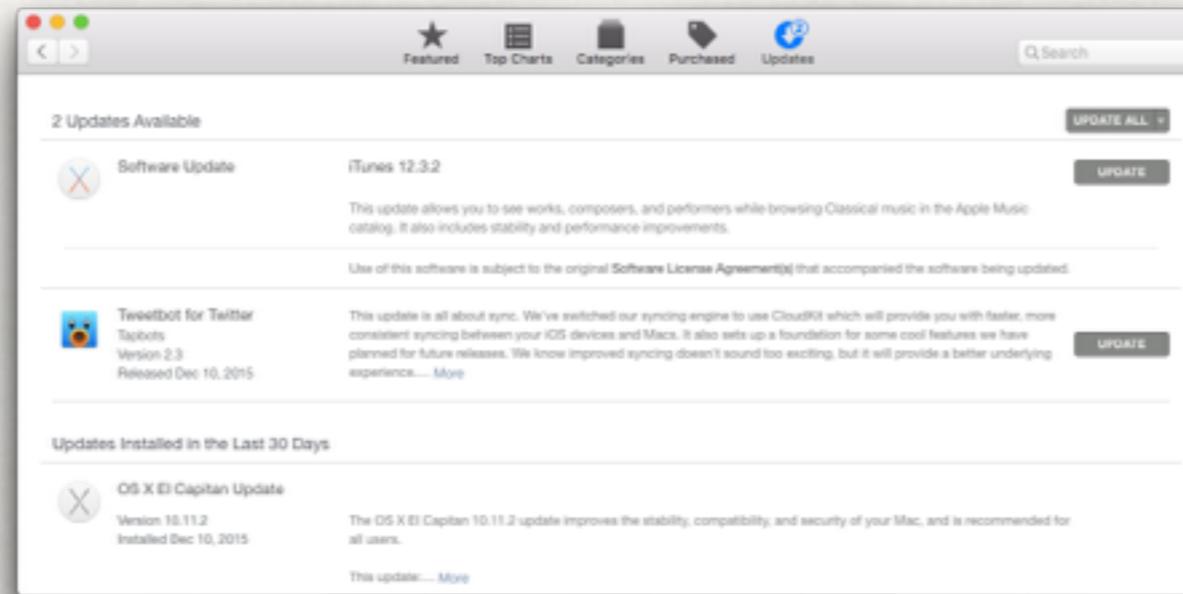
1. Runaway processes
2. Memory leaks
3. Networking glitches

# IS THE HARD DRIVE FULL?



- If you're below 10% free space, expect big performance problems and worse!
- empty the trash
- movies and episodes in iTunes - can usually delete these and get them again from iTunes.
- Photos - free up space by turning on iCloud Photo Library and allowing Photos to "optimize local storage"

# IS EVERYTHING UP TO DATE?



- Always always be running the latest point release. 10.9.5, 10.10.5, 10.11.3 etc.

# START IN SAFE MODE

Hold Shift  on startup

<https://support.apple.com/en-us/HT201262>

- Does a 'repair disk' as in Disk Utility
- Deletes font caches
- Deletes dynamic loader shared cache
- Disables third party kernel extensions
- Disables some graphics drivers/accelerators: you may notice some graphical glitches which is normal.
- (restart normally immediately afterward)

## DISCONNECT THINGS

- hard drives, thumb drives
- card readers
- usb hubs

- Shut down and disconnect everything. A misbehaving external device can cause freezes & things that are very hard to diagnose. Reconnect things one at a time to isolate the issue. (This procedure also reseats cables, in case the problem was just a loose connection.)

## RESET NVRAM

Volume, Video Resolutions, Clock and  
Time Zones, Startup Volume, Key  
Repeat, Mouse Clicking and Tracking,  
System Fonts

# RESET NVRAM

Hold ⌘-⌥-P-R on startup

(also known as PRAM)

- non-volatile RAM is the new parameter RAM. It stores certain settings. Press all these keys and hold them after the startup chime until you hear the chime again, then release.

# RESET SMC

<https://support.apple.com/en-us/HT201295>

(System Management Controller)

- Varies from model to model, involves removing all power and/or pushing buttons. Look at the Apple support article for instructions specific to your model.
-

## RESET SMC

Battery, Brightness, Keyboard Light,  
Fan Speed, Power Button, Sleep

(System Management Controller)

IF THAT DIDN'T WORK,  
TIME TO ASK QUESTIONS...

