# ASSIGNMENT UNIT 6

Installing Windows 11 and skipping *TPM*

There are two important requirements before installing Windows 11:

Once I have updated *VirtualBox* to the latest version, I will show you the steps that I have been taken to install Windows 10.

- Firstly, I have selected to allocate 4096 MB for RAM memory, and a hard disk of 80,00 GB. Later, I have chosen the type of hard disk as VDI (VirtualBox Disk Image), with a dynamically allocated storage.
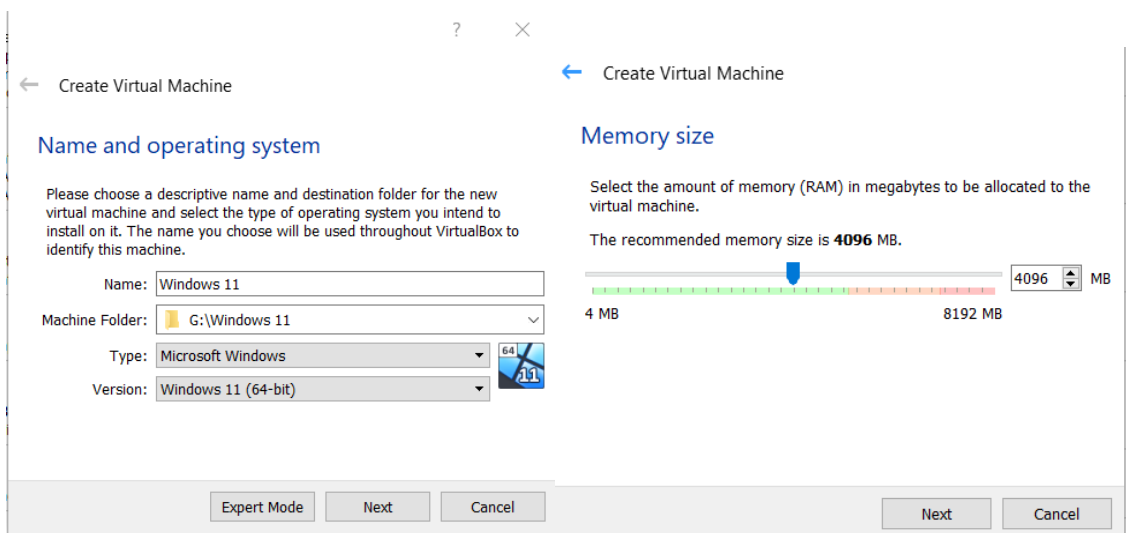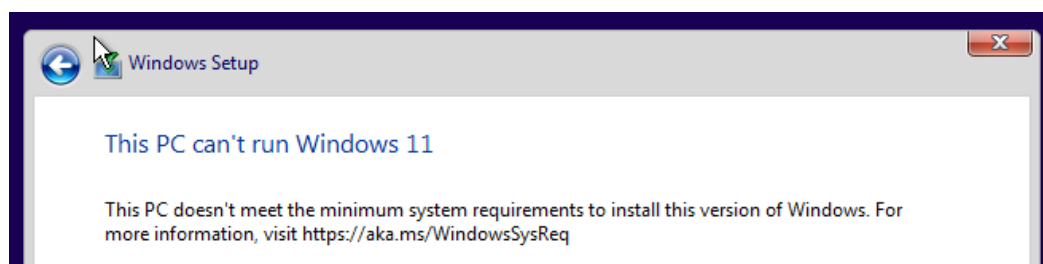

- Firstly, it's important to type any key while VirtualBox is initialising Windows 11 boot. Once I am installing Windows 11, soon will be appear this screen:
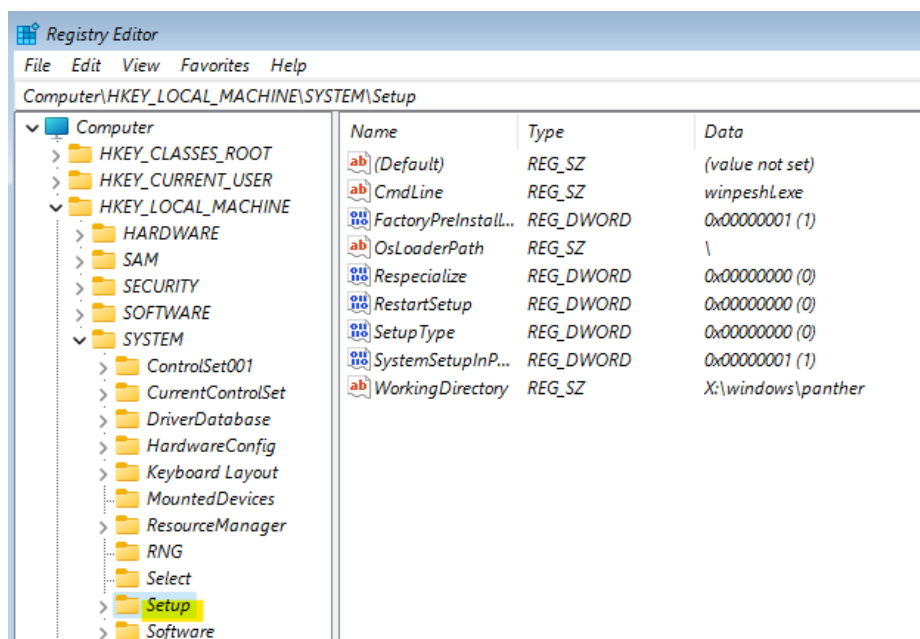
To fix this, I need to follow the following steps to skip TPM (the page used to check this steps is from: https://www.repairwin.com/how-to-install-windows-11-on-virtualbox-even-without-tpm/):

