**How to revert any android back to stock rom**

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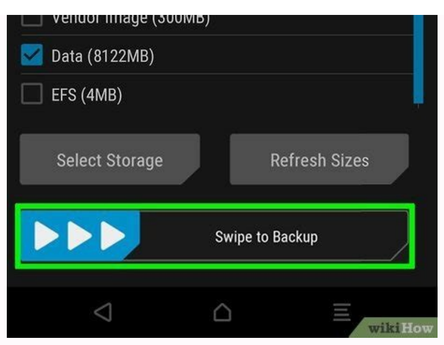




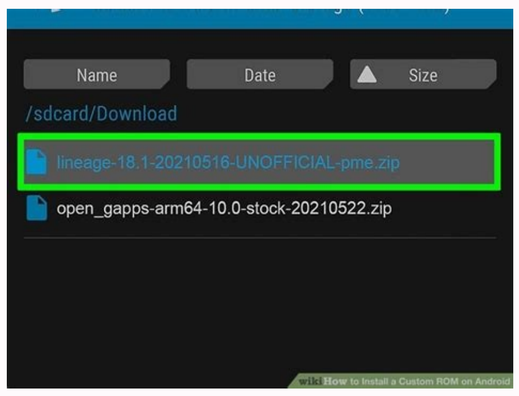


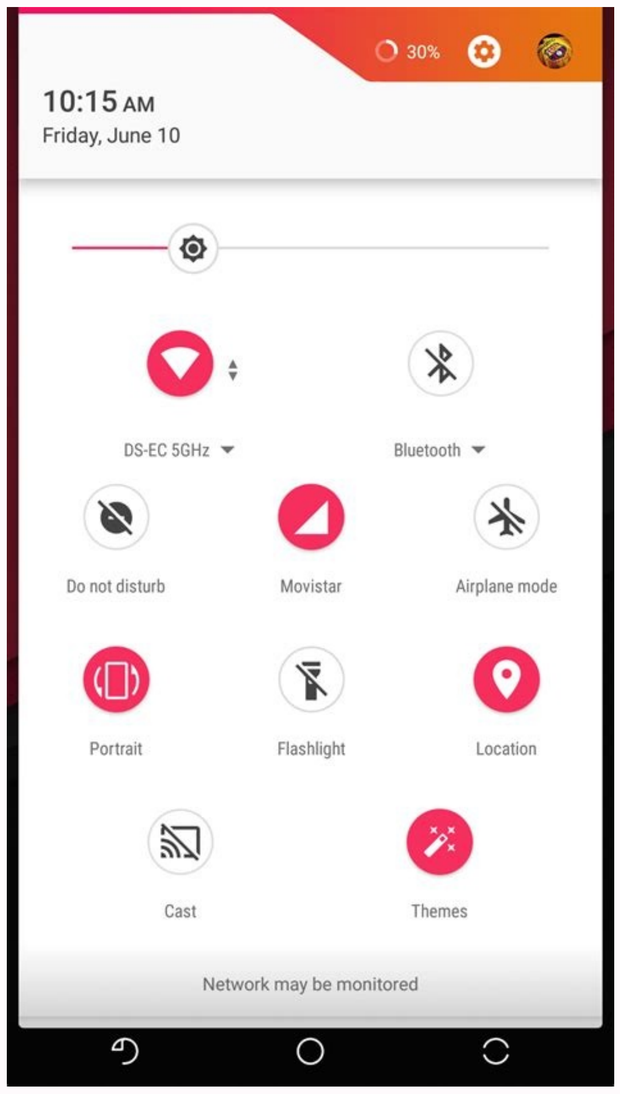


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Smartphone enthusiasts have long craved a mobile ecosystem that prioritizes privacy and security above all else. This is because while Android and iOS have both received substantial privacy-improving updates, they still ship with copious amounts of trackers and third-party software. If you're concerned about the implications of these practices, good news is on the horizon! Custom ROMs including LineageOS, CalyxOS, and GrapheneOS offer a way to make your smartphone experience completely private and secure. But which one is right for you, and how does one solution differ from the other? Let's find out. LineageOS: The Popular Choice The only definite way to achieve a privacy-first smartphone experience is to install a custom ROM. For the uninitiated, this simply means replacing the stock operating system on your phone with one developed by the community. For the better half of the past decade, LineageOS has been seen as the best custom ROM among smartphone enthusiasts. Unlike the operating system that shipped with your phone, LineageOS is fully open source and does not come with any proprietary software baked in. As a result, you'll find a lot of creature comforts outright missing. This includes apps like the Play Store as well as cloud backup features provided by Google. Once LineageOS is installed on your device, you have the option to install Google's suite of applications—or live without them altogether. This flexibility allows you to de-Google your life in a way that is simply not possible with traditional Android smartphones. But there's also another option that serves as a middle ground between embracing Google's services and shunning it completely: the microG project. The microG Project Every traditional Android phone ships with Google Play Services, an app that serves as a bridge between other applications and Google's own services. This includes services such as authentication, notification sync, Google Drive backups, and the like. microG, on the other hand, aims to provide a replacement to these services in a way that does not involve Google at all. More technically, it is a free (as in freedom) and open-source re-implementation of Google's own services. Use it with LineageOS, and you'll get something close to the full Android experience. With microG, you can meaningfully improve your privacy compared to your phone's default setup, without losing useful functionality. Some perks include access to the Google Maps API and app from the Play Store, albeit via a separate app store. Third-party apps that rely on these services should also just work—without throwing up errors or crashing. For instance, apps like Uber that display a map should work with microG installed but will completely fail to load without it. Since many apps also use Google Play Services to enable push notifications, this functionality will also be restored with microG. Without it, certain applications will only check for new notifications when you open them. CalyxOS and GrapheneOS: The Best ROMs for Privacy While LineageOS is definitely far more transparent than stock ROMs, its primary goal was never to develop a truly-private smartphone experience. For that, consider more privacy-hardened custom ROMs like CalyxOS and GrapheneOS. These two contenders are far newer than LineageOS. However, they cater to a much more discerning audience—one that values privacy and security above all else. CalyxOS Unlike Lineage, CalyxOS includes a whole host of features right out of the gate, including the ability to communicate through encrypted protocols, anonymized web browsing, and automatic security updates. The ROM ships with DuckDuckGo's browser and search engine, ensuring that your online activity remains anonymous. Your personal data can also be backed up at any time, with strong encryption to boot. While you can install microG if you'd like, the entire operating system is usable without Google services. Finally, CalyxOS includes support for Android Verified Boot, a part of the Android OS that ensures all executed code on the device comes from trusted sources. GrapheneOS This heavy emphasis on privacy and security is taken one step further with