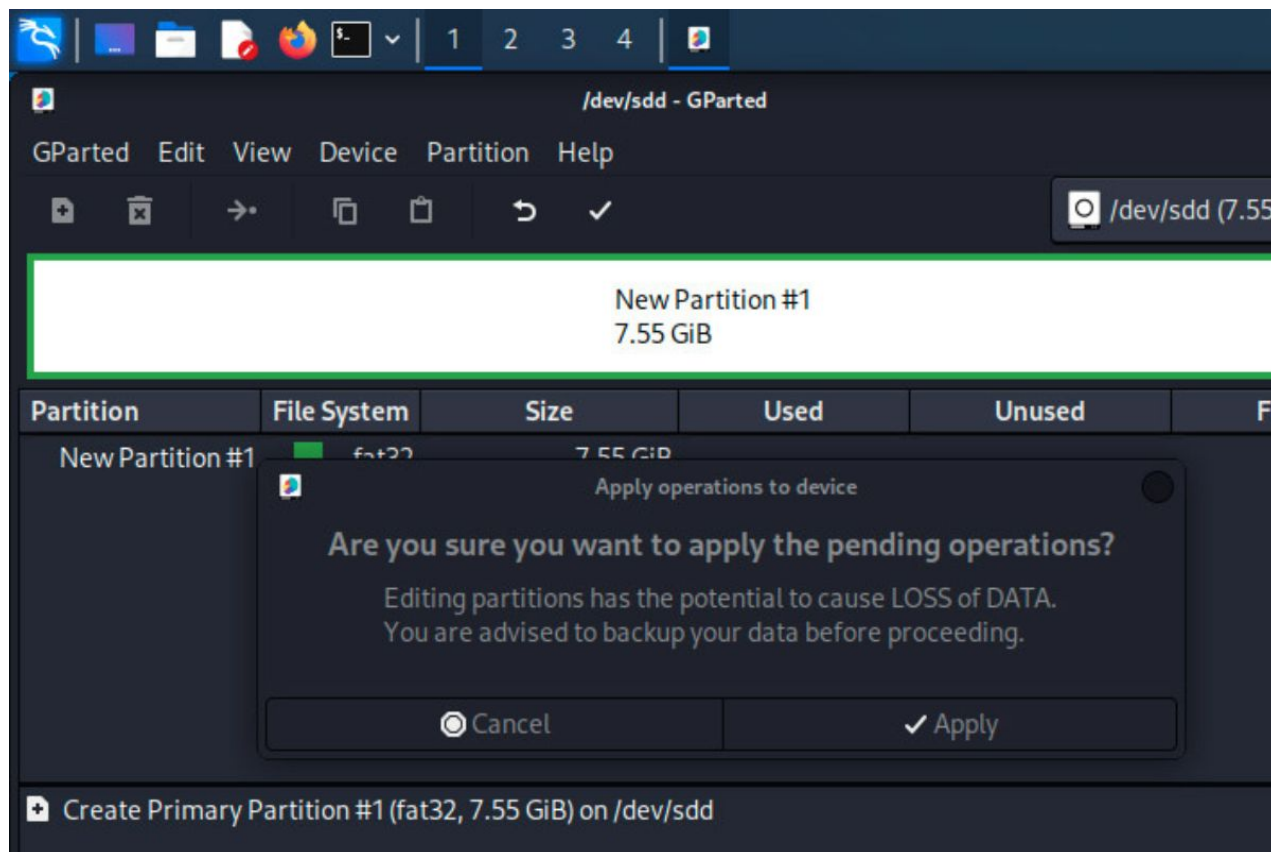


# How To Format USB Drives The Right Way On Kali Linux

 infosecscout.com/format-usb-drives-kali-linux

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Kali Linux comes handy with many tools pre-installed for hacking and security, but there is nothing magical to handle your USB drives. It's Linux, and you have to learn a few things before being comfortable with it. Don't worry, I'll show you 2 ways to format your USB drives with Kali Linux in this article.

**The easiest way to format USB drives on Kali Linux is to use Gparted, which is preinstalled. It's a graphical partition manager, allowing you to create, format and mount partitions in a few clicks.**

Never used it? No problem, I'll explain each step in details. And I'll also give you the instructions to do it via the command line if you don't have access to the desktop environment.