1. I hit Shift + F10 on the keyboard´s virtual machine to open *cmd*.
2. I enter the following command: regedit
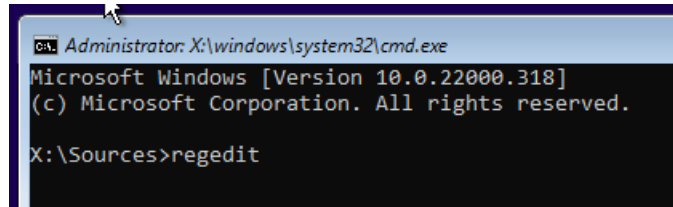
3. Then, in Registry Editor, I navigate to the following key:
   a. HKEY_LOCAL_MACHINE\SYSTEM\Setup

4. In Setup, I will create a New Key named LabConfig. Inside that key, I will choose to create New > DWORD(32-bit) Value. Then, I will create the following keys:
    - BypassRAMCheck
   - BypassSecureBootCheck
    - BypassTPMCheck
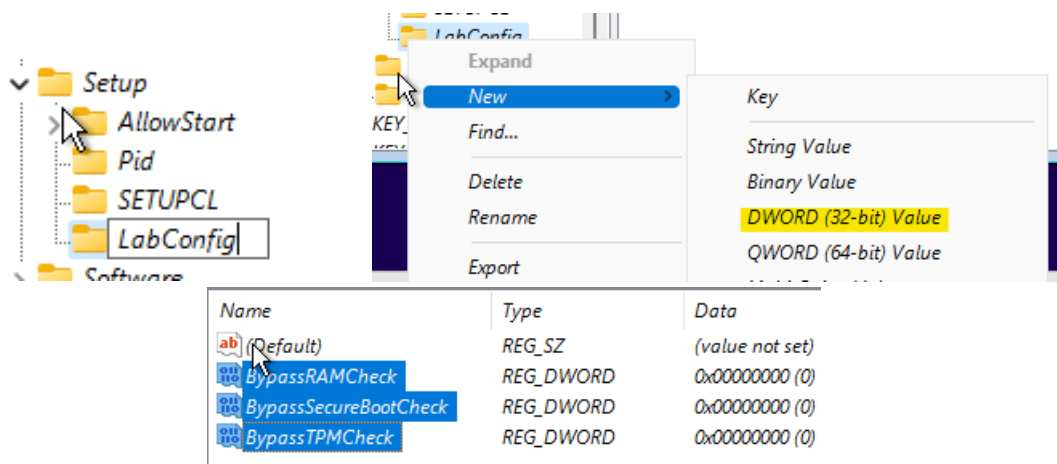
5. Once created, I need to open one-by-one and type 1 at Value Data box and apply changes.
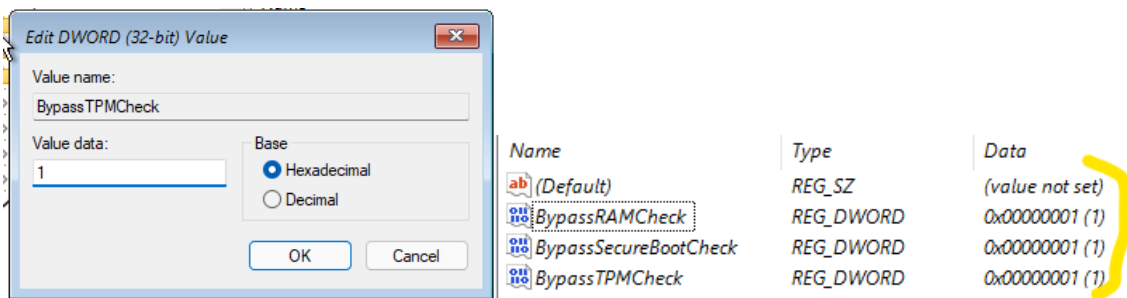