GrapheneOS, which has far more development work put into it. It not only includes everything that CalyxOS does, but also adds features such as a hardened browser and kernel. What this means is that almost every aspect of the operating system is optimized to keep out attackers. For instance, if you install GrapheneOS on a Google Pixel device, the system is capable of completely disabling cellular radio transmission on a hardware level. This means that your device cannot communicate with the outside world when you toggle airplane mode. This is an important feature if you're in a foreign country, for example, and you'd like to keep your location hidden from local carriers. Since GrapheneOS is designed to be used without microG, it provides a minimal compatibility layer for apps to continue functioning even in the absence of Google-related services. Which Privacy-Focussed Custom OS Should You Install? If you value your privacy above everything else—even the occasional convenience provided by Google apps—look no further than GrapheneOS. It is undoubtedly the absolute pinnacle in terms of device protection and security at this point in time, and even caught the eye of Edward Snowden. However, if you're not willing to sacrifice as much usability, CalyxOS with or without microG installed offers the perfect middle ground between convenience and privacy. It receives monthly security updates, which is slower than GrapheneOS—but still far better than certain manufacturers. The Catch: Compatibility The only catch with both these operating systems is that they can only be installed on Google's recent Pixel smartphones. CalyxOS does support a couple more smartphones, namely the Mi A2 and second-generation Pixel phones. However, compatibility is a sore downside for these privacy-focused operating systems, given the complete lack of development for smartphones from other manufacturers. Nevertheless, if you own a smartphone that is not supported by either CalyxOS or GrapheneOS—consider installing LineageOS without Google apps or even microG. The list of officially supported smartphones is far longer when it comes to LineageOS. Almost every major Android smartphone manufacturer makes devices that can be made to work with the ROM. While the kernel, browser, and other aspects of the operating system aren't as privacy and security-hardened on LineageOS, it should still offer a meaningful upgrade over your phone's default state. If you're interested in boosting your privacy and security, these ROMs are worth trying. And remember, you can always revert your phone back to stock if you need to. In this article, you will learn how to flash stock firmware files on the Samsung Galaxy A51. The Samsung Galaxy A51 comes with Android 10 Pie out of the box with One UI 2.5 skin. As with every other Android device, you can flash different custom ROMs on the Galaxy A51. A ROM drastically changes the way the phone looks and feels, and in some cases can improve battery life. While a custom firmware is a good thing to have, sometimes you might need to go back to a stock ROM, for a number of reasons. For example, a custom ROM might cause some unexpected issues and sometimes can even brick your phone entirely (flashing the wrong firmware). In any case, it is always good to know how to flash a stock firmware on the Galaxy A51. Why Flash Stock Firmware on the Galaxy A51 Bricked phone: When users install a ROM or mod that is not designed for their phone model, they brick their phones. When a phone gets bricked, it goes in a boot loop and a factory reset cannot fix it. Back to stock: If you have modified the current firmware or have installed various mods, flashing stock firmware files is a good way to revert your phone back to stock. The new firmware will overwrite the old one, and reset everything. Prerequisites Go to Settings > About Phone > Software Information. Quickly tap 7 times on Build Number to enable Developer Options.  