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## Method 1: Use Gparted to format your USB drive

**Gparted is an excellent tool to see and manage storage drives on Linux. It's preinstalled on Kali Linux and can be used to format USB drives.**

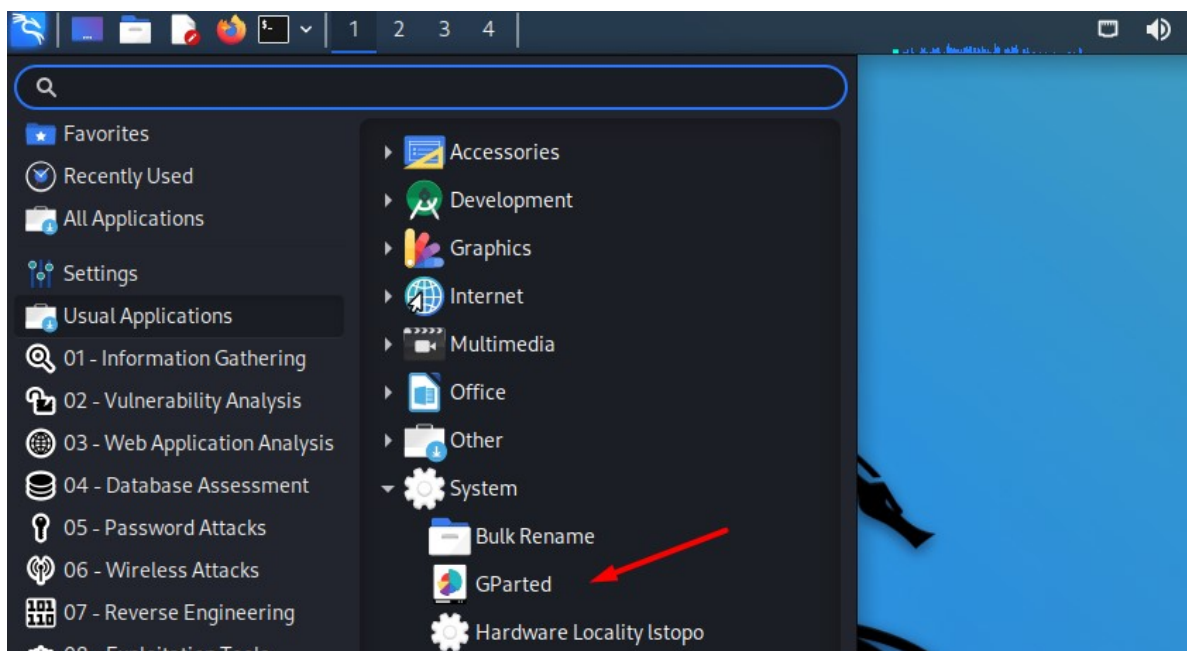
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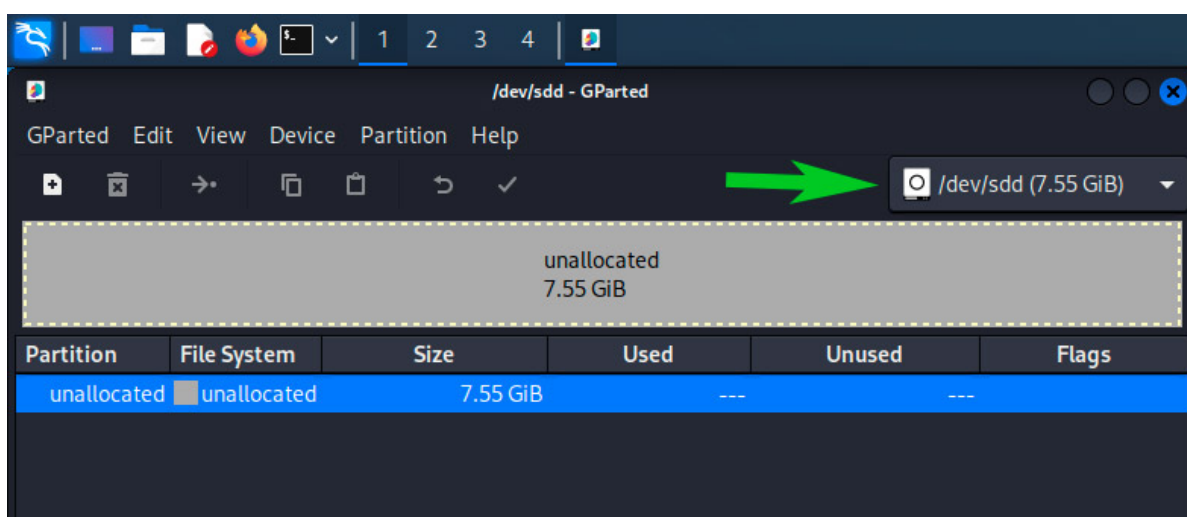
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Here is how to use it:

- **Plug your USB drive**
- In the main menu, go to **Usual applications > System**



- **Find Gparted in the list.**  
You can also use the search engine to find the shortcut directly.
- **The main window looks like this:**

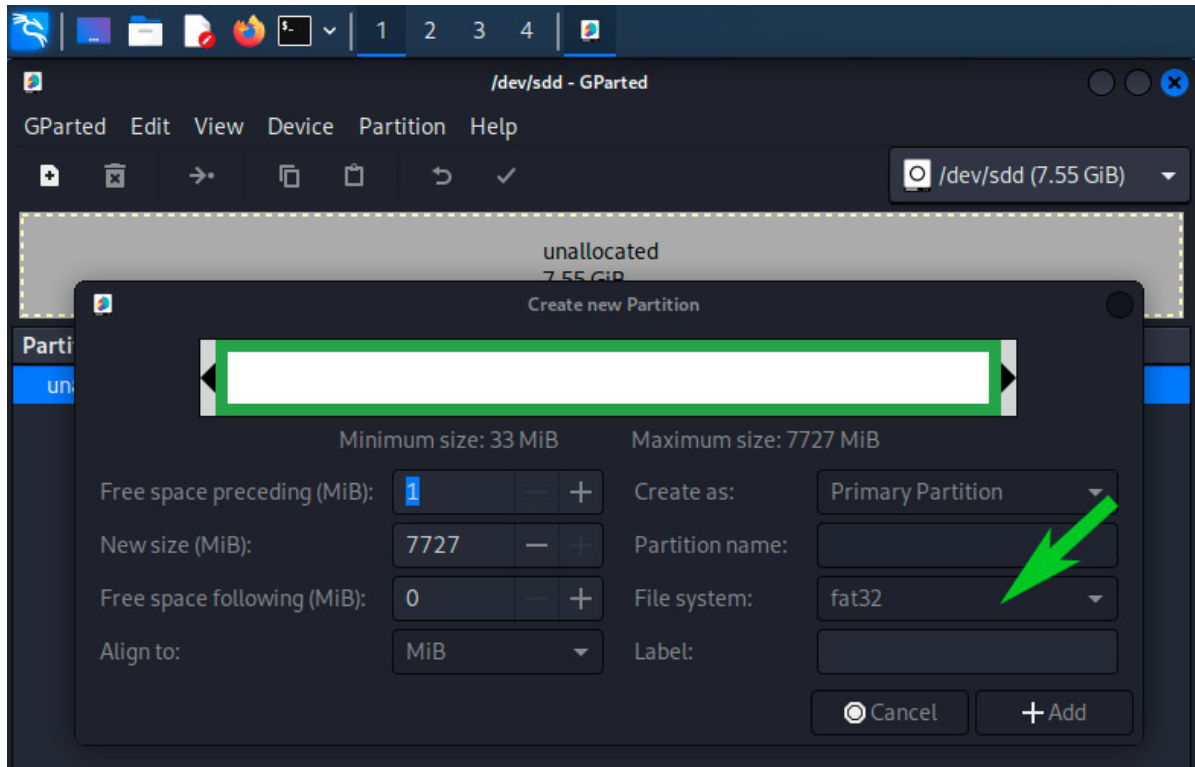


- **Select your USB drive in the top-right corner.**  
You should see the current partition table directly.  
If you are reading this, I guess there is nothing on the USB drive, or an unsupported file system.

From there, you can do everything visually: delete the existing partition table, create a new one, create a new partition and format it as you want.

