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Technically, Windows users cannot use macOS on their PCs. Furthermore, newer Macs with the Apple silicon chip cannot run Windows. But thanks to the development of emulators and virtualization tools, it is possible for users of both platforms to use one operating system together with another. Ive rounded up four Windows emulators on Mac to help you decide which one to use to install the Windows operating system, apps and games on your Mac. Emulators allow you to reproduce the function or action ofa Windows-based PC on your Mac through virtual machines and guest operating system images. To put it simply, a Windows emulator is a tool that lets you run software or applications (including games) that are otherwise not compatible with your computers operating system or chip architecture. Hence, a Windows emulator for Mac allows you to run Windows 11, for example, on your Mac. This enables you to install and use Windows apps as well as play many Windows-based games. The first and possibly the easiest emulator to have included on our list isnt really an emulator at all. This would be Apples Boot Camp. It comes preinstalled on Intel-based Mac computers, and its free to use. You can access Boot Camp through the Utilities folder in your Macs Applications folder. Boot Camp allows you to install Windows on your Mac. Once installed, you can boot both Windows and macOS. The good thing about using Boot Camp to dual-boot between Windows and macOS is that both operating systems can fully utilize the power of your Mac hardware. It doesnt scale down the performance of the two operating systems. Boot Camp utilizes two partitions on your Macs hard disk to install the two operating systems separately. So, when you boot your Mac, you will be given the option to either boot into Windows or macOS. One letdown of Boot Camp is that it only works with Intel-based Macs; its not compatible with the newer Apple Silicon Mac computers. Availability: Free. Pros Free and built-in to macOS. Delivers a fast and more stable performance. Cons Its not a virtualization tool, so you cant run macOS and Windows at the same time. Takes up a lot of space. You wont be able to change the partition size of your Mac HD once installed. Another popular emulator that lets you run Windows on your Mac is Parallels Desktop. A visualization tool that allows you to create a virtual machine where you can install Windows, and then install apps and play games. Compared to Boot Camp, Parallels Desktop allows you to run Windows within macOS. This means you dont have to reboot your Mac anytime you want to switch between the two operating systems. Another difference between Parallels Desktop and Boot Camp is the fact that it is compatible with Apple Silicon Macs. It might even work better with those Macs. Availability: $99.99 annual subscription fee. A free trial is available. Pros Smooth graphics performance. Lets you install macOS from the recovery partition of Intel-based Macs. Faster than its rivals. Runs ARM-based Windows on Apple Silicon Macs. Cons Not as stable as VMware Fusion. Integrations between Windows guest and Mac host can become quite confusing. VMWare Fusion is similar to Parallels Desktop. Its also a virtualization tool that lets you run Windows OS within macOS. Hence, no rebooting is needed to switch between Windows OS and macOS. VMWare Fusion allows you to use your Mac apps in the background while you use Windows OS. And when youre using Windows, you can expand into full window mode, allowing you to run apps easily and enjoy playing your favorite Windows games. One good thing to note about VMWare Fusion is its Unity Mode. This lets you run Windows Explorer, Windows equivalent to Finder, as an app in macOS. Availability: $149 (30-day trial free version is available). Pros Supports virtualization of any Intel-compatible OS and macOS. Cons Its free, limited-feature version is available for personal use. The virtual machine runs on Macs, Windows, and Linux hosts. Cons May run slower than Parallels Desktop. Lacks support for ARM-based guests or hosts. VirtualBox is another tool that lets you create a virtual machine to install Windows on your Mac without the need to reboot. Its freely available for personal and educational uses. But for businesses, a paid version is offered, which comes with technical support and more features. These also include support for Mac hardware such as the camera, connected printers, and other peripherals. But as it is, the free version has been proven to be stable enough to run Windows apps, games, audio, and 3D graphics. The only letdown is that VirtualBox can be rather difficult to set up. But with patience, Im pretty sure youll be able to run it smoothly. Availability: Free for personal and educational users. A paid version is available for businesses. Pros Offers an unlimited number of snapshots. Easy to install and takes less storage space. Can detect USB devices. Cons Offers limited support for 3D graphics. The user interface needs improvement. I intentionally did not include Wine and CrossOver on the list simply because both of them only allow you to install apps and games on your Mac without the need to run Windows itself in a separate virtual machine. So if you just need to use Windows apps and play Windows games, these two tools would serve the purpose, and serve it well. Wine is free to use while CrossOver is available for $74.00. You might also be interested in how to download and install CrossOver 23 on macOS and play any game you want. Run Windows XP, Mac OS 9, Windows 11, Super Mario Bros. and more on your Mac. Screenshot: D. Griffin Jones/Cult of Mac Collecting old video game consoles and vintage computers is a fun hobby, but keeping all that hardware working can quickly become an expensive, never-ending task not to mention all the space you need just to store the gear. You might instead (wisely) opt to play your favorite games and software using emulators for your Mac. In this guide to Mac emulation, Ill walk you through the best apps you can use to accomplish the two most common scenarios: playing old video games, and taking Classic Mac OS for a test drive on a modern Mac. Plus, Ill wrap up with the easiest way to virtualize modern operating systems like Windows and Linux on your Mac. (This handy virtualization software also works for old and obscure computer operating systems.)Best of all, each of these Mac emulation methods is free and open source. Play retro video games and use old computers with emulators for your MacYou can watch a video that walks through these