Why these “Secure Wealth” mini-series?

As we move away from centralized finance (banks, central cryptocurrency exchanges, etc), it requires us to take more ownership and control of our own wealth and resources.

Even if you believe that you are going to be safe from hackers and entities that want to take back their wealth, it doesn’t change that you will still need to know how to manage your own wealth.

In the previous video, we went over suggestions on how to organize your important information, especially anything related to finances.

Before that, we went over how it’s not a good idea to have one user and password for everything you do online.

So that led us to how do we keep track of all those credentials, and we concluded that while a booklet might be a starting point, it might be better to also augment that booklet with electronic forms of local storage.

Electronic, digital forms of local storage can be as or more secure than a booklet (if encrypted).

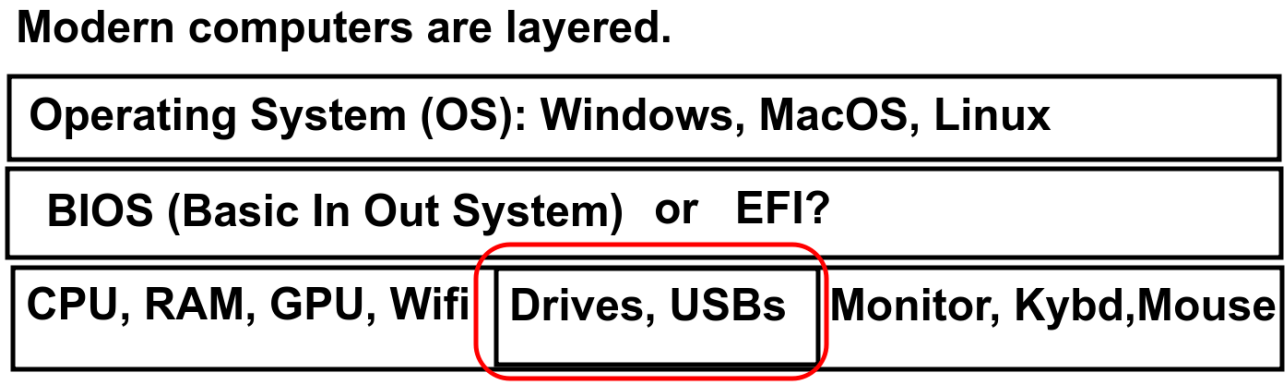
So all of the above now leads us to a first step in storing – the portable, USB storage.

USB Storage, The Good , The Bad, The Ugly

One would think that you buy a USB storage, you plug it into either a Windows , or Mac (or Linux) computer, (or something else?) and it just works, and you can save stuff on it.

Unfortunately, it's not that simple.

Real quick summary of what makes up a computer.

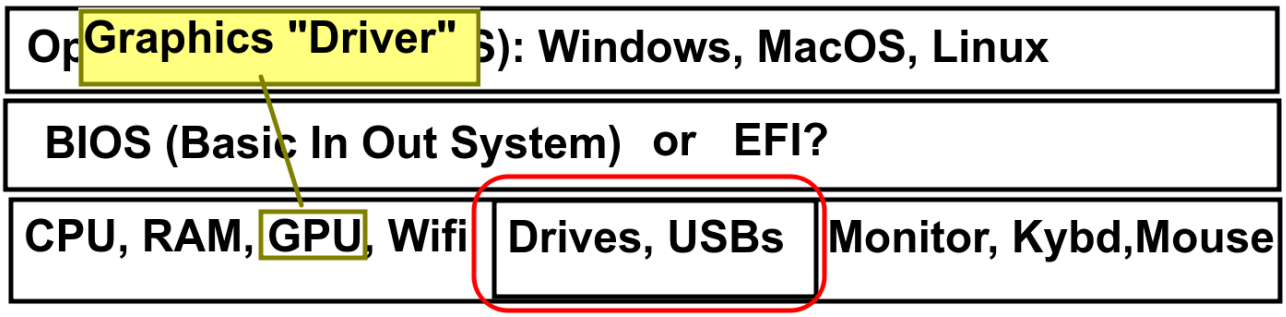


Using a layered and modular design, makes it easier to introduce new versions of hardware or software independently of each other.

What is done is there is a standard agreed upon by manufacturers that defines the interface, or the area between each layer. This means that each layer or module does NOT need to know anything about the inner workings of another layer or module.

From our viewpoint, it is what makes it possible for us to use any graphics card, any CPU, RAM, mouse, keyboard, monitor, with almost any computer.