So, if like me your USB drive is empty, you can follow these steps:

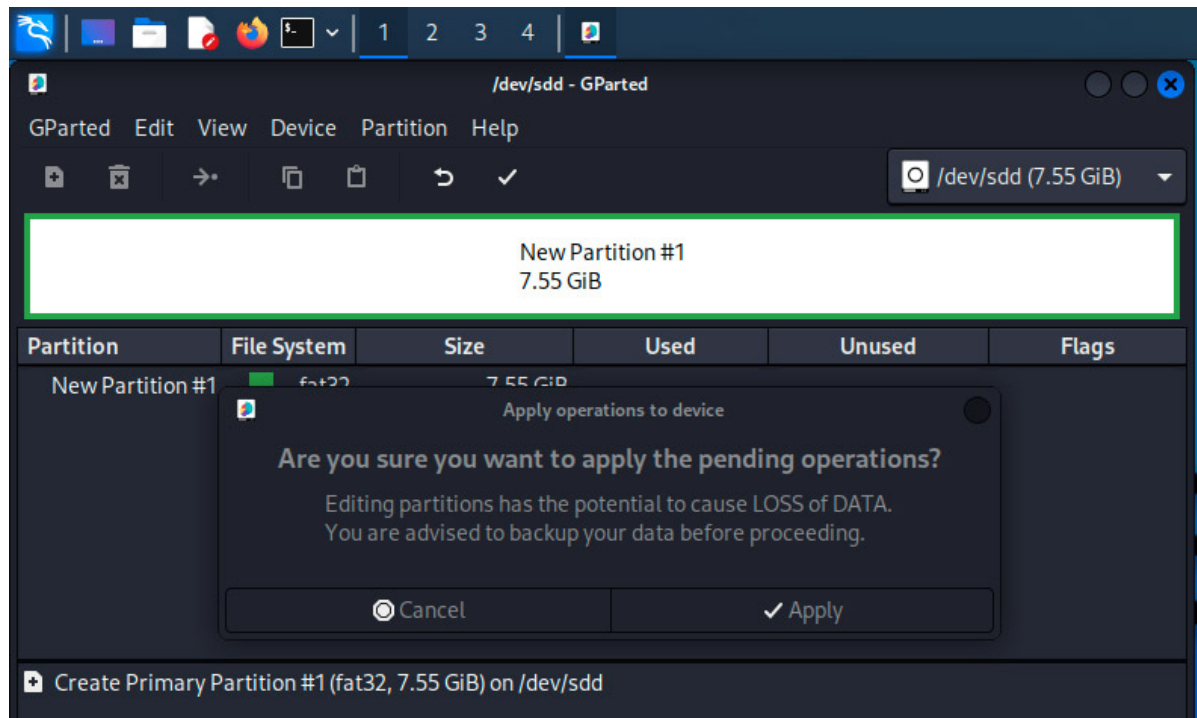
- Do a right-click on the unallocated space, and **create a new partition table**.
- Do it again, and **create a new partition**:



A form like this shows up. The only thing mandatory here is to select the file system. **Keeping “fat32” is probably a good idea**, but I explain the different possibilities at the end of this article if you need further information.

- You can create several smaller partitions, use labels or give them different names if you like. But most of the time, you’ll only create one big partition that takes up all the free space.

- Click “Add” to see your changes on the main screen:



- The last step is to click the green tick in the top bar, to apply your changes on the drive.

After a few seconds, your USB drive will be updated and your partition ready to use.

From there, you should get access to your USB drive directly in the file explorer each time you plug it back to your computer. FAT32 should work on all operating systems (including Windows).

**Check the FAQ at the end of this article if your USB drive is not mounted automatically.**

## Method 2: Format USB drives from the terminal

USB drives can also be mounted from a terminal or via SSH when no desktop environment is available. The `fdisk` command lists the drives connected to the computer, and the `mount` command can then be used to get access to the drive content.