apps here:1. OpenEmu plays Nintendo, Sega, Atari, Sony games and moreOrganize and play your favorite classics in OpenEmu.Screenshot: D. Griffin Jones/Cult of MacOpenEmu is, hands down, the easiest way to play a classic PC game, like Quake III.Rollercoaster Tycoon or SimTower, consoles you want to emulate. There are dozens of options from the 1980s, 90s and 2000s including some obscure ones like the Vectrex and the ColecoVision.Effectively, its a user-friendly interface on top of a bunch of separate emulators that you would otherwise need to spend an hour or more each setting up. But with OpenEmu, you can download ROM files online copy ROM files from game cartridges you already own and simply drag-and-drop them into the app to add them to your library.Then, you just double-click on a game to launch it. You can customize the controls for your Macs keyboard or use a connected controller. And you can easily create save states to pick up where you left off. You can even use a shader to simulate the blurring effect of a CRT television for old console games or the pixellated LCD of a GameBoy Color.The games will automatically sort into categories by console; you can create your own collections, too.Download from: OpenEmu2. Classic Mac OS emulators for your web browserPoke around Classic Mac OS with Infinite Mac.Screenshot: D. Griffin Jones/Cult of MacInfinite Mac is the easiest way to tool around with early versions of Mac OS, because theres no installation needed. Using the magic of WebAssembly, these open source virtual machines run straight inside any modern web browser. You can set up all manner of combinations of Apple system software with the classic Mac of your choice.All the installations come with some of the most popular apps and games of the era in which the Mac OS was released: MacWrite and MacPaint, Photoshop, Microsoft Word, KPT Bryce, Marathon, Another World, SimCity, Lemmings, Civilization and more.You can add your own software that you find online from sites like Macintosh Garden with a simple drag-and-drop. Infinite Mac will treat it like youre inserting a floppy disk.Save your work by putting files in the Outside World folder, which will be downloaded instantly to your Mac.Use it at: Infinite Mac website3. UTM virtualizes modern operating systemsUTM is, hands down, the best of all computer emulators for Mac, for running software old and new.Screenshot: D. Griffin Jones/Cult of Mac UTM is the easiest way to emulate or virtualize modern operating systems on a Mac. Its night and day easier to set up than VirtualBox, which has sucked away many frustrating hours of my life that I will never get back.Unlike VirtualBox, adding a new machine using UTM is as simple as clicking a couple of buttons. After you download the (we always recommend emulators on macOS Sierra. You must copy the app to your Desktop, run it once, delete the original, and then move the Desktop copy back to where the app installer left it. Then you run the Setup process from inside the new folder (although you can choose another location if you like).Fire up MAME64. Its a Unix app rather than a native Mac one, and the interface is a bit clunky. Double-click on Configuration Options, then Configure Directories, and then ROMs, and point the app at the folder where your ROMs reside. If you want to stop MAME64 displaying in full-screen, go to Video Options, and set Window Mode to On. Click Save Configuration.To load a game from the main menu, double-click it. You can quickly filter the menu, Spotlight-style, by typing the name of a game. Once a game has loaded, 5 inserts a virtual coin (these are, remember, virtual coin-ops), and 1 starts a single-player game. Typically, arrow keys are used for directional control and Mac modifier keys (Command, Option, Control, Shift) for action buttons, but you can examine full controls by pressing Tab in-game and choosing Input (this Machine).Note you may sometimes find MAME64 opens to a black screen and a Terminal window will complain about video settings. If that occurs, open ~/Library/Application Support/mame/mame.ini in a text editor. Under OSD VIDEO OPTIONS, set video to OpenGL.Best Mac emulators guide: How to emulate C64Still listed as the highest-selling single computer model of all-time, the C64 was huge in the 1980s, with a wealth of amazing games, many of which still stand up today. On macOS, you can choose between VirtualC64 and VICE, the former being more flexible.VirtualC64 needs C64 ROMs dragging to it on startup, after which point you can drag disk (D64) and tape (T64) images to the emulator. Command+D loads a directory from disk, and you can type List and hit Return to see whats on it. To load the first file, use Command+L, then Return, and then type Run and hit Return to start playing.Commodore-specific keys live in the Keyboard menu. Under Emulator setup, you can adjust the joystick settings using keyboard simple press a button and the then and the relevant key. You can then select a keyset from the Port A or Port B menu. (Most C64 games require the latter.)With VICE, X64 is the C64 app, and there are no ROM requirements. Under Settings > Joystick, you define keysets press your desired key first, and then choose a slot by clicking a button. Under Options > VICII, you can adjust the visual filter. To load a game, you can select a keyset from the Port A. Also, note that Command+W doesnt close the virtual C64 instead, it enters a warp mode, which proves handy for zooming past boring bits.Best Mac emulators guide: How to emulate ZX Spectrum &Commodore AmigaIn the UK, the ZX Spectrum was the main competitor to the C64, and its ably emulated with Fuse. Youll need to increase the virtual machines screen size using the View menu, unless you enjoy playing games on stamp-sized windows. Then load a game via File > Open File.One minor snag with Fuse is joysticks can be convoluted to set up and prone to going wrong. On that basis, its best to control games using keys rather than a virtual joystick (and, frankly, old-school Spectrum users would have it no other way anyway); if youre using Z80 game files rather than TZX or TAP, hit None if they come with preconfigured control options.Our nextsystem of choice is the Commodore Amiga, a superb machine fans somehow wished might have survived to today brush shoulders with the Mac and PC. Youll need FS-UAE to run Amiga software on your Mac, along with Amiga kickstart files. (These can be bought, fully legally, from Amiga Forever.) 