Go to Settings > Developer Options and tap on USB Debugging. This will allow your phone to communicate with the computer to install the new firmware. Go to Settings > Developer Options and enable OEM unlocking. Make sure you have at least 60% of battery life left. If your phone gets stuck during the installation process, it will not turn off. Download the latest Samsung USB drivers for the Galaxy A51 (Download) Download Odin (Download) Frija (Download) Steps to Flash Stock Firmware on the Galaxy A51 Make sure to download both ODIN flashing tool and the Galaxy A51 stock firmware from the download links above and extract both packages. Launch the extracted ODIN file. Turn off your phone and go into Download Mode. To do so, press and hold the volume down + power buttons at the same time. Connect your phone to your computer using the provided USB cable. If the USB drivers are properly installed, the ID:COM box in ODIN will turn blue. Click the AP/PDA button and select the extracted firmware button. Go to Options and make sure to disable Re-Partition and enable Auto Reboot and F. Reset Time. Click the Start button and wait for the firmware to be installed on your Galaxy A51. Once the installation process is over, ODIN will show a green "PASS" text with the time it took to install the firmware. The phone will automatically restart a few times before it boots up. When the phone boots up for the last time, it will be running the newly installed stock firmware. If you any questions, let us know below. If your phone has an unlocked bootloader, you can use Fastboot commands to flash factory images. That may sound like a bunch of technical jargon, but when it comes down to it, this is the best method for updating a rooted device, fixing a bricked phone, reverting to stock, or even getting new Android updates before everyone else.Much like ADB, Fastboot is a very powerful Android utility that accepts commands through a terminal shell. But if that sounds intimidating, don't worry—because once you've learned your way around things, you'll know so much more about the inner workings of Android, as well as how to fix most common problems.Don't Miss: Know Your Android Tools: What is Fastboot & How do You Use It? The process outlined below will work for most Nexus, Pixel, HTC, and Motorola devices, as well as phones and tablets from many other manufacturers. However, Samsung devices use their own firmware-flashing software, so Fastboot isn't the way to go if you own a Galaxy. Instead, it's best to use Odin to flash firmware on a Samsung device, and we've covered that process at the following link.Don't Miss: How to Flash Stock Firmware on Your Samsung Device Using Odin First, you'll have to install ADB and Fastboot on your computer, which are the utilities that let you flash images using Fastboot commands. There are several "one-click" and "light" versions of ADB and Fastboot made by third-parties, but I wouldn't recommend using these because they're not updated as frequently as the official utilities, so they might not be fully compatible with newer devices.Instead, your best bet is to install either the Android SDK Tools, which contains ADB and Fastboot, or just ADB and Fastboot, from Google. No matter if you choose the full package or just the platform tools themselves, they're the real deal. I've outlined the install process for Windows, Mac, and Linux in Method 1 at the following guide, so head over there to get started.Don't Miss: How to Install ADB & Fastboot on Windows, Mac, or Linux In order to flash images using Fastboot, your device's bootloader will need to be unlocked. If you've already done this, you can skip ahead to Step 3.But before you can unlock your bootloader, there's a setting that you'll need to enable if your device shipped with Android Marshmallow or higher preinstalled. To access this setting, start by enabling the Developer options menu on your phone or tablet. Once you've done that, open the Developer options menu, then enable the switch next to "OEM unlocking," and you'll be good to go. If this option is not present on your device, it's likely that your device didn't ship with Android Marshmallow or higher preinstalled. However, if the option is present but grayed out, this usually means that your bootloader cannot be unlocked, which means you won't be able to flash images using Fastboot. In order to run any Fastboot commands, your phone or tablet will need to be in bootloader mode. This process will vary depending on your device.For most phones, start by powering your device completely off. When the screen goes black, press and hold the volume down and power buttons simultaneously, and keep holding them for about 10 seconds.If that doesn't work, turn the phone off, then press and hold the volume down button. From there plug a USB data cable into your PC, then simply wait a few seconds.If that still didn't work, try repeating the USB cable method, but this time use the volume up button.Within