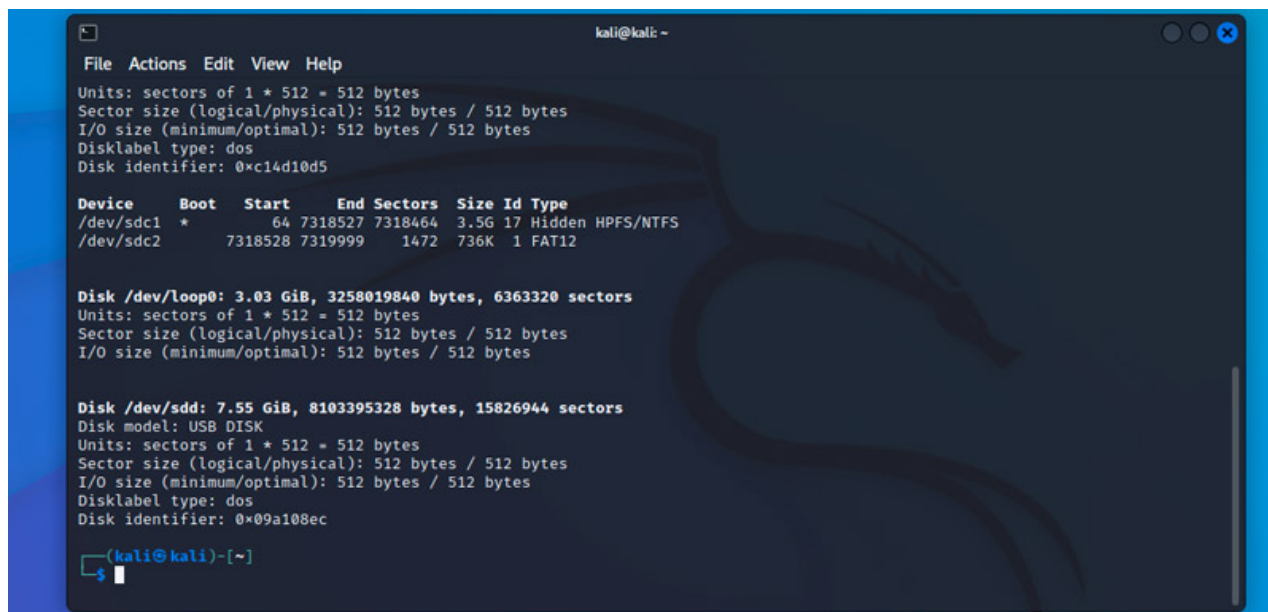
### Identify your USB drive

The first step is to plug your USB drive to your computer running Kali Linux, and then identify the disk name. The disk name format is generally something like `/dev/sdX` where X is often a letter between “a” and “f”, depending on the number of hard drives you have.

Anyway, use this command to list all your drives:

```
sudo fdisk -l
```

You'll get something like that:



```
kali@kali: ~  
File Actions Edit View Help  
Units: sectors of 1 * 512 = 512 bytes  
Sector size (logical/physical): 512 bytes / 512 bytes  
I/O size (minimum/optimal): 512 bytes / 512 bytes  
Disklabel type: dos  
Disk identifier: 0xc14d10d5  
  
Device Boot Start End Sectors Size Id Type  
/dev/sdc1 * 64 7318527 7318464 3.5G 17 Hidden HPFS/NTFS  
/dev/sdc2 7318528 7319999 1472 736K 1 FAT12  
  
Disk /dev/loop0: 3.03 GiB, 3258019840 bytes, 6363320 sectors  
Units: sectors of 1 * 512 = 512 bytes  
Sector size (logical/physical): 512 bytes / 512 bytes  
I/O size (minimum/optimal): 512 bytes / 512 bytes  
  
Disk /dev/sdd: 7.55 GiB, 8103395328 bytes, 15826944 sectors  
Disk model: USB DISK  
Units: sectors of 1 * 512 = 512 bytes  
Sector size (logical/physical): 512 bytes / 512 bytes  
I/O size (minimum/optimal): 512 bytes / 512 bytes  
Disklabel type: dos  
Disk identifier: 0x09a108ec  
  
(kali@kali)-[~]  
$
```

The USB drive will often be the last one in the list, in my case it's "/dev/sdd". It says "USB DISK" and the size matches (7.55 GiB).

I did the example with an empty USB drive, so there is an additional step for me: initializing the USB drive.