1.3 is a good bet for games.Bung your kickstart files to ~/Documents/FS-UAE/Kickstarts/, and disks (ADF) in the Floppies directory, and then open FS-UAE. Click the ROM & RAM tab (fifth across looks like a black chip), and select your kickstart ROM. Back on the home tab, select a disk image for your floppy drive by clicking the document icon and choosing a file. Then click the Start button.This will launch the separate FS-UAE app, which has a smattering of its own options that are accessed by prodding F12. The arrow keys and the right-hand Option key emulate a joystick; many Amiga titles also support the mouse although like with PC games, you might be better off kitting yourself out with one that has multiple buttons.Best Mac emulators guide: How to emulate BBC MicroFinally, being that were a British site, we couldnt ignore the BBC Micro. Created by Acorn for the BBC Computer Literacy Project, the machine ended up in 80 per cent of British schools. (If our experience was anything to go by, the things were broadly ignored by teachers, and mostly used by kids when it was pouring down during lunchtime and only to have another crack at Frogger rip-off Hopper rather than to delve into educational software.)On the Mac, your best bet to get a virtual BeeB. The Micro up and running is BeebEm. The emulator lacks Retina support, and on install requires the same weird dance as SheepShaver (copy the app to the desktop, run it, then replace the original with the image (SSD file) in Finder to load it into a new virtual fresh. The emulator even comes with a few games in its disking folder fire up Games.ssd and Chuckie Egg for some classic platforming action.Best Mac emulators guide: Whats next?And thats it! Or rather it isnt, because there are load of other systems you can also emulate on your Mac, but were already way over word count and our editor is getting annoyed were knee-deep in another game of Boulder Dash rather than filing this article. Still, if youd like us to cover specific emulators in future or any of the above in more depth let us know. (Once weve finished Cave M and got Rockford to safety, of course.) Whether you have an Apple Silicon Mac or are thinking of buying one, you should know that Apples new processors are great for emulation purposes. Whether its modern 3D consoles or 2D classics, the sheer quantity of native Apple Silicon emulators is something to be celebrated. Why Bother With Emulation? The Mac is not seen traditionally as a gaming platform. Despite efforts to turn that around with support for Apple Arcade, iPhone and iPad apps on the desktop, and a handful of third-party publishers releasing games on Steam and the Mac App Store, the Mac still misses out on the vast majority of games. With the arrival of Apple Silicon in 2020, the Mac hopped from the 64-bit x86 architecture used by Intel chips to an ARM-based in-house solution in the form of the M1. Apple provided a "transpiler" which converts most apps written for Intel Macs into a format that can be used on the ARM-based processors, called Rosetta 2. While Rosetta 2 works remarkably well most of the time, it's not a perfect solution. There's a performance penalty for converting an app, and not everything works. Some apps (and games) simply won't run, and there's nothing you can do about it except hope that the publisher will see fit to update the app in time. For most, this will never happen. Despite huge performance gains over Intel chips and better-than-ever 3D performance as Apple iterates on the Metal hardware-acceleration API, gaming on Apple Silicon has been slow to get off the ground. This is precisely why you might want to look at games that have already been released for different systems. Emulators let you play games written for different hardware using software emulation. On a Mac, this opens up a world of gaming to you that is simply not available natively. It's ideal if you missed out on consoles or gaming platforms when they were first released since stable emulators tend to lag the generation they're emulating by a decade or more. Of course, no article about emulation would be complete without making it clear that emulators are not illegal but downloading copyrighted material that you don't own certainly is. Many of these emulators require BIOS files that will need to be dumped from the original hardware, so make sure you understand the legal repercussions of using BIOS before you proceed. When the M1 chip first launched in 2020, very few emulators had Apple's Rosetta 2 transpiler, with varying degrees of success. Fast forward to the release of the M2, and there are plenty of emulators available with native Apple Silicon support. With a native app, the full power of the M1, M2, and similar chips can now be used by the emulator and many even include support for Metal. More efficient native apps deliver improved power efficiency, which makes gaming on a battery using a MacBook even more attractive. Emulators that require more power to emulate more recent platforms like the Xbox and PlayStation 2 can now run with better-than-native graphics. Many of these emulators include the ability to run games are far higher internal resolutions than they were intended for, with support for local and online multiplayer. Nintendo Wii (2006) and GameCube (2001): Dolphin Dolphin is a Nintendo Wii and GameCube emulator with Mac, Windows, and Linux versions available. Development began around Dolphin started development in September in May 2021, noting that "M1 hardware is fantastic ...what we have is already efficient, powerful ...the only big downside is the proprietary graphics API present in macOS the Dolphin performance guide the most out of the emulator, but you'll likely have enough performance in the bag to make use of some of Dolphin's enhancements. Cpu is a resolution that exceeds the 480p Wii baseline, anisotropic filtering to make textures look better, and options for anti-aliasing to get rid of jagged lines. You can use a real Wiimote and GameCube controllers, or emulate Nintendo's controllers using alternative hardware instead. Xbox (2005): xemu Microsoft has put a lot of work to get many original Xbox games running on the latest Xbox Series hardware, but the catalog still falls short. While games like Psychonauts and BLACK work well on the latest consoles, many games do not run at all. If you don't own a recent Xbox, your options for playing many of these classics are sorely limited. Step in xemu, an original Xbox emulator for Mac, Windows, and Linux. At the time of testing, xemu deems 72% of tested titles as "playable" with only 3% clearing the "perfect" barrier (with 20% of titles managing to start and around 5% not working at all). Thankfully, the vast majority of the best