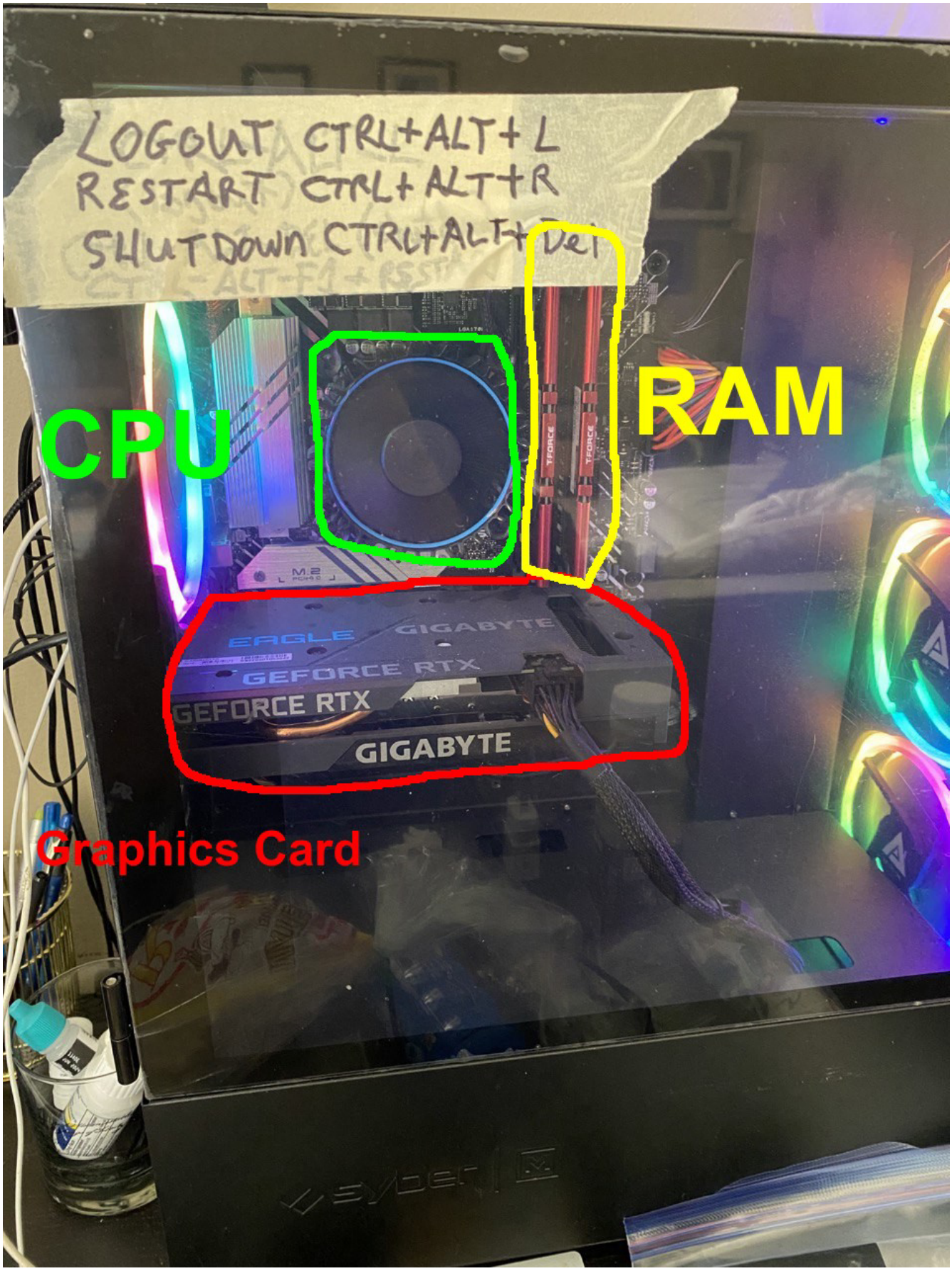
Modern computers are layered.



For example, especially with the box-type gaming computers, you can swap out the “graphics card”, that’s the hardware, and you can install graphics software (aka “graphics driver”) to better take advantage of the graphics card.

A layered, modular design also means (theoretically) that one can actually install a different Operating System (OS) than what was there before.

So in other words – turn a Windows computer into a Mac, or into a Linux computer.