- Then, a normal installation of Windows 11 would appear. I will choose the Custom type of installation, and the "principal" Drive that I have created in VirtualBox, with 80 GB. The other drives are for the other part of the assignment. The Windows 11 version I have choose is the *Windows 11 Pro* edition.
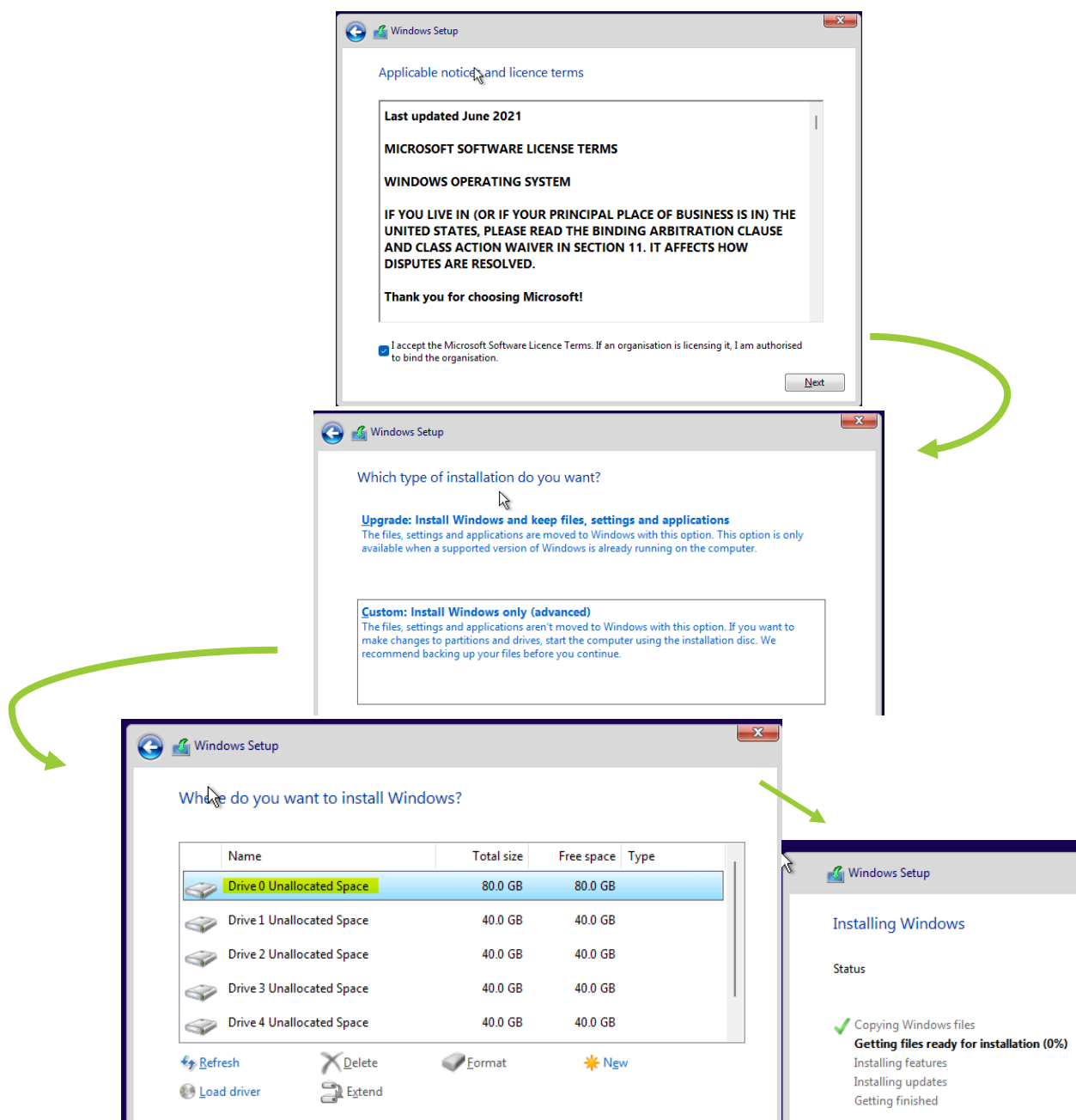
Later, I will choose the region as Spain and the keyboard layout as Spanish. I´ve been signed up with an outlook account:
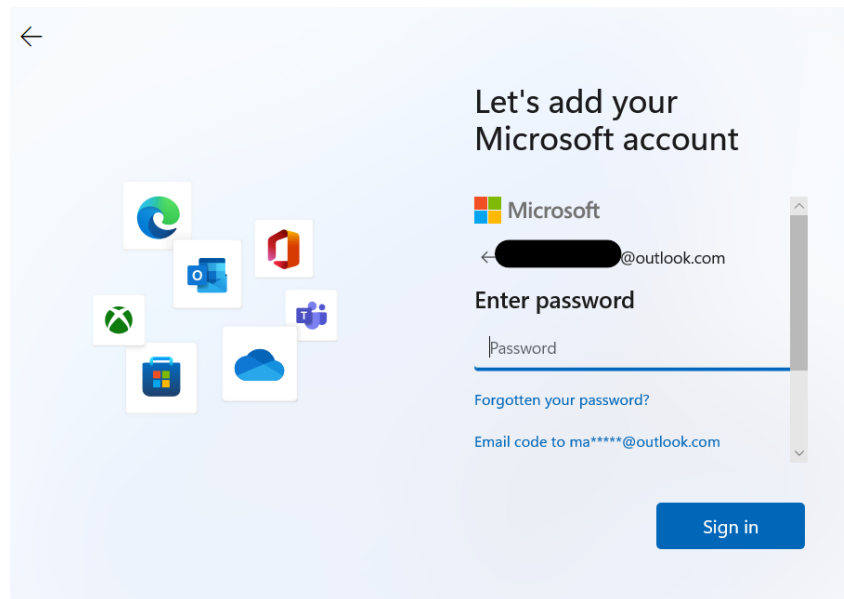
Now, as you can see, Windows 11 has been installed and it's running (primarily, I have changed the theme to a dark one because I personally hate white themes…):
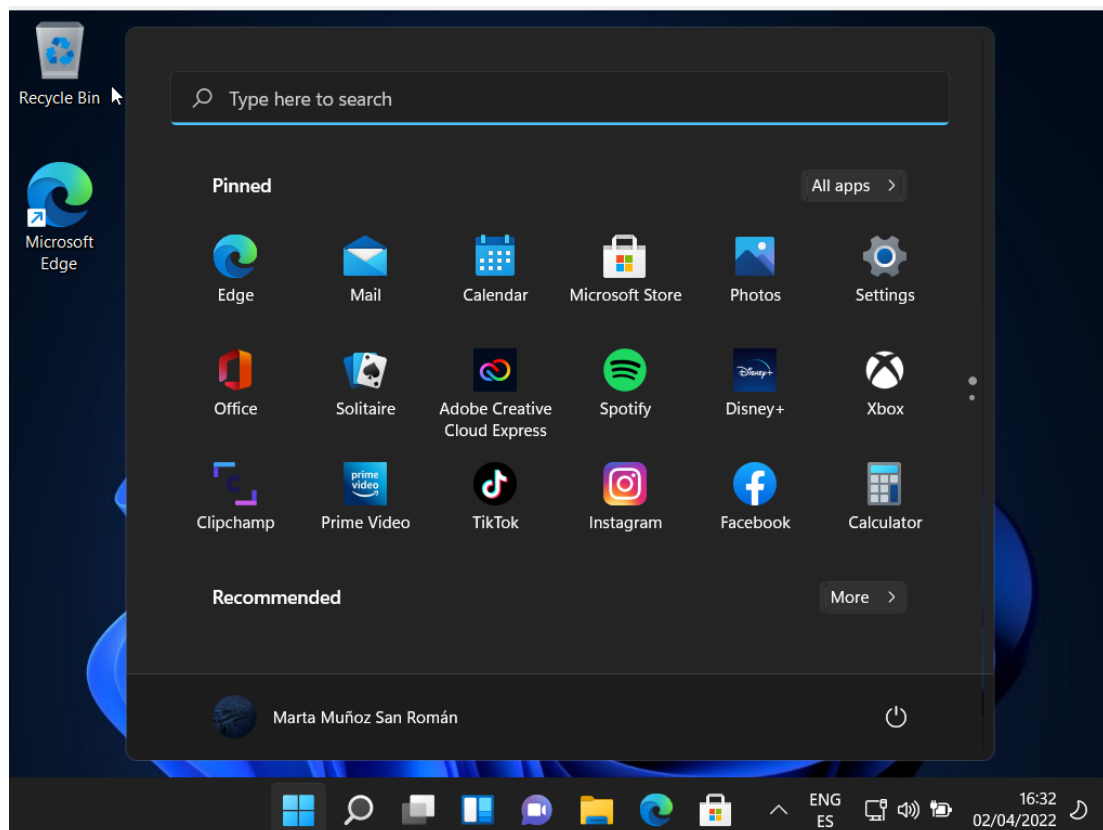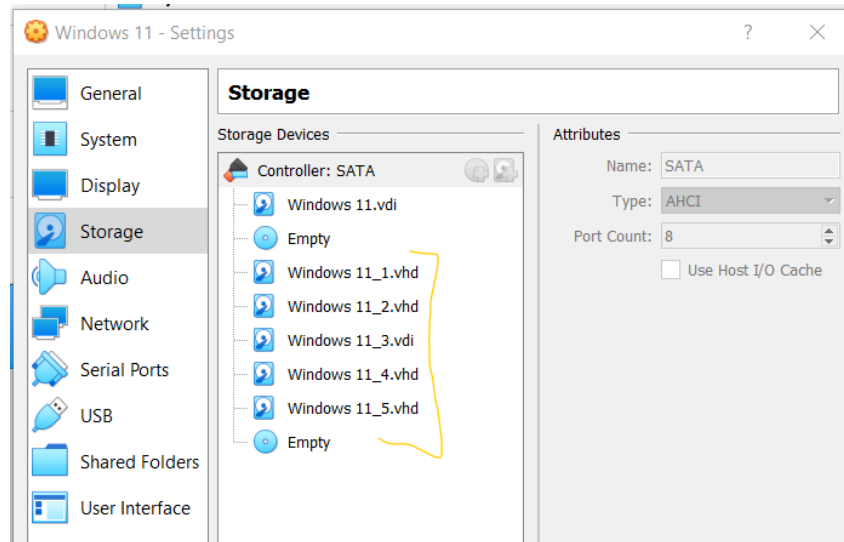
Creating the RAIDs