Xbox titles are perfectly playable with only minor glitches. This includesjet Set Radio Future (which looks stunning when you bump up the internal resolution thanks to its cel-shaded graphics),Halo: Combat Evolved and its sequel, andKnights of the Old Republic. The emulator even supports automatic controller mapping for supported joypads, further simplifying the setup process. PlayStation 2 (2000): AetherSX2 PCSX2 is a PlayStation 2 emulator that's been in development for at least two decades, and AetherSX2 is a fork of that same emulator for Apple Silicon machines. Since one is based on the other, the game compatibility list is almost identical between them. PCSX2 has since started including Mac builds among its nightly releases, but these still lag behind Rosetta 2 and don't natively run on Apple Silicon (yet). With AetherSX2, you can play one of the most celebrated and jam-packed libraries of games ever released. PCSX2 boasts a 97.96% playable rate for all tested games at the time of writing, and you should expect very similar results from AetherSX2 since it's based on the same code. The two emulators look remarkably similar in terms of UI, from the graphical options (that include internal resolution scaling and bilinear filtering) to the controller setup and system-specific features in the native AetherSX2 build. Dreamcast (1998): Flycast The Dreamcast is one of the most-celebrated consoles ever, yet its failure to grab a chunk of the market (and the dismal performance of its predecessor, the Saturn) saw Sega exit the world of video game hardware for good. The Dreamcast's legacy is its games library, which includes some of Sega's best originals and a hearty helping of arcade ports. Flycast is a fork of the successful but since discontinued Reicast project, with builds made especially for Apple Silicon machines. In addition to original Dreamcast games, Flycast can also be used to play Sega NAOMI (including CD-ROM versions) and Sammy Atomiswave arcade board ROMs. Once configured the emulator runs many games flawlessly, including Jet Set Radio,Power Stone, andSonic Adventure. The emulator picked up our Xbox Series X controller first time, with no configuration required. The emulator is pre-configured to useDreamcast Live servers for online games. MS-DOS: DOSBox with Boxer DOS is nowhere near as resource-intensive as many of the other systems on this list, but native Apple Silicon support is still nice. A more efficient build that runs natively means better power consumption and longer battery life if you're looking to play games on the go. You can grab a native build of DOSBox and configure it yourself, or you can make things much easier by downloading the Boxer front-end. This makes installing and managing your MS-DOS game collection easier than doing it manually with the DOS command prompt, with an attractive "game shelf" that lets you browse the main draw. The original Boxer project ceased development in 2016 but has since been revived with native Apple Silicon support. You can grab early builds from the project's release page, but expect some wonky behavior while the project is still in beta. Commodore Amiga: FS-UAE Just like MS-DOS, the Commodore Amiga platform is hardly a resource-hog. Native Apple Silicon support here doesn't solve massive performance bottlenecks, but it's nice to have native versions available for efficiency purposes. FS-UAE is a fork of the WinUAE project and lets you emulate a huge range of Commodore hardware, provided you have the Kickstart ROMs. You can use modern gamepads, create custom Amiga machines based on your configuration, and use aspect ratio correction to display games on modern displays, with advanced shaders. There's even support for online play! Multiplatform: RetroArch RetroArch is a multiplatform emulator with support for a huge number of systems (known as cores). Many of the projects listed above can be found within RetroArch, alongside many more for platforms like the SNES, Sega Genesis, Nintendo 3DS, Atari Lynx, and many more. If you need an emulator that does it all, grab yourself a copy of RetroArch and spend some time setting it up. Just because an emulator doesn't have a native Apple Silicon version available, that doesn't mean that older builds designed for Intel processors should run just fine under Rosetta 2, with less visible performance penalty to speak of. macOS supports all major console controllers including Microsoft's Xbox Series, Xbox One, and Xbox 360 wired. You can also use Sony's DualSense PS5 controller and the DualShock 4 PS4 controller, and the DualShock 3 PS3 controller.You can also use the Nintendo Switch Pro Controller, or pair each Joy-Con separately. It's not currently possible to use two Joy-Con as a single controller as is possible on the Switch console. Microsoft Many of these emulators automatically detect your controller and map the buttons accordingly, so you don't need to do anything beyond connecting them via USB or Bluetooth. The 10 Best Emulators for Mac Gaming With the rise of retro gaming and the nostalgia associated with classic console games, many gamers are turning to emulators to play their favorite titles on their Mac computers. Emulators are software programs that allow users to run games from older consoles on modern devices, enabling them to experience the joy of classic gaming on their Macs. In this article, we will explore the 10 best emulators for Mac gaming, covering a range of systems and providing an overview of their features, compatibility, and performance. OpenEmu is one of the most popular emulators for Mac gaming, offering support for a wide range of consoles, including NES, SNES, Game Boy, Sega Genesis, and more. This emulator features a user-friendly interface that allows users to easily browse and organize their game library, as well as customize controller mappings and settings. OpenEmu also supports save states, allowing players to save their progress at any point in the game and resume playing later. RetroArch is a powerful and versatile emulator that supports a wide variety of consoles, including NES, SNES, Sega Genesis, and more. The emulator features a modular design that allows users to load different cores (emulators) for each console, providing flexibility and customization options. RetroArch also supports shaders, allowing users to enhance the visual quality of their games. Dolphin is a popular emulator for Nintendo GameCube and Wii games, offering high compatibility and performance on Mac computers. The emulator features support for HD graphics, allowing users to play their favorite games in high