LOGOUT CTRL+ALT+L
RESTART CTRL+ALT+R
SHUTDOWN CTRL+ALT+
CPU
RAM
Graphics Card
EAGLE
GIGABYTE
GEFORCE RTX
GEFORCE RTX
GIGABYTE

A lot of what we just went over, applies more to box-type (gaming or enterprise-level) computers, more than it applies to portable laptops.

By the way, speaking of laptops, they tend to have issues way before box-type computers do. For one thing, everything in a laptop is enclosed in tight quarters. This make heat an issue, and that can shorten the life of components.

And not just inside – I have had at least 2 work-issued laptops that within a year, keys on the keyboard started warping and falling off. And there was this uncomfortable warmth on your palms if you typed directly on the laptop. Which is why I have always added an external monitor, a mouse, and a keyboard.

To me, the only advantage to a laptop is portability, and built-in power-fail operation.. They have batteries.

Most box-type computers do NOT have a battery, and it is VERY unwise to run one without some sort of UPS (Uninterruptable Power Source or Supply).

Plus, upgrading anything inside a laptop is difficult, whereas most box-type computers were designed to be upgraded.

Now that we have an idea of how computers are designed, let's go back to USB storage.

When we are looking at persistent storage, whether it's a solid-state drive (SDD), legacy hard-disk drive(HDD), or USB storage, we have to be aware that the data is handled and organized within a "file system".

But a "file system" is more than just folders and files. There is a technical aspect to this. It has to do with how the physical memory is used.

Unlike what we learned so far about the layered and modular design of computers, when it comes to file systems, things are a bit different.

It so happens that each major Operating System (OS), like:

- Windows
- MacOS
- Linux

have their own "native" file system types.

Why do we care? Because, by definition, USB storage is made with the option of moving it around. Meaning, we want to be able to maybe plug it into one computer (type), store some information, then move it to another computer (type).

The major Operating Systems (OS), each understand their own “native” type file systems.

Windows:

- FAT16
- FAT32
- NTFS
- exFAT

MacOS:

- HFS+
- APFS

Linux:

- ext2
- ext3
- ext4

Normally, the above applies to the internal hard drives, the ones inside the computer that you don’t normally need to care or know about.

But file systems also apply to USB storage. USB storage ALSO has to be “formatted” into a file system.

Why do we care and why is this a problem?

Because you may (or may not) be interested in making sure your USB storage device can be plugged into a Windows, and a Mac, and a Linux computer, at any time.

Because if the USB storage has the “wrong” file system, it may not work with a given computer Operating System.

So, if you are concerned about “portability”, then you need the USB storage to be formatted with the most portable file system type.

I’ve been using the term “USB storage” instead of “USB stick”.

That is because USB storage can be a stick, it can be a USB external drive, it can also be an SDCard.

Here is a micro SDCard within a USB stick package.

I listed the “native” file systems for each Operating System (OS). However, nowadays each OS can handle some “foreign” file systems. I think that when you buy USB storage, most of the time it comes pre-formatted as file system type **FAT32.**

So if they come pre-formatted, then why do I care?

I can think of at least two or three reasons.

- You found some USB stick or micro SDCard lying around, and you might be able to use it – but you might need to format it yourself.

- The USB storage may have several “partitions” and you may want to have it be a single continuous partition.

- It may be formatted with the wrong (or non-portable) file-system.

What is a “partition”?

Very briefly, think of a partition as almost like a separate drive.

In Windows, for example, each drive has a letter.

Typically, “C:” drive is the primary drive, and on newer computers, there can also be a “D:” drive.

BUT – in Windows, not every letter is a separate, physical drive. It could be a single drive that has been “partitioned” to appear to be different drives.

That is also possible with USB storage.

If say you were to create 4 partitions on a USB stick, and you plug it into a Windows computer, and the Windows computer only has a single “C:” drive, then you might see:

“D:”
“E:”
“F:”
“G:”