moments, you should be greeted by Android's Bootloader menu, which should look something like this: Bootloader mode on the Pixel XL. Image by Dallas Thomas/Gadget Hacks When you see this screen, make sure your phone or tablet is plugged into your computer with a USB data cable. Aside from that, leave the device alone, as the rest of the work will be done on the computer side of things. Navigate to the ADB and Fastboot installation directory on your computer. For Windows users, this can usually be found at C:\Program Files (x86)\Android\android-sdk\platform-tools. For Mac and Linux users, it depends on where you extracted your ADB folder when you installed the utility, so search your hard drive for the platform-tools folder if you've forgotten.From here, if you're using a Windows PC, hold down the shift button on your keyboard, then right-click any empty space and choose "Open command window here." For Mac and Linux users, simply open a Terminal window, then change directories to the platform-tools folder inside of your ADB installation directory. This next step is something you only need to do once, so if your bootloader is already unlocked, you can skip ahead. Otherwise, you'll need to run a single Fastboot command—but note that this will wipe all data on your device.Before we get into this part, note that I'll be listing the commands for Windows users. Mac users will have to add a period and a slash (./) before each of these commands, and Linux users will have to add a slash (/) to the front.So from the ADB shell, type the following command, then hit enter.If that returns a series of letters and numbers followed by the word "fastboot," then your device is connected properly and you're good to go. Otherwise, refer back to Step 1 to check your ADB and Fastboot installation, and ensure that your device is in bootloader mode as shown in Step 3. Next up, it's time to unlock your bootloader. Depending on the Android version your device shipped with, this will be done in one of two ways.So if your device shipped with Lollipop or lower pre-installed, enter the following command:If your device shipped with Marshmallow or higher, type the following command, then hit enter: Sending the bootloader unlock command to a device that shipped with Marshmallow or higher. At this point, you'll see a message on your Android device asking if you're sure you'd like to

unlock the bootloader. Make sure the "Yes" option is highlighted, and if it's not, use your volume keys to do so. From there, press the power button, then your bootloader will unlock and your phone will reboot back into Fastboot mode. Bootloader-unlock screen on the Nexus 6P. Image by Dallas Thomas/Gadget Hacks Now that your bootloader is unlocked, you're ready to start flashing factory images—but first, you'll have to download the actual images themselves. Below are some links to download the factory images package for common devices.With each of the above links, simply locate your device model in the list, then download the latest available firmware on your computer. If your manufacturer is not listed here, try Googling "factory images for ." Now it's time to flash the images. The first thing you'll want to do here is extract the factory images archive that you downloaded from your manufacturer's website. For that part, I'd recommend using 7-Zip, as it's free and works with most archive formats. Extracting the factory images archive. Next, move all of the contents of the archive to the platform-tools folder inside of your ADB installation directory, then open an ADB Shell window in this folder. For more information on that, refer back to Step 4 above. Factory image files transferred to the platform-tools folder. Aside from that, there are two different approaches you can take when flashing the images. I'll outline both of them in separate sections below. Most factory images packages will contain a "flash-all" script that applies all of the images in one fell swoop. If you're trying to recover your device from a soft brick, this is the simplest way to go. However, it will unroot your device and wipe all existing data, so if you'd rather avoid that, see Option 2 below.But to run the flash-all script, type the following line into the command prompt, then hit enter: Sending the "flash-all" command. The process will take a few minutes, but when it's done, your phone should automatically reboot and you'll be running complete, 100% stock firmware. For