resolution. Dolphin also supports a variety of controllers, including GameCube and Wii controllers, as well as custom mappings for other input devices. MAME (Multiple Arcade Machine Emulator) is a classic emulator that allows users to play arcade games on their Mac computers. The emulator supports a vast library of arcade games from various systems, including classics like Pac-Man, Street Fighter, and Mortal Kombat. MAME also supports custom controls, allowing users to map their keyboard or controller inputs to match the original arcade cabinet layout. PCSX2 is a PlayStation 2 emulator for Mac that allows users to play their favorite PS2 games on their computers. The emulator features high compatibility and performance, supporting a wide range of PS2 titles with smooth gameplay and graphics. PCSX2 also supports custom resolutions and texture filtering, allowing users to enhance the visual quality of their games. PPSSPP is a PSP (PlayStation Portable) emulator for Mac that allows users to play PSP games on their computers. The emulator features high compatibility and performance, supporting a variety of PSP titles with smooth gameplay and graphics. PPSSPP also supports custom resolutions and texture filtering, allowing users to enhance the visual quality of their games. Citra is a Nintendo 3DS emulator for Mac that allows users to play 3DS games on their computers. The emulator features high compatibility and performance, supporting a variety of 3DS titles with smooth gameplay and graphics. Citra also supports custom resolutions and texture filtering, allowing users to enhance the visual quality of their games. DeSmuME is a Nintendo DS emulator for Mac that allows users to play DS games on their computers. The emulator features high compatibility and performance, supporting a variety of DS titles with smooth gameplay and graphics. DeSmuME also supports custom resolutions and texture filtering, allowing users to enhance the visual quality of their games. Cemu is a Wii U emulator for Mac that allows users to play Wii U games on their computers. The emulator features high compatibility and performance, supporting a variety of Wii U titles with smooth gameplay and graphics. Cemu also supports custom resolutions and texture filtering, allowing users to enhance the visual quality of their games. ScummVM is a classic point-and-click adventure game emulator for Mac that allows users to play classic titles like Monkey Island, Day of the Tentacle, and Sam & Max on their computers. The emulator features high compatibility and performance, supporting a vast library of adventure games with smooth gameplay and graphics. ScummVM also supports custom resolutions and texture filtering, allowing users to enhance the visual quality of their games. In conclusion, emulators offer a convenient and fun way for Mac users to experience classic console and arcade games on their computers. Whether youre a fan of retro gaming or looking to revisit old favorites, the 10 emulators listed above provide a diverse range of options for gaming on your Mac. From classic NES and SNES titles to modern PlayStation and Wii games, theres something for every gamer to enjoy with these top emulators for Mac gaming. If youre struggling to find anything worth playing on your Mac, why not look to the classics instead? Here are the best emulators you can use to play old games on your modern Mac. Emulators Are Legal, Downloading ROMs Is Not The software that makes emulation possible is legal, hence the list of playable options linked below. But an emulator without any ROMs is as useful as a console without any games to play. You should be aware that downloading ROMs from the internet for games you do not own is illegal. None of the projects below will link to ROMs, so youd need to figure that part of the equation out for yourself. This is a legally gray area, however it is commonly accepted that creating ROMs from copies of games that you own is permissible. Some emulators even require firmware files from the original software to run, and the expectation here is that you will create them yourself. Learn what a lawyer had to say about the intricacies of video game ROMs and copyright. 1 RetroArch (Multi-Platform Emulation) RetroArch is not really an emulator itself. RetroArch is a multiplatform emulator with support for a huge number of systems (known as cores). Most individual emulators are known as cores and are pulled from the most successful emulator projects of the day. The beauty of RetroArch is that all of your emulation can take place within a single app, from a single interface. You can download cores within the app, point RetroArch at the folders that contain your ROM files, and even rely on the configuration configurations (or remap them as you please). As cores are updated, you can update everything automatically from within the app. RetroArch is a good choice for old and new systems. It often includes multiple cores for platforms so that you can choose which you prefer. Support ranges from old Atari systems to the PlayStation, Dreamcast, and Nintendo 64, plus MAME releases and individual arcade boards. There are even some open source ports included for games like Doom and Quake II. RetroArch also supports netplay, allowing you to play multiplayer titles over the internet either via the lobby or by manually setting a game up. Youll both need to be using an identical ROM to make this work, and you can even use the feature to play over a local network instead of the internet. But an emulation platform that works much in the same way as RetroArch. Everything lives under one roof, with separate emulation cores used to play games from a large variety of systems. The project doesn't get updates like it used to, and only Intel-based binaries are available (but it runs just fine through Rosetta 2 on Apple Silicon Mac models). OpenEmu might not be as performant where it counts like RetroArch is. This might not be such a problem, though, since the emulator mostly focuses on older platforms anyway. Handhelds like the Sony PSP and Nintendo DS make up the most modern portable platforms, with the original PlayStation being the most modern home console. You might prefer OpenEmu to RetroArch for its UI, which looks a lot more like a Mac app than RetroArch does. OpenEmu was designed with a mouse in mind, with ROMs separated by system and displayed in a tiled interface. Adding ROMs is a simple case of dragging and dropping into the app, and you can rate your collection, take screenshots, and use save states too. The app is supposed to download the box art for any titles that