Once Windows 11 is installed, we are going to try the following tools:

- **Create a RAID 0 (striped volume) using two virtual disks.**

Firstly, from VirtualBox, I have to create five empty virtual hard disks, because I will need them for the RAID 0, RAID 1 and RAID 5:

Once I initialize the Disk Management tool in Windows 11, it asks me to initialise the disks. I have used the GPT partition table style:
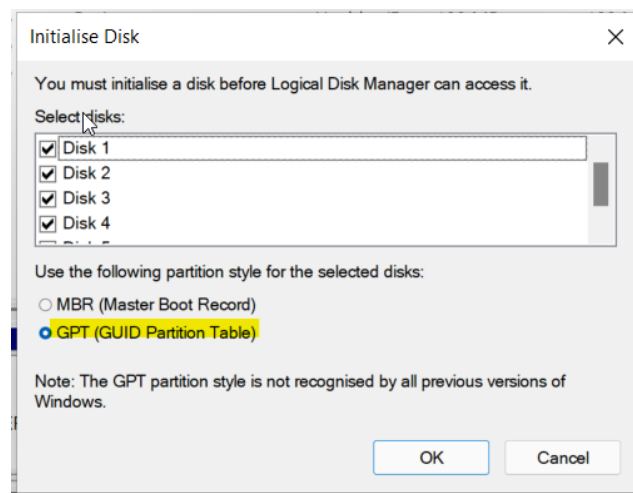

In Windows 11, I execute Disk management and select the unallocated volume of "Disk 1". Later, I will choose the following option to create the first stripped volume (RAID 0):
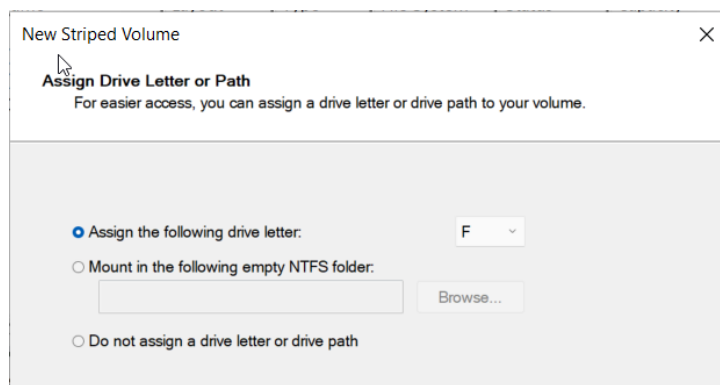

In the Stripped Volume Wizard, I click on Next and in this window, I will Select the two disk that I have created before (Disk 1 and Disk2) and *Add* Disk 2 to the "Selected" box.

