How to format a WD hard drive to exFAT or FAT32 file system

Answer ID 291

A Western Digital external hard drive can be used on both Windows and Mac OSX. This is useful if a drive is being used under both *Operating System (OS)* to move files between the two environments. Most WD Drives come formatted in the *NTFS (Windows)* or *HFS+ (Mac)* format.

For a hard drive to be able to be read and written to in both a PC and Mac computer, it must be formatted to *ExFAT* or *FAT32* file format. FAT32 has several limitations, including a 4 GB per-file limit. This is a file system limitation that affects both Mac's and PC's, and the only workaround is to format the drive to exFAT. For more information about what these limitations are please see Answer ID 1287: File and partition size limitations using the FAT32 file system (Windows and Mac).

The easiest way to format the drive to *FAT32* or *ExFAT* is by using macOS's built-in **Disk Utility** or Windows' built-in **Disk Management**.

Critical: Never attempt to connect any external drive to multiple computers at the same time. This could quickly damage the drive's partition and corrupt the data on the drive.

exFAT		
Operating System	**Instructions**	
10.11 (El Capitan) and above	**Click Here for Instructions** (instructions will appear below this table)	
10.10 (Yosemite) and earlier	**Click Here for Instructions** (instructions will appear below this table)	
Windows 10	**Click Here for Instructions** (instructions will appear below this table)	
Windows 8 and earlier	**Click Here for Instructions** (instructions will appear below this table)	
Unix/Linux (All Distributions)	**Click Here for Instructions** (instructions will appear below this table)	

FAT32		
Operating System	**Instructions**	
10.11 (El Capitan) and above - **Recommended Method**	**Click Here for Instructions** (instructions will appear below this table)	
10.10 (Yosemite) and earlier- **Recommended Method**	**Click Here for Instructions** (instructions will appear below this table)	
Windows 10 and earlier	**Click Here for Instructions** (instructions will appear below this table)	
Unix/Linux (All Distributions)	**Click Here for Instructions** (instructions will appear below this table)	

Please select the *Operating System (OS)* in which the drive is to be formatted from the list above to display the instructions.

How to Partition and Format a WD Drive on Windows and macOS

Answer ID 3865

External hard drives and external solid state drives come pre-formatted and ready for use. Internal HDD and internal SSD drives do not ship pre-formatted and will need to be Partitioned and formatted before being used.

Please note the instructions do not differ when formatting different capacity sizes, this is not capacity specific.

Select an Operating System (OS)		
Operating System	**Instructions**	
Windows 10 and 8.1	**Click here for Instructions**	

Windows 7 and Windows Vista	**Click here for Instructions**	
macOS 10.14.x (Mojave)	**Click here for Instructions**	
macOS 10.13.x (High Sierra)	**Click here for Instructions**	
macOS 10.11.x (El Capitan) and macOS 10.12.x (Sierra)	**Click here for Instructions**	
macOS 10.9.x (Mavericks), and macOS 10.10.x (Yosemite)	**Click here for Instructions**	
macOS 10.7.x (Lion), and macOS 10.8.x (Mountain Lion)	**Click here for Instructions**	
Both Windows and macOS (exFAT & FAT32)	**Click here for Instructions**	

- APFS formatted volumes can be read by a macOS High Sierra (10.13), but not by a macOS Sierra (10.12) or earlier.
  For more information, please refer to Apple KBA ID HT208018 - Prepare for APFS in macOS High Sierra

- If the following message occurs during the format procedure, **MediaKit reports not enough space on device for requested operation. Operation failed...**, please refer to Answer ID 20789: macOS Disk Utility Error "MediaKit reports not enough space on device for requested operation"

- For instructions to convert a drive to (APFS) Apple File System Format on macOS High Sierra (10.13), please refer to Answer ID 20502: How to Convert a WD External Drive to Apple File System (APFS) Format

  Important: If at any time an error occurs stating that the drive can not be *dismounted* or *unmounted*, this is not caused by an issue with the hard drive. Please see Answer ID 8575: When formatting or partitioning a drive, an error occurs stating

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Please select an *Operating System (OS)* from the table above to display instructions for a specific OS.

M.2 Form Factor and M.2 Solid State Drives

Answer ID 15035

M.2 is a new **Form Factor** used for expansion cards and connectors that are internally mounted into a computer. The M.2 connector interfaces with PCI Express 3.0, SATA 3, and USB 3.0 technologies, providing manufacturers the ability to use the M.2 Module for Wireless Adapters, Bluetooth, and Solid State Drive integration.

M.2 Modules vary both in sizes and their connector's keying:

M.2 Module Sizes

M.2 Cards and Motherboard slots vary in sizes, both in the width and length of the card. Compatibility will depend in part with a Motherboard's ability to fit that specific card's size, in the same way other PCIe devices do. The current available sizes for M.2 modules are as follow:

- **Widths**: 12, 16, 22, and 30 mm
- **Lengths**: 16, 26, 30, 38, 42, 60, 80, and 110 mm

Commercially available M.2 modules are 22 mm wide with varying lengths of 30, 42, 60, 80, and 110 mm. Module dimensions will normally be displayed in the module's model. For example, a **M.2 SATA 3.0 2280 SSD** would indicate that the M.2 module is 22 mm in width and 80 mm in length. Currently WD offers SSD with M.2 SATA 2280 form factor only.

M.2 Module Keying Structure

By having several Notched pins, M.2 Modules can be easily fit into a mating connector, further enhancing easy compatibility. Specific Notched pins correspond to a unique Key, ranging from **A** (having pins 8-15 notched) to **M** (having pins 59-66 notched). Typical

M.2 SSD keying structure includes *B* key, *M* key or *B+M* Key. For WD M.2 SSDs, the keys used are *B and M (B+M)* on *WD Green SSD* and *WD Blue SSD* models, while the *WD Black PCIe SSD* uses only the *M* key.

M.2 SSD Protocol

M.2 Module offers various protocols to the attached component. For Solid State Drives, currently there are two widely used protocols: SATA 3.0 and PCIe NVME. Before purchasing an M.2 SSD, please check with the motherboard or computer manufacturer for M.2 connector compatibility.