you add, but the feature doesn't always work as advertised. Considering how well Apple silicon hardware handles emulation, it would be nice to see the OpenEmu project get a native Apple silicon version. Delta isn't strictly a Mac emulator, but it was the first emulator to receive widespread success on the iPhone and iPad. Though it's not officially available on the Mac, you can download and run Delta on your smartphone or tablet, you can sync both versions using Delta Sync over Google Drive or Dropbox. This will transfer games, save files, save states, cheats, skins, and controller mapping between devices. You can start playing a game on your iPhone, pick it up again on your Mac, and then switch back to your iPhone while maintaining progress across all platforms. This is as close to a truly multi-platform emulator with a focus on Nintendo platforms. You can use it to play NES, SNES, and N64 games plus portables like the Game Boy, Game Boy Advance, and Nintendo DS. It's not as powerful as RetroArch, but it has widespread appeal thanks to its ease of use and play-anywhere approach. As a fledgling PlayStation 3 emulator, RPCS3 might just be the most adventurous project on this list. Its available as a Universal binary for both Apple Silicon and Intel Mac models and it enjoys playable compatibility with almost 70% of tested PS3 titles. The open-source project has been alive since 2011, with an initial public release in 2012. However, it wasnt until mid-2022 that RPCS3 received Mac support, with Apple silicon performing especially well thanks to an optimized build. You can consult the RPCS3 Quickstart Guide to find out what you need to get going, and how things like emulating save files and memory cards are handled. Like many other emulators, RPCS3 allows you to customize the experience to your liking. This includes pumping up the resolution or scaling quality back if youre having performance problems. RCPS3s compatibility list shows that some games are even playable via netplay using RPCN, which tricks the emulator into believing its connected to PSN. The PlayStation 2 had one of the greatest game libraries of all time, not to mention one of the greatest startup chimes of all time. Thanks to PCSX2, you can enjoy both of these things from the comfort of your Mac. This open-source project is available on macOS through Intel binaries that must run through Rosetta 2. Almost 98% of the PlayStation 2 library is classed as playable but only around 1% of those titles are perfect according to the PCSX2 compatibility list. Fortunately, you can always ask on the PCSX2 Mac Support forum for help to solve problems specifically related to the Mac release. Failing that, theres a healthy PCSX2 Wiki that can help you optimize the emulator. Like similar projects, you can increase the rendering resolution to upscale PS2 games and improve the overall visual quality. Its also possible to save states, use cheat data, and create save states so that you can jump right back into the action whenever you want. Play original Xbox games on your Mac with xemu, an open-source emulator that lets you emulate Microsofts original console. This is possibly the most successful emulator project in 2016 but has since been revived with native Apple Silicon support. You can grab early builds from the project's release page, but expect some wonky behavior while the project is still in beta. Considering only around 85% of titles achieve a playable or perfect rating on the compatibility list. Before you play, make sure you understand xemus pre-requisite files requirements, and how to create ROM images of your original XISO format. Once everything is set up, most controllers should just work out of the box, including Xbox One and Xbox Series controllers, and even DualShock 4 and DualSense PlayStation controllers. Networking works for system link games and you can pump up the rendering resolution for greater fidelity. Some games, like Jet Set Radio Future, look surprisingly sharp thanks to the art style (but textures will look a little soft and flat). Perhaps one of the most well-known emulators, Dolphin supports both Nintendo Wii and GameCube games natively on both Apple silicon and Intel-based Macs. Dolphin is arguably one of the most successful modern emulator projects, having been around for more than 97% of tested titles being deemed playable. It runs on Wii and GameCube titles, Dolphin also supports WiiWare games that were downloadable via the Shop Channel. Perhaps one of the most compelling reasons to play with Dolphin, rather than on the original hardware, is the ability to boost resolution, apply anisotropic filtering, and anti-aliasing. Retro achievements are also available in Dolphin, giving you another reason to go back and beat your favorite games of the era. Dreamcast games are playable on your Mac via Flycast, an emulator that not only supports SEGAs final console but the Atomiswave, Naomi, and Naomi 2 arcade boards. You can download Flycast from the projects GitHub page or install the emulator using Homebrew. For the latter, youll first need to download and install the emulator by running the following command in Terminal: brew install -cask flycast What youll get is a Universal binary designed for Intel and Apple silicon Mac models that runs many titles at full speed. Unfortunately, there is no official compatibility list for Flycast, so theres a bit of trial and error involved. Weve had success playing Sega Rally 2, Sonic Adventure 2, and Metropolis Street Racer with few issues. You can boost the internal resolution to get a crisper image at the cost of performance, and even force widescreen support in games that display originally support it. The project is still actively maintained and has added retro feedback support to sweeten the deal.Challenge and 18 Wheeler: American Pro Trucker. Make sure to scan the Flycast Wiki to learn more about BIOS files, arcade ROMs, and how to get up and running quickly. DOSBox is a mature MS-DOS emulator, and DOSBox-X is a fork of that project that adds a ton more features. Its available with a Universal binary that runs excellently on Intel and Apple Silicon chips, allowing you to run software designed for DOS from the comfort of a modern macOS environment. DOSBox-X makes the emulator even more powerful and convenient by adding support for 3dfx Voodoo graphics and emulation, Glide rendering, printing, networking, and more. You can create configuration files and launch them to quickly configure DOSBox-X for specific tasks. This includes the ability to install Windows 95 or 98 to a virtual hard drive, with which you