There, I will select an amount space of 20.942 MB for example:
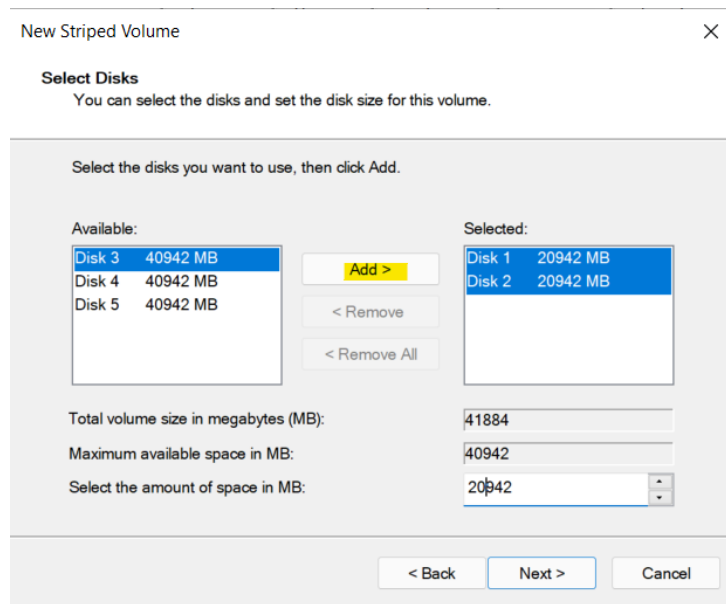
I will assign the letter "F" to this drive and continue with the wizard:

Finally, I will name the Volume Label as "RAID 0" (Stripped Volume 1) and pass to the last step, to click on *Finish*. When the setup finish, the system will make a warning, because the selected drives are going to be transformed into logical drives. I click on Yes, and the Disks will be formatted.
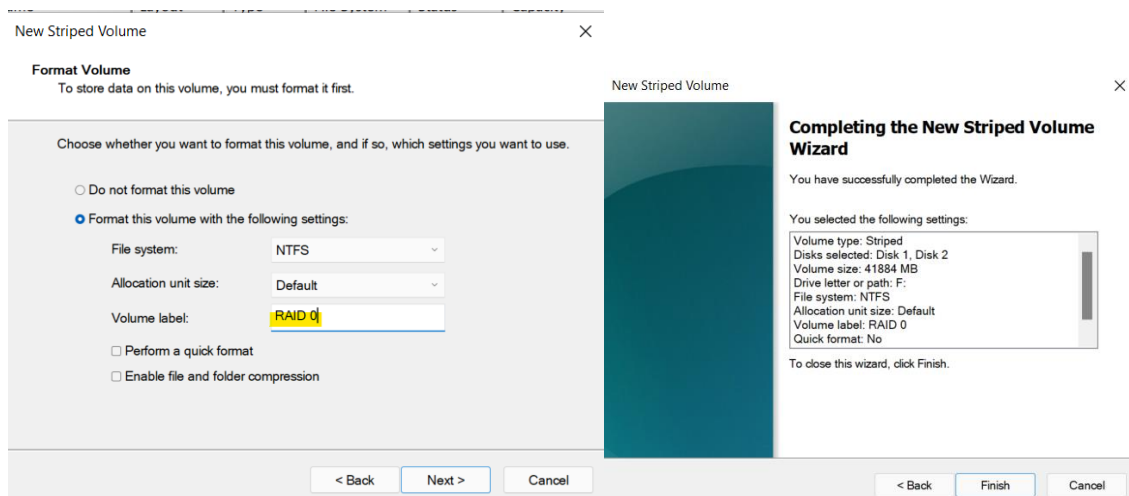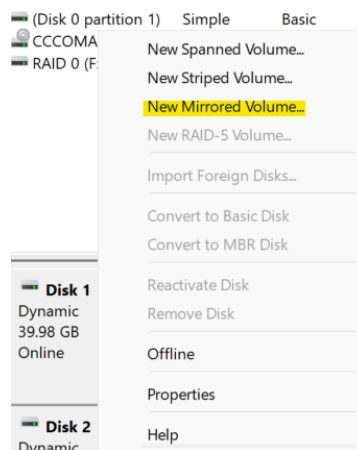

This is the result. I need wait until it has been formatted:
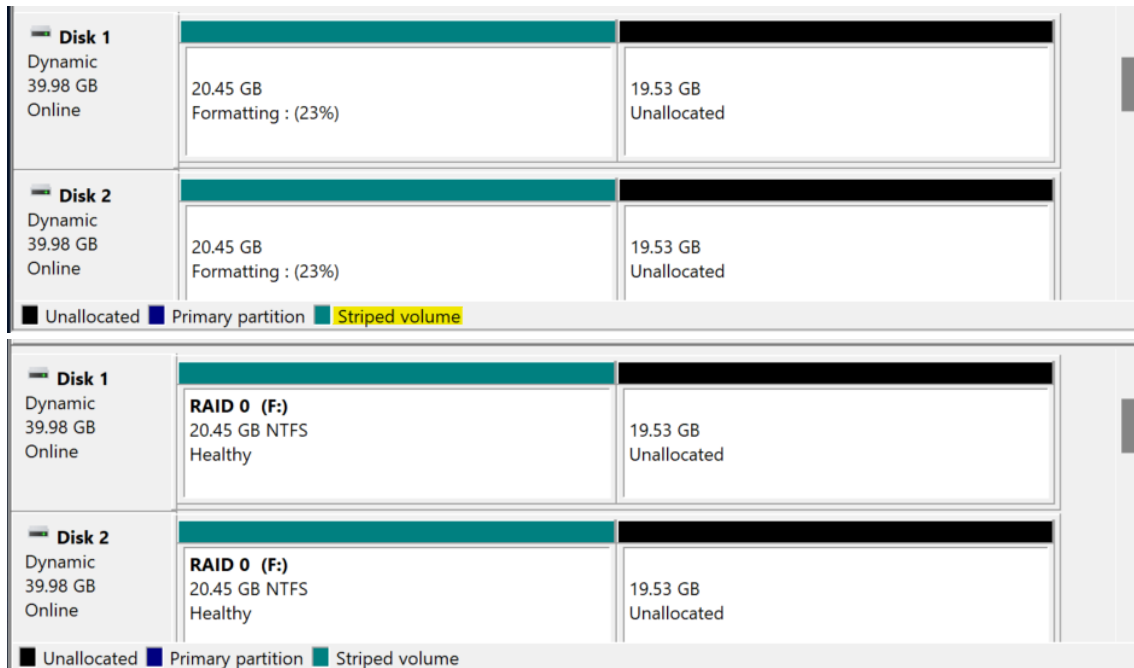
- **Create a RAID 1 (mirrored volume) using two virtual disks.**