- quick fixes didn't work! What's going on?
- gather some info
- at this point, we're getting material for Google
-

# ACTIVITY MONITOR



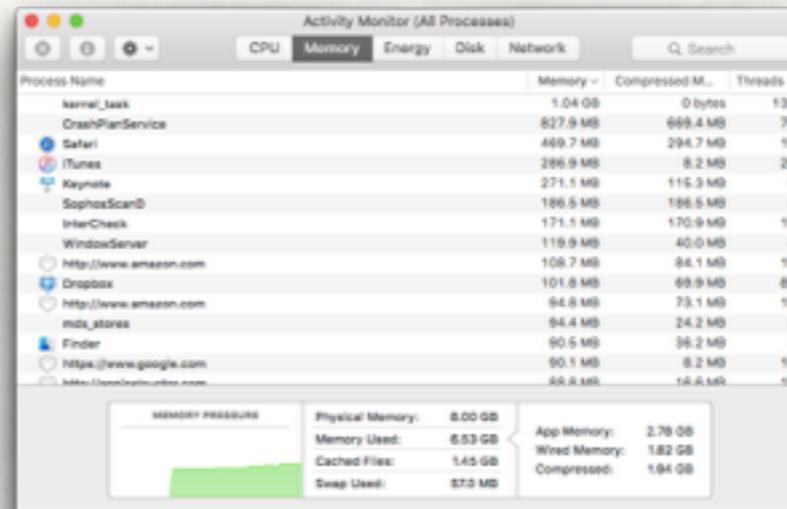
Process Name	% CPU	CPU Time	Threads	Idle	Wake Ups	PID	User
ctprefd	63.0	62:48.88	8	1	142	root	
kernel_task	50.0	1:59:21.78	136	1,786	0	root	
Console	35.7	58.78	7	2	77188	sudama	
WindowServer	26.9	57:27.16	6	41	244	_windowserver	
Activity Monitor	19.0	2.53	8	4	77485	sudama	
bind	18.7	1:21.68	5	0	581	sudama	
Keynote	6.8	12:15.33	22	0	22277	sudama	
SystemUIServer	6.3	4:51.38	9	0	1085	sudama	
Google Chrome	6.9	3:01.80	39	0	60486	sudama	
http://www.macworld.com, ...	6.8	3:30.48	27	71	59394	sudama	
Finder	6.8	2:57.38	12	3	1088	sudama	
warmd	5.5	6:67	5	1	79	root	
blued	5.4	4:26.19	6	1	106	root	
hid	5.2	7:15.90	6	3	123	root	
sandblast	4.7	1:42	6	0	77078	root	
...	4.6	2:14.34	4	0	245	sudama	

System:	27.87%	CPU Load:	1298
User:	34.36%	Threads:	321
Idle:	43.76%	Processes:	

- If the beach ball comes up, switch over to Activity Monitor and see which app is taking up the biggest CPU load (oftentimes this will spike at 100%). If it's a big app like Photoshop, you might need more RAM. If it's something smaller, it's probably a bug. Look for software updates.

# ACTIVITY MONITOR



- Also look at the “Memory Pressure” (on recent versions of OS X) to see if you may be hitting the limit of your available RAM. Green is good, yellow or red means your performance problems could be fixed by adding RAM (or quitting apps & doing less with your Mac).

# ETRECHECK

<http://www.etresoft.com/eterecheck>



EtreCheck

EtreCheck will collect a variety of information about the current state of your Mac and display it in a single, easy-to-read report. EtreCheck will identify any obvious problems in red. If you have a problem that EtreCheck does not show, please contact Apple Support directly or an Authorized Apple Service provider.

- Check the digital signatures of Apple tasks  
This will ensure that your operating system has not been altered. It will also ensure that any tasks that claim to be from Apple really are from Apple. This option may take several additional minutes to run.
- Ignore known Apple failures  
Some Apple tasks are known to report harmless failures. This option will hide those failures.
- Hide Apple tasks  
There are many Apple tasks running on your Mac. EtreCheck hides these Apple tasks unless it finds a problem. Turn this option off to see all of them.