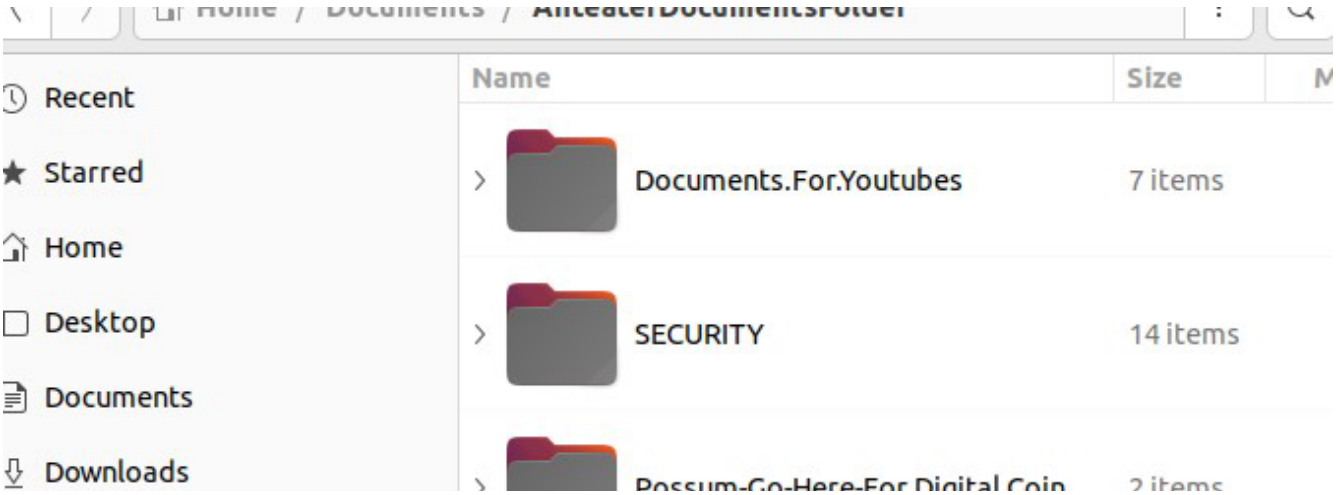
drives when you plug in the USB stick.

Ok, so what, you might ask?

Well.. for our purposes of storing our important information, it might be simpler, easier to just have the the USB stick be a single drive (or letter).

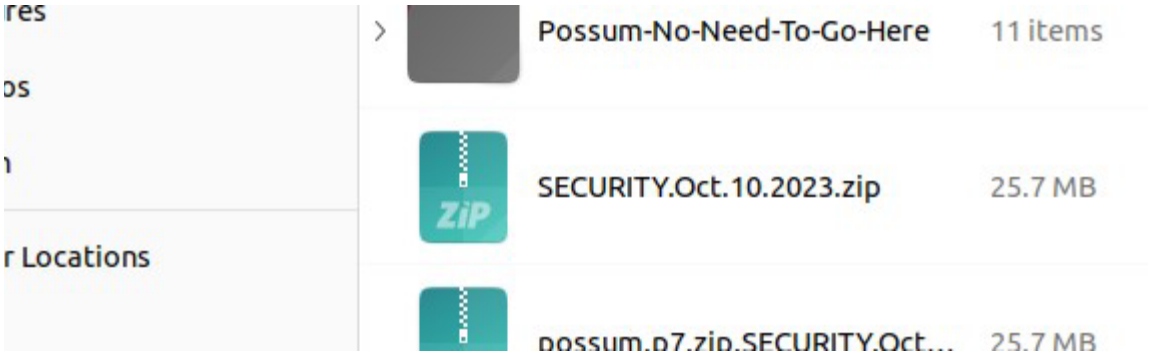
It is a very similar situation with MacOS or Linux.

Finally, I don’t think (at first) that we need to spend money on buying USB storage.



This is an image of my ‘SECURITY” folder.

Below here is an image of a zipped (archived) file of the complete “SECURITY” folder and its contents.



Notice the size of the “zip” file. 25.7 MB.
And that’s only because I have at least 3 folders that are related to booklets where I took photos of each page in each booklet. I had started the booklets before much later deciding to start saving information in USB storage.