can play games designed for Windows 95 and 98. Performance is what you'd expect on original hardware to play some of these titles, but that doesnt mean a few hours spent with DOSBox-X and some old classics isnt a great way to spend an afternoon. If emulating the golden age of PC gaming isn't enough for you, consider building a retro PC instead. The Commodore Amiga might best be known for its contribution to the evolving music scene of the 1990s, but the platform also happens to be chock-full of classic games. FS-UAE is the only emulator youll need to enjoy them, and its full of modern conveniences that make playing older titles easier than ever. Available as a Universal binary, FS-UAE works perfectly on modern Apple silicon and Intel Macs. The emulator relies on a launcher app that runs first to set up the session. Load disks into virtual disk drives, configure input methods, or switch between emulation of the launcher. When youre ready, you can hit Start and FS-UAE will spring to life and execute your software. FS-UAE is a powerful emulator, with support for a number of virtualized accessories, hard drives, expansion and accelerator cards, and custom hardware. Thankfully theres a rich library of FS-UAE documentation that covers everything from dumping your old floppies to setting up MIDI devices. Last updated: 23FEB2025 (see Changelog for details) In this guide Ill show you how to get emulation up and running on M-series (Apple silicon) Mac computers (iMac, Mac Mini, and MacBooks). Table of ContentsRecommended accessoriesConsider OpenEmu Emulation Station Desktop Edition (ES-DE)Add ROMs and BIOSRetroArchSony PlayStation 2Microsoft XboxNintendo Wii USony PlayStation 3Nintendo SwitchChangelog Recommended accessories You dont need much in order to run classic games on your Mac. The primary thing youll need is a controller. Standard console controllers will often allow you to connect to Macs via X-input; Xbox Series, PS4, and PS5 controllers in particular work great. If you are looking for a good retro-friendly line of controllers, I would recommend either the 8BitDo SN30 Pro or the 8BitDo Pro 2. Both have an X-input mode and will be recognized as Xbox controllers, and can generally be found for under $50. If you are using a Mac that is constrained by internal storage (like the lowest-price Mac Mini I used in making this guide), then it might be worth grabbing a USB flash drive to store all of your ROM files. I prefer the Samsung USB-C flash drives, since they are small, reliable, and relatively cheap. The 256GB or 512GB should be perfect for most larger libraries. Consider OpenEmu Another option that I recommend starting with the guide itself, it might be worth considering OpenEmu as an alternative option. This is a sleek, all-in-one emulator app focused on retro systems up through GameCube, N64, and PSP. So if you are only looking to emulate a small library of classic retro games, this app is a great solution without having to dive into the weeds like were going to for the rest of this guide. To get a look at all of its supported systems and other helpful hints, check out their wiki page. EmulationStation Desktop Edition (ES-DE) The core of our emulation experience on Mac will be anchored by ES-DE, a frontend application that will tie all of the disparate emulation apps together in order to maximize our ES-DE experience, I recommend installing this app BEFORE you start with the actual emulator apps. To get started, download the MacOS Apple version from their website. The first time you open the app, it will prompt you to choose where your ROM directories should be created. If you are using a flash drive, youll want to point to that (it will generally be /Volumes/FlashDriveName). If you dont, the directories designated you should see a bunch of ROM directories. You can open each of those and see a systeminfo.txt file which will contain information about the emulated system and which file types it accepts. For scraping boxart, youll need a screenscraper.fr login, which you can get for free on their website. If you sign up for their Patreon, it will unlock faster scraping speeds. For specific ES-DE information pertaining to Macs, check out this page from their user guide. Note that some apps can be configured to work with controller hotkeys. In particular, Cemu, Ryujinx, and Lime3DS will require you to use a mouse/keyboard to exit out of your game and return to ES-DE. One option would be to

special app to invoke keyboard commands (like CMD + Q to quit the emulator app). This blog post highlights some apps that might work in that regard, and Ive heard that Joystick Mapper ($5) is the most compatible of the apps out there. click to enlarge Add ROMs and BIOS Now that ES-DE has created our ROM directories, we can start dragging and dropping our ROM files. These files are copyrighted and you are on your own to find them. If you are not sure which files to use, consult the systeminfo.txt file found within each ROM subfolder. Additionally, in the specific emulator sections below Ill discuss my favorite files for each console, and any of their specific quirks. BIOS files are system files required to make certain consoles work. The diagram above is a quick list of some of the most common BIOS files. Like ROMs, BIOS files are copyrighted, and you are on your own to find them. More BIOS information can be found here. click to enlarge RetroArch RetroArch covers dozens of different consoles, and it is my preferred way to play retro systems up through PS1, N64, Dreamcast, and Saturn. It has a wide range of customization but is also a little daunting. The guide video above will help you get started, but I also have a more comprehensive RetroArch starter guide if you want to get a little more into the weeds. Because ES-DE takes care of the navigation and launching aspect of RetroArch for us, the main things you have to take care of are hotkeys and pointing the app to your BIOS folder. All that is discussed in the video above! Recommended RetroArch cores:Arcade (FinalBurn Neo) -- fighting games and beat'em upsArcade (MAME 2003-Plus) -- all-around arcade emulationNEC PCE/TG-16/PCE-CD/TG-CD (Beetle PCE)Nintendo GB/GBC (Gambatte)Nintendo GBA (mGBA)Nintendo DS (melonDS)Nintendo NES (Nestopia)Nintendo SNES (Snes9x Current or BSNES)Nintendo 64 (Mupen64Plus)Sega Master System/Genesis/CD (Genesis Plus GX)Sega 32x (PicoDrive)Sega Saturn (Beetle Saturn)Sega Dreamcast (Flycast)SNK Neo Geo (FinalBurn Neo)Sony PlayStation (Beetle PSX) Beyond just the cores/systems listed above, there are a ton of other classic systems you can play as well. Id