a second option, you can flash the system images individually. This method takes some extra work, but it can be used to un-root, update, or un-brick your device without losing existing data.Start by extracting any additional archives from the factory images package. Sometimes, factory images packages can contain a series of three or four nested archives, so make sure to unzip all of them. From there, copy all of the image files to the main platform-tools folder—in other words, don't leave them in any sub-folders. All images extracted from factory images package into platform-tools folder. From here, there are two images that you can get rid of: cache.img and userdata.img. These are the images that will overwrite your data and cache with blank space, so if you don't flash them, your existing data will remain intact.Of the remaining images, six make up the core elements of Android: boot, bootloader, radio, recovery, system, and vendor.The boot image contains the kernel, so if you just want to get rid of a custom kernel that's causing issues with your device, you only have to flash this one. To do that, type the following command into the ADB shell window:fastboot flash boot .img Next is the bootloader image—this is the the interface that you're using to flash images with Fastboot commands. So to update your bootloader, type:fastboot flash bootloader .img Once you've done that, you should reload the bootloader so that you can continue flashing images on the newer version. To do that, type:fastboot reboot-bootloader After that, we have the radio image. This one controls connectivity on your device, so if you're having problems with Wi-Fi or mobile data, or if you just want to update your radio, type:fastboot flash radio .img Then there's recovery. This is something you may or may not want to flash, depending on the modifications you've made. For example, if you've installed TWRP custom recovery, flashing this image will overwrite your modification and replace it with the stock recovery interface. So if you're just updating your modded device, you should skip this one. Otherwise, if you plan to keep your phone stock and want the newer version of stock recovery, type:fastboot flash recovery .img Next up is the big one: The system image. This one contains all of the files that make up the actual Android OS. As such, it's the most essential part of any update.However you may not be updating your phone. You may just be re-flashing the stock firmware to recover from a soft brick. If this is the case, the system image is often the only image you need to flash in order to fix everything, because it contains the entirety of Android. In other words, if you flash this image and nothing else, it will undo any changes you made with root access and put everything back the way it was.So as a cure-all in most soft brick situations, or as a method for getting the core part of an Android update, type:fastboot flash system .img Finally, there's the vendor image. This is only present on newer phones, so don't worry if it's not in your factory images package. But if it's there, it contains a few important files, so type the following line to get this partition updated:fastboot flash vendor .img After you've sent any or all of the above commands, you'll be ready to restart your device and boot into Android. To do that, type: Flashing the factory images individually. At this point, your device should be fully updated, or if you were trying to recover from a soft brick, it should be running flawlessly. And since you now know what each of the core system images actually does, you'll have a better sense of how Android works going forward.Flashing factory images individually has helped me understand more about Android than any other mod or process. If you think about it, Android is just a series of images written to flash storage, and now that you've dealt with each of them individually, you should be able to identify and resolve root-related issues a lot easier. Keep Your Connection Secure Without a Monthly Bill. Get a lifetime subscription to VPN Unlimited for all your devices with a one-time purchase from the new Gadget Hacks Shop, and watch Hulu or Netflix without regional restrictions, increase security when browsing on public networks, and more.Buy Now (80% off) >Other worthwhile deals to check out: Cover photo and screenshots by Dallas Thomas/Gadget Hacks

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