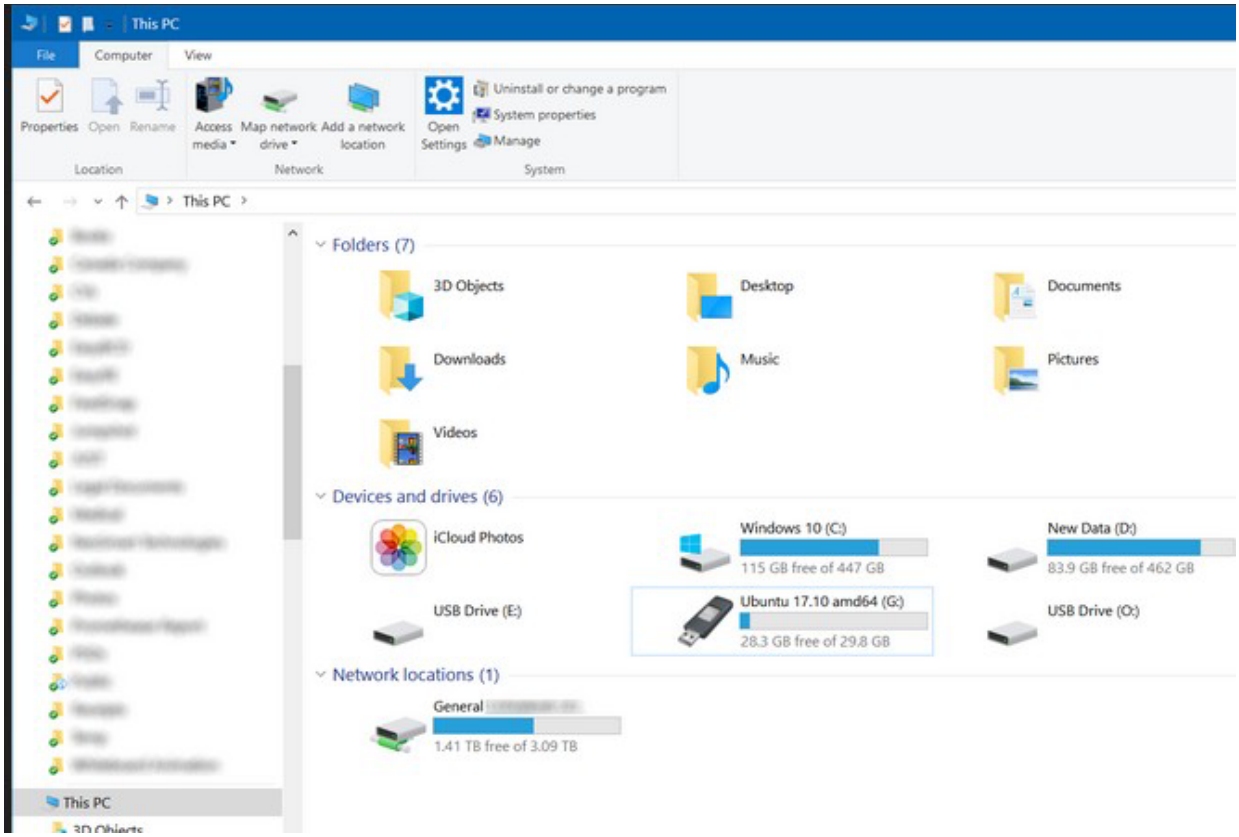
I would say that even older USB Storage has capacity into the Gigabyte range (GB).

1 GB = 1000 MB - plenty of room.

Before you spend money on buying USB storage, see if you already something lying around that you're not using.

Before you can decide whether or not the USB stick or SDCard needs formatting, your computer has to be able to see it. It has to show up in whatever is the equivalent of a "File Manager" app.

I'm not going to go into depth, but here are 3 possibly helpful sites that might be of use if you inserted USB storage, and yet nothing about it shows up on the computer.



6 Ways to Fix USB Drive Not Showing Up Issue in Windows

https://allthings.how/6-ways-to-fix-usb-drive-not-showing-up-issue-in-windows/

USB Flash Drive Not Showing Up on Mac, Why and How to Fix

USB Flash Drive Not Showing Up on Mac, Why and How to Fix

Does your Mac not recognize a USB drive? Is the USB flash drive not showing up on Mac after inserting it in the USB port? Here we find 10 solutions to help you fix the problem of USB flash drive not showing up, recognizing or detecting on Mac.

https://www.easeus.com/mac-file-recovery/usb-flash-drive-not-showing-up-on-mac.html

What to do if Linux does not detect a USB device?

What to do if Linux does not detect a USB device?

By Darkcrizt

If you have ever connected a USB drive or keyboard or mouse to your computer with any Linux distribution and nothing has happened ...

https://blog.desdelinux.net/en/what-to-do-if-linux-does-not-detect-a-usb-device/

If you DO see the USB storage show up when connected, then you're ready to format it (if necessary).

I'm going to leave this as a homework assignment – again, we are taking ownership and responsibility.

Do a search, for whichever computer you're using, how to format a USB device,

-
- with FAT32 file system
- with a single partition

It may be it's as simple as just right-clicking on the USB drive icon. It may be that the default IS to do FAT32, AND only a single partition.

Once you are familiar with all this…. It's time to put the organization of the previous video to work and actually save your information.

I highly recommend at least 2 (if not more) USB devices as back ups for your data.