As I have done on the previous RAID 0, I will right-click on the Unallocated space and select the "New Mirrored Volume…" option:

In the next step, the Wizard will ask to select disks and set their size for the Mirrored volume. I will add both disk to the "Selected" box and organized their size in 20.000 MB:
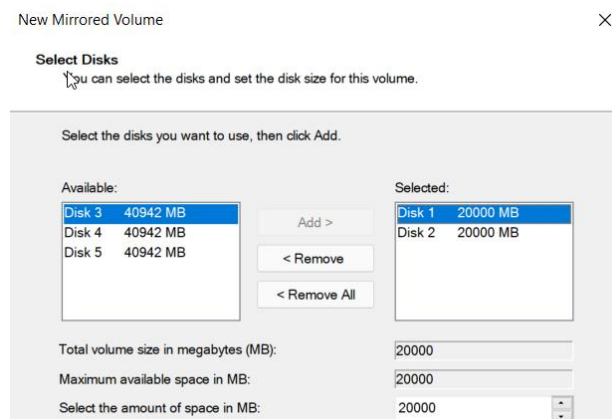
I assign the letter "G" for the Drive Letter:

Finally, I will assign the Volume's label as "RAID 1" (Mirrored Volume 1) and click on Next. Then, I will finish the steps to create the new mirrored volume.

This is the result, showed in the Disk Management:
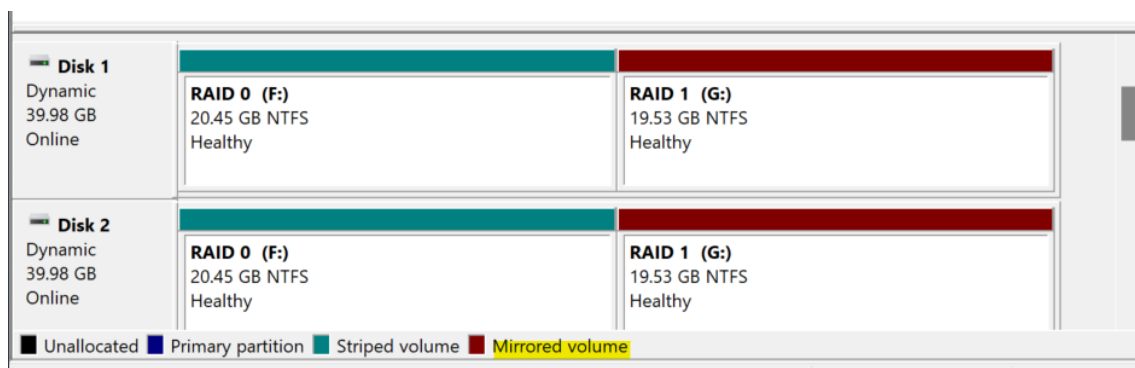
- **Create a RAID 5 using three virtual disks and the tool "Storage spaces".**

RAID 5 uses at least three hard drives and strips data across multiple hard drives to improve performance through simultaneous access, but unlike RAID 0, RAID 5 includes correction codes (parity bits) between the data. So, according to this small explanation (taken from https://www.ontrack.com/en-us/data-recovery/raid/raid5), I need to have three different drives.

So, I look forward the tool in Windows 11, which will take me to a function of the Control Panel:
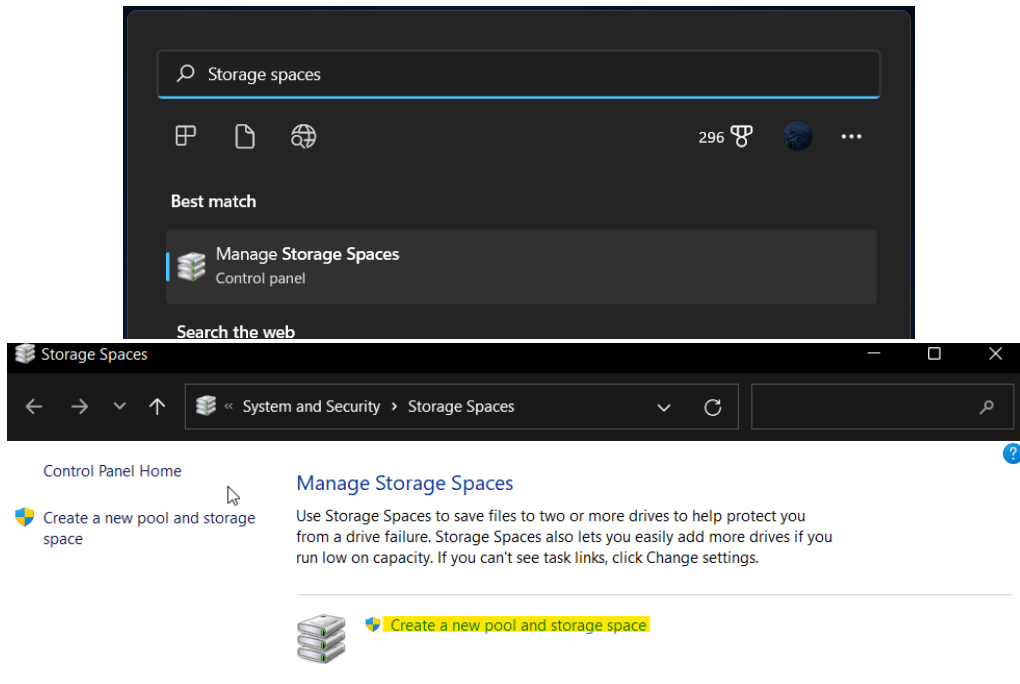
Once I click on "Create a new pool and storage space", it will show the following detected Disks:
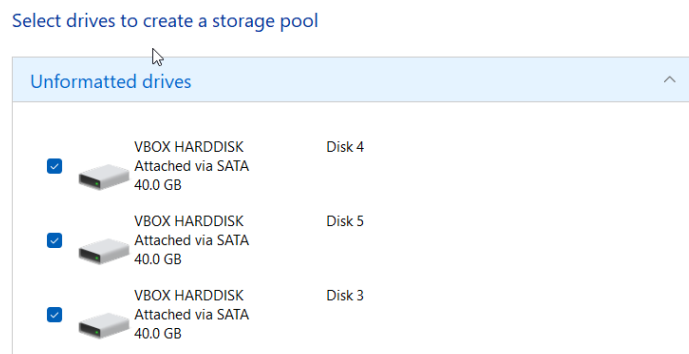
Once I have chosen the three disks, I enter a new name for the drive ("RAID 5" for example) and select the "H" as the Drive Letter. The resiliency type is "Parity", as it needs at least three drives. Then, I can proceed to create the storage space:

As you see, the size is as follows, with a total pool of 118 GB and an available capacity of 111 GB:

In Storage Spaces, the Manage Storage Spaces has the RAID 5 created, with three physical drives attached to it.

- **Search about a new feature of Windows 11. Explain how the tool chosen works as much detailed as possible.**

A new Feature reintroduced in Windows 11 are the <u>WIDGETS</u>. These are AI-powered customizable feed that slides out to show you such info as news, weather, a glimpse at your calendar and to-do list or your recent photos. Widgets are like a feature called *news and interests* found in a recent Windows 10 update.

They can be accessed through a button from a taskbar. When I click or tap it, a panel will slide out from the left side of the screen with a series of widgets. They are in this location:

Here's an overview of the "new" Windows 11 widgets (sorry, the information feed is in Spanish due to my email's user configuration). The widgets window occupies a half of the desktop:
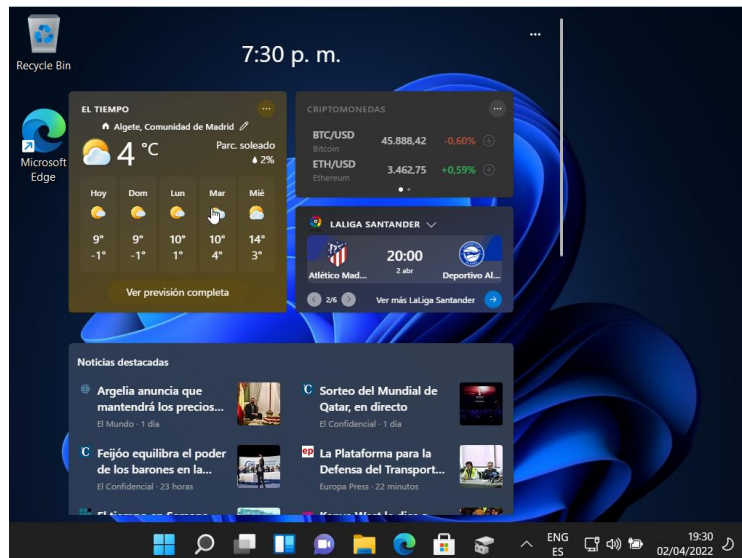

If you click on "Add widgets" box, you can add a widget or customize your personal interests to show on the *News* or *Top Stories widget*:
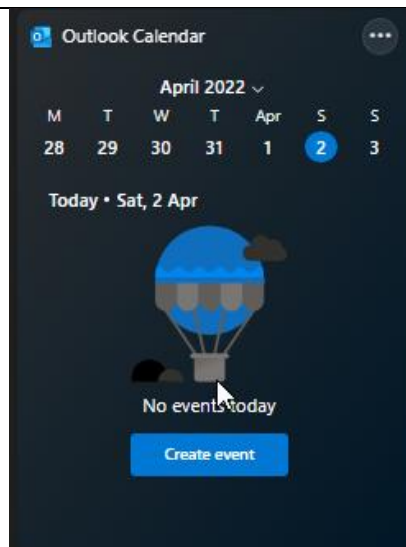

11
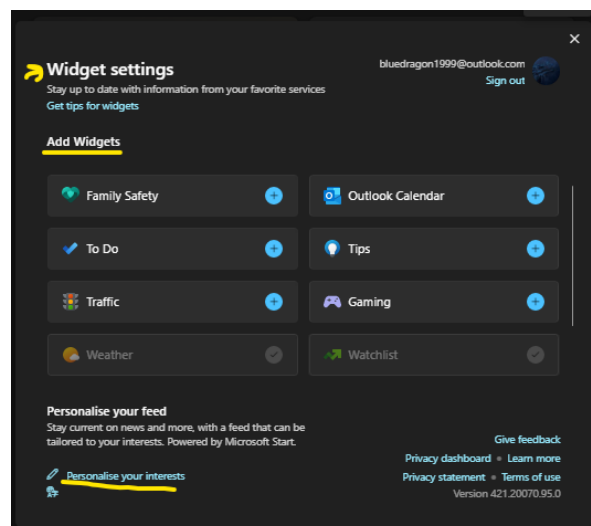
When a widget is added, It's also possible to:

- Customize the size (from small, medium or large).
- Customize the widget's settings, depending on the widget. In the screenshot, I show you the settings available for weather, such as the location or the temperature unit.
- Remove the widget.
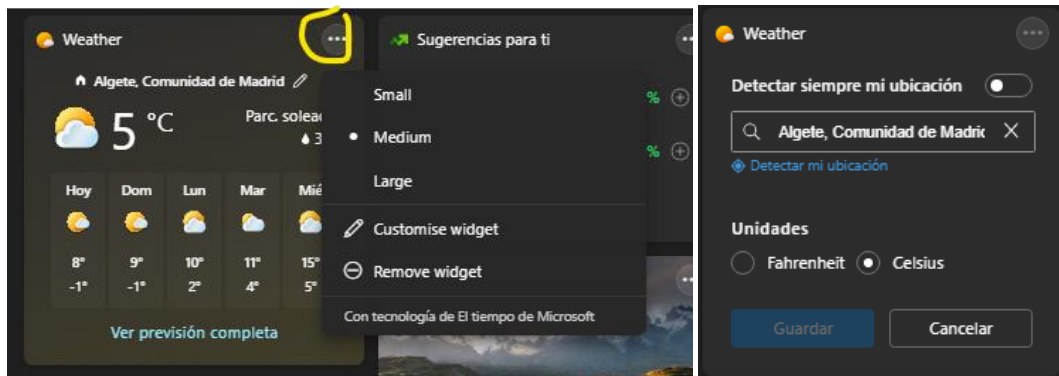
List of widgets that can be added:

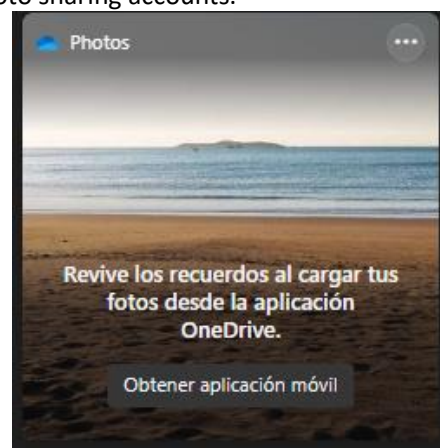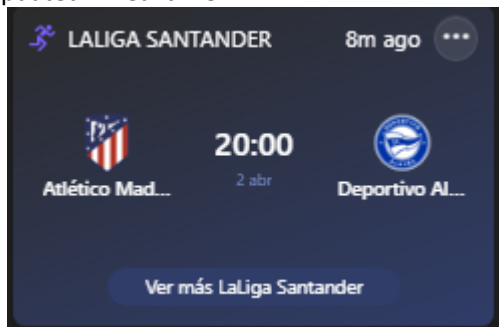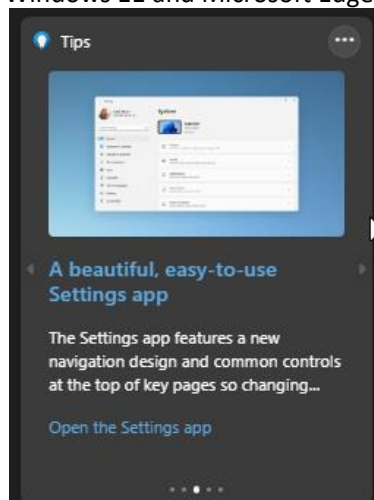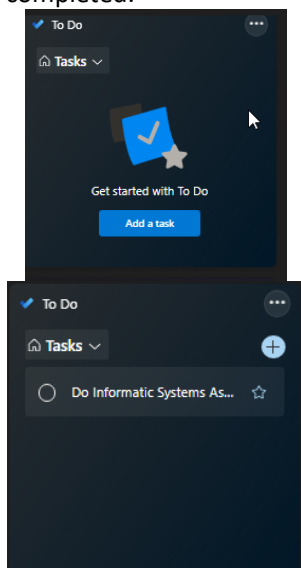|	
1. Calendar This widget shows your most recent events, synchronized with your Outlook account →	
2. Esports The Esports Widget makes it easy for fans, spectators, and Esports newbies to see all recent matches. 	**3. Photos** The Photos Widget cycles through photos and images you've saved to OneDrive or other photo sharing accounts.

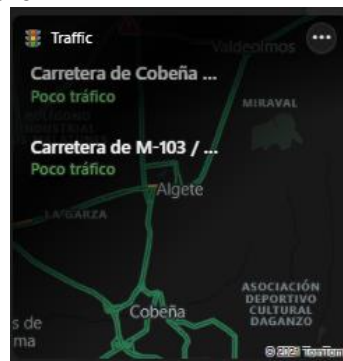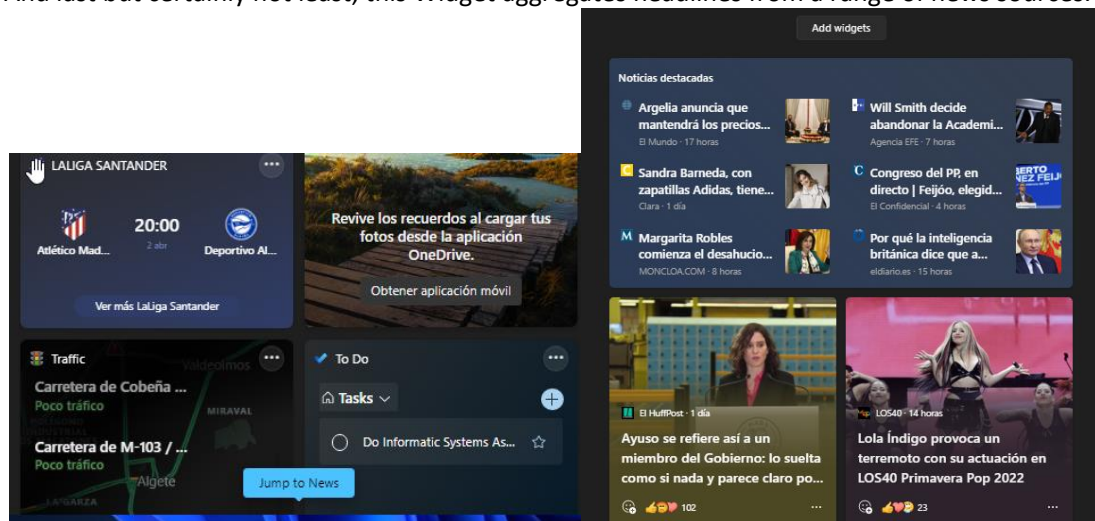| 4. Sports	5. Tips
From current scores and recent results to other highlights, the Sports Widget keeps you updated in real time. 	The Tips Widget provides brief advice on all things Windows 11 and Microsoft Edge.
6. To Do	**7. Traffic**
Easily create a list of tasks, be