## Optional: Create a partition table and partition

This step is optional. If there is already one partition on your USB drive, you can just skip this and go to the formatting directly. But with a brand new USB drive, you'll need to do this:

- We'll use `fdisk` to manage the partition table and create the new partition:

```
sudo fdisk /dev/sdd
```

**Warning: make sure you are using the correct disk name here.**

Following this step with the wrong one will delete all the content store on this disk.

- Create a new partition table:

```
n
```

- It will ask a few questions, just keep the default values.
- Confirm with "Y" to remove the signature if asked.
- Write the changes to your disk with:

```
w
```

Here is the full trace of my test:



```
kali@kali: ~  
File Actions Edit View Help  
└─$ sudo fdisk /dev/sdd  
  
Welcome to fdisk (util-linux 2.38).  
Changes will remain in memory only, until you decide to write them.  
Be careful before using the write command.  
  
This disk is currently in use - repartitioning is probably a bad idea.  
It's recommended to umount all file systems, and swapoff all swap  
partitions on this disk.  
  
Command (m for help): g  
  
Created a new GPT disklabel (GUID: C1E26BD7-5773-1947-961A-BD5D20979A5F).  
The device contains 'dos' signature and it will be removed by a write command. See fdisk(8) man page and --wipe option for more details.  
  
Command (m for help): n  
Partition number (1-128, default 1):  
First sector (2048-15826910, default 2048):  
Last sector, +/-sectors or +/-size[K,M,G,T,P] (2048-15826910, default 15824895):  
  
Created a new partition 1 of type 'Linux filesystem' and of size 7.5 GiB.  
Partition #1 contains a vfat signature.  
  
Do you want to remove the signature? [Y]es/[N]o: Y  
  
The signature will be removed by a write command.  
  
Command (m for help): w  
The partition table has been altered.  
Failed to add partition 1 to system: Device or resource busy  
  
The kernel still uses the old partitions. The new table will be used at the next reboot.  
Syncing disks.
```

And you can use fdisk again to check the result:

```
sudo fdisk -l /dev/sdd
```

```
(kali@kali)-[~]  
└─$ sudo fdisk -l /dev/sdd  
  
Disk /dev/sdd: 7.55 GiB, 8103395328 bytes, 15826944 sectors  
Disk model: USB DISK  
Units: sectors of 1 * 512 = 512 bytes  
Sector size (logical/physical): 512 bytes / 512 bytes  
I/O size (minimum/optimal): 512 bytes / 512 bytes  
Disklabel type: gpt  
Disk identifier: C1E26BD7-5773-1947-961A-BD5D20979A5F  
  
Device      Start      End  Sectors  Size Type  
/dev/sdd1   2048 15824895 15822848 7.5G Linux filesystem
```

As you can see on this screenshot, I now have one partition available on my USB drive, I just need to format it.

## Format a partition in command line

Formatting a partition in a terminal is not that complicated, the main syntax looks like this:  
`sudo mkfs.<FILESYSTEM> <PARTITION>`

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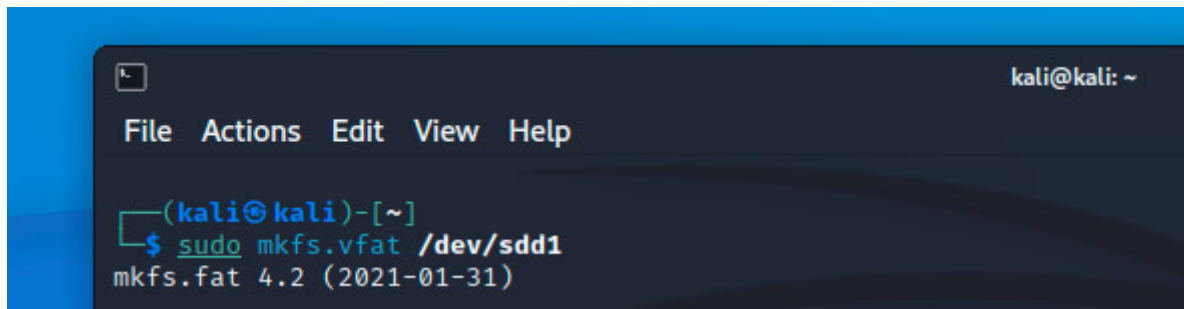
The file system will generally be FAT32 (vfat), EXT4 (ext4) or NTFS (ntfs).