recommend checking out the Libretro Docs guide for more information about individual cores and systems (look in the Core Library section). Now were going to cover the standalone emulator apps that I use beyond RetroArch. These are listed in order of how they are covered in the video guide above. Sony PlayStation Portable Emulator: PPSSPPFile type: .iso or .csoBIOS: not required Setting up PSP is super simple, thanks to the outstanding PPSSPP app. Simply download it, point it to your ROM location, and then go into the Settings to configure the graphics as you like. Most Macs with Apple silicon will be able to run all PSP games at 6x or higher resolution upscale. This app has support for Retro Achievements, which you can find in the Settings > Tools section. Nintendo 3DS Emulator: Lime3DSFile type: .3ds (decrypted)BIOS: not required If, like me, youre a Mac user and want to find the best Mac emulators for playing your favourite Retro Games on the go, then today is going to feel like all your birthdays have come at once.So many of the articles that we see about emulators focus on the Windows users of the world. Its true that there are far more emulators for PC out there, but there are some choice programs for Mac aficionados to delve into too.And dare we say that the top emulator in this list is one of our favourite programmes of all time. Plus, it looks very classy!From a sneaky Windows work-around to wood-effect backgrounds and crisp Mac visuals, weve put together a list of 8 of the best Mac emulators to scratch that retro itch.So, close your spreadsheet, minimise your word processor, and get gaming!8. Virtual MachineNow this one might be a bit of a cheat. But when we are talking about emulation, doing a sort of hardware Inception trick is a bit of the point, isnt it?If you have a game or program that you are really hoping to run on the MacOS, one of the easiest ways to do that is to simply get Windows running on your Mac.With programs such as Parellels, VMWare, or VirtualBox, it is possible to install a copy of the Windows operating system on a partition on your Mac and run Windows in a well window.It does take some technical know-how to get this all setup, and it is a process I have never been able to do. But there are a lot of people out there with the need to have access to both the MacOS and a Windows OS all in one place. And virtual machine is a way to do it.7. DOSBoxFor us oldschoolers who had personal computers before there was even a Windows OS there was something called MS-DOS.And there were quite a few very unique gaming experiences to be had back in those days.For those hoping to go back to that magical time, or even for those who were not lucky enough to live in the moment: DOSBox has got you covered.DOSBox is free and open source, and is the best way to emulate MS-DOS games from the 80s and 90s.And yet another form of emulaton-inception: Using a Mac to run a program to emulate MS-DOS to play a game.6. DeSmuMEThe Nintendo DS is the most popular handheld console of all time and has one of the coolest library of games available.Check out our list of the best selling Nintendo DS games if you dont believe us!But the NDS is also notoriously difficult to emulate. And for good reason it has two screens!If you are like me, and have never owned a Nintendo DS DeSmuME can emulate the Nintendo DS and Nintendo DS Lite handheld game consoles with its Mac compatible program.5. RedreamWith its easy ready to play approach, high definition rendering, and support for about 95% of the game library, it is easy to see why Redream is the king of Dreamcast emulation. Even for the Mac!And while there were only 624 games ever released for the console, the Dreamcast was certainly not lacking in quality titles.Just take a look at our huge list of the best Dreamcast games of all time if you need some ideas.4. Dolphin EmulatorEmulating the GameCube and the Wii are both pretty hefty orders on any platform. But on the Mac?Luckily we have Dolphin Emulator, claiming compatibility at 60% Playable and 36% Perfect all in full HD!The Dolphin Emulator has been in development since around the time the GameCube was released, and has seen plenty of breakthroughs and updates since that time.And gamers on the MacOS are lucky enough to have a port now available as well.Take a look at some of the best selling GameCube games or best selling Wii games and start playing a few now!3. PPSSPPPPSSPP is the best PSP emulator available to use today, and the great news is that it works on Mac too!One of the things that we admire the most about this emulator is that its so simple to set up and use. You dont need a doctorate in neuroscience to be able to get gaming, and the interface is very pleasing to the eye!Plus the graphics are fantastic, and the emulator itself actually upscales games to make them even clearer and slicker on your iMac or MacBook.And youll also find that PPSSPP is pretty much the core for every other PSP emulator out there in the world too, so you know that its the best of the bunch!2. RetroArchIf you know anything about emulation, you have heard of it, and thats why its on our best Mac emulators list.We have covered it many times.It is widely considered one of the absolute best all-in-one emulation solutions.I gave it the number one spot on my list of the best emulators for PC. And for good reasonIt is a really awesome, full featured powerhouse for retro game emulation.My only complaint is that I personally dont connect with the interface.And for that reason, I chose a different all-in-one emulation program the one that I actually use on my computer:1. OpenEmuThis one was a very easy choice for me.I am the kind of guy who wants an easy all-in-one solution for my game collection.I dont want to have to think about what console, what program, what settings blah blah blah. All I want to do is open up my program, choose my game and go go go!The absolute best and easiest emulation solution for users on the MacOS is OpenEmu.With support for Atari, Famicom, Game Boy, Game Gear, Neo Geo, NES, Nintendo DS, N64, GameCube, Sega Genesis, Playstation, PSP, SNES, Virtual Boy and WonderSwan to name a few this thing has got it all covered.OpenEmu is free, easy to setup, easy to use, supports external controllers, and just makes keeping your retro game collection in one place as easy as possible.Presented in an iTunes style library, making it intuitive and quick to find what you are looking for get get right into the fun.For that reason, it is my number one choice for the best Mac emulators for retro gamers. 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