Start EtreCheck

# ETRECHECK

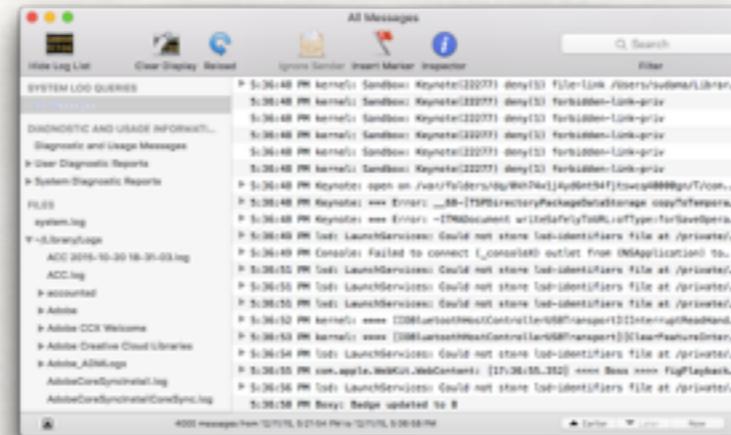
<http://www.etresoft.com/eterecheck>



```
EtresCheck
[Loaded] com.adobe.AAM.Updater-1.0.plist [Click for support]
[Loaded] com.adobe.ARMDC.Helper.sc24sefa1090e096a..._plist [Click for support]
[Loaded] com.adobe.AdobeCreativeCloud.plist [Click for support]
[Loaded] com.google.keystone.agent.plist [Click for support]
[Loaded] com.mac-map.gruntwork.headup.plist [Click for support]
[Loaded] com.mac-map.gruntwork.loginwindow.plist [Click for support]
[Running] com.monitoringclient.cmhelper.plist [Click for support]
[Loaded] com.oracle.java.Java-Updater.plist [Click for support]
[Running] com.sophos.usserver.plist [Click for support]

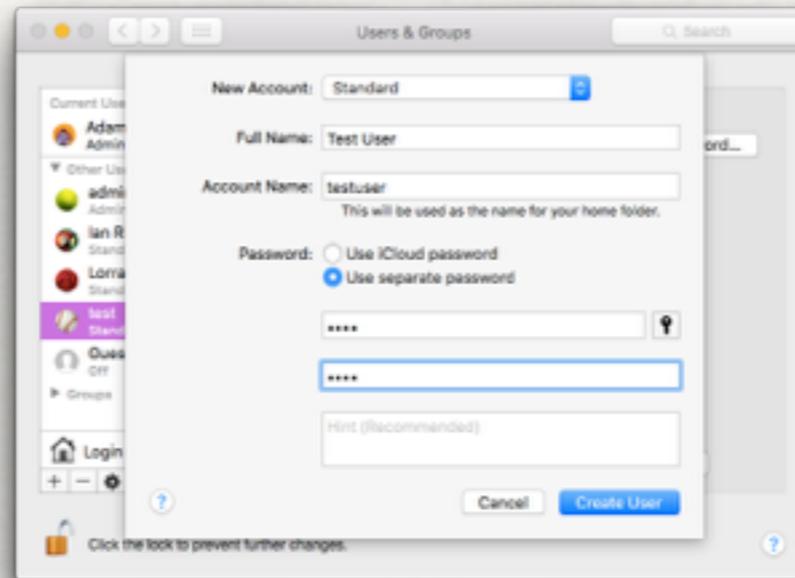
Launch Daemons: (What does this mean?)
[Loaded] com.adobe.ARMDC.Communicator.plist [Click for support]
[Loaded] com.adobe.ARMDC.SMAJobShellHelper.plist [Click for support]
[Running] com.adobe.adobeupdatesdaemon.plist [Click for support]
[Loaded] com.adobe.agsservice.plist [Click for support]
[Loaded] com.barebones.authd.plist [Click for support]
[Running] com.bombich.cochelper.plist [Click for support]
[Running] com.crashplan.engine.plist [Click for support]
[Loaded] com.google.keystone.daemon.plist [Click for support]
[Loaded] com.googlecode.munki.managedsoftwareupdate-install.plist [Click for support]
[Loaded] com.googlecode.munki.managedsoftwareupdate-manualcheck.plist [Click for support]
[Loaded] com.id-design.whotizehelper.plist [Click for support]
[Loaded] com.mac-map.bluesky.helper.plist [Click for support]
[Loaded] com.mac-map.bluesky.plist [Click for support]
[Loaded] com.mac-map.gruntwork.background.plist [Click for support]
[Loaded] com.mac-map.gruntwork.chat.plist [Click for support]
[Loaded] com.mac-map.gruntwork.murkitamer.plist [Click for support]
[Loaded] com.malebytes.MSAMHelperTool.plist [Click for support]
[Loaded] com.macossoft.office.solution.backup.plist [Click for support]
```

# CONSOLE



- Look at the last 48 hours of messages in the system log.
- None of it will make any sense, but trust your intuition and google anything suspicious

# TEST USER ACCOUNT



- Create another user account on the Mac, log in as that user, and test the issue. Good way to tell if the problem is limited to your user account.

# APPLE HARDWARE TEST

Hold D on startup



<http://www.macissues.com/2014/03/21/how-to-run-and-interpret-apples-hardware-tests-on-your-mac/>

- looks like Mac OS 9! (except on very recent macs)
- Just let it do it's thing and write down anything it says, for future Googling or discussion with the Genius Bar etc.

# VERBOSE BOOT

## Hold Command ⌘-V on startup

```
ophash=4022
hl new traps at 0xffff0000
PXE enabled
64 bit mode enabled
rtclock_init: Taking bus ratio path 4 (Intel / Apple)
TSC: Verification of clock speed PASSED.
TSC: Frequency = 2730.94560MHz, FSB frequency = 604.737300MHz, bus ratio = 4
Darwin Kernel Version 9.5.0: Sat Dec 6 19:39:54 PST 2008; root:xnu-1228.7.50/RELEASE_ARMV8_T802
standard floating quantus is 10000 us
vm_page_bootstrap: 394077 free pages and 5113 wired pages
alg table max displ = 75
R0PI CR 20051117 (debug level=0 layer=0)
AppleACPICPU: ProcessorAppleID=0 LocalAPICID=0 Enabled
Loading security extension com.apple.security.TMSafetyNet
calling ego_policy_init for TMSafetyNet
Security policy loaded: Safety net for Time Machine (TMSafetyNet)
Loading security extension com.apple.nke.applicationfirewall
Loading security extension com.apple.security.seatbelt
calling ego_policy_init for sb
Seatbelt MKF policy initialized
Security policy loaded: Seatbelt Policy (sb)
Copyright (c) 1982, 1986, 1989, 1991, 1993
The Regents of the University of California. All rights reserved.

MFC Framework successfully initialized
using 7064 buffer headers and 4096 cluster IO buffer headers
IOAPIC: Version 0x11 Vectors 0:23
R0PI: System State (S0 S1 (S0)
R0PI: Button driver prevents system sleep
R0PI: Button driver prevents system sleep
USB: 0.071 AppleUSBHC110x31550001::CheckSleepCapability - controller will be unloaded across sleep
SMB WARNING: Checksum Cookie not valid
USB: 5.909 AppleUSBHC110x31550001::CheckSleepCapability - controller will be unloaded across sleep
```

- If startup doesn't complete (or you want to impress onlookers) boot up in verbose mode
- notice where it gets stuck, take a picture of the screen or copy down the last line or two for googling

# EXTREME MEASURES

- Recreate disk directory with DiskWarrior  
<http://www.alsoft.com/DiskWarrior/>
- Use Recovery Mode to repair disk or to reinstall OS X



- DiskWarrior is commercial software that requires booting from a separate drive. It can fix problems that Apple's Disk Utility cannot.
- if you have backups, some of these things are a lot less scary

## EXTREME MEASURES

- iCloud
  - Turn off features
  - Sign out & back in
- Remove and recreate email accounts

# EXTREME MEASURES

- Rebuild the Spotlight index

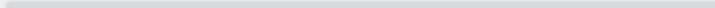
<http://www.macissues.com/2014/12/12/how-to-determine-when-your-spotlight-index-needs-to-be-rebuilt/>

- Boot from a backup

Carbon Copy Cloner: <https://bombich.com>

# MY CHECKLIST

Checklist

0% 

- Check OS version & installed RAM
- Check free HD space
- Check SMART status of all reporting drives
- Look at 72 hrs of system logs in Console
- DiskWarrior: rebuild directory
- Disk Utility: Repair Permissions
- Review launchagents, launchdaemons, startup items, and Login Items
- Safe Boot
- Check for Software Updates
- Check for MS Office updates
- Check for Adobe Flash updates
- Check for Java updates
- Run MBAM Mac
- Check firefox amd chrome for updates

## LINKS

- <http://www.macissues.com>
- [http://www.macobserver.com/tmo/features/tmo\\_quick\\_tip/](http://www.macobserver.com/tmo/features/tmo_quick_tip/)
- <http://appinstructor.com/blog/>
- <http://apple.stackexchange.com/>
- <https://discussions.apple.com/welcome>
- <http://www.eresoft.com/healthymac>
- <https://www.takecontrolbooks.com/jot-troubleshooting>

# APPLE

- Isolating issues in Mac OS X  
<https://support.apple.com/en-us/HT203161>
- Mac OS X: How to troubleshoot a software issue  
<https://support.apple.com/en-us/HT201516>
- About the screens you see when your Mac starts up  
<https://support.apple.com/en-us/HT204156>
- If your Mac won't turn on  
<https://support.apple.com/en-us/HT204267>

OS X & iOS TROUBLESHOOTING

# NOTHING EVER CHANGES



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 Consultants Network