So, the corresponding command can be:

```
sudo mkfs.vfat /dev/sdd1
```

```
sudo mkfs.ext4 /dev/sdd1
```

```
sudo mkfs.ntfs /dev/sdd1
```



```
(kali㉿kali)-[~]  
$ sudo mkfs.vfat /dev/sdd1  
mkfs.fat 4.2 (2021-01-31)
```

I want to format mine in FAT32, so I'm using the first command. Notice that this time we use the partition name (/dev/sdd1), not the device name (/dev/sdd).

Read the FAQ below to know how to mount your USB drive if it doesn't work automatically when you plug it.

## FAQ

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### What format does a USB drive need to be for Linux?

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Most Linux distributions can read and write on various partition formats, but the most common are:

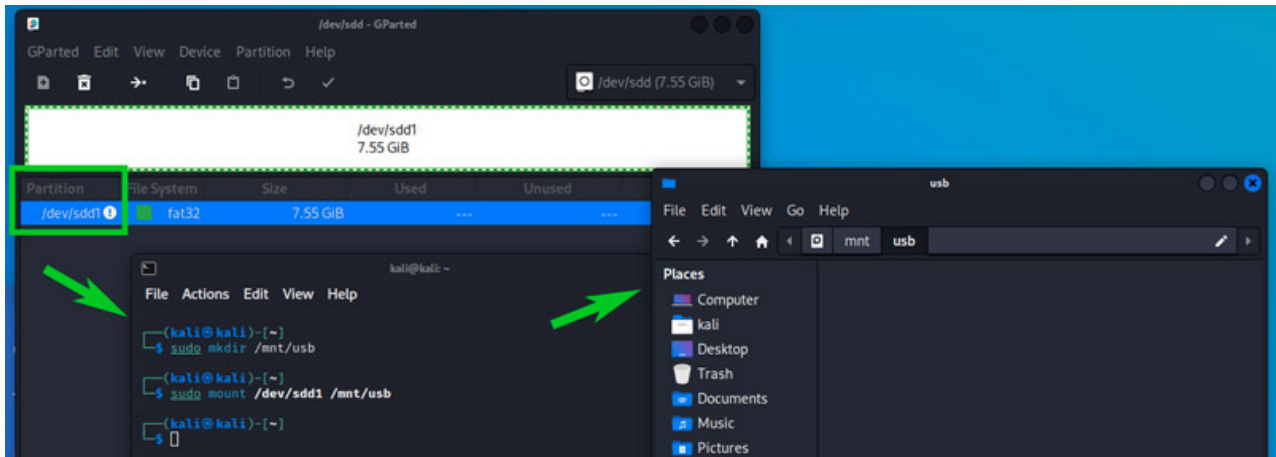
- **FAT32:** Compatible with all operating systems, but limited to files smaller than 4 GB.
- **NTFS:** To be used with Windows computers (no limitation).
- **EXT4:** To be used on Linux systems only.

### How to mount USB drives on Kali Linux?

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In theory, Kali Linux should automatically mount USB drives when you plug them. If it's not the case, you can use a few command lines to mount it manually:

- **Note the partition name in Gparted** (/dev/sdd1 in my case, see the screenshot below).  
Change the following commands with your partition path if needed.  
Use "*fdisk -l*" if you don't have a graphic interface.
- **Create a new directory** where you'll mount the partition, for example:  
`sudo mkdir /mnt/usb`
- **Use the mount command:**  
`sudo mount /dev/sdd1 /mnt/usb`
- This will give you access to the files stored on your USB drive.  
It shouldn't be necessary on Desktop, but at least you know how to do it if needed.



Check my related articles that might be of interest for you:

- [How To Install & Use Wireshark On Kali Linux](#)
- [How to Install and Use Hashcat to Decrypt MD5? \(Tutorial\)](#)
- [How Are Passwords Stored? \(5 Methods Used by Developers\)](#)

Whenever you're ready for more security, here are things you should think about:

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- **Protect yourself online**: Use a high-speed Swiss VPN that safeguards your privacy. Open-source, no activity logs. [Get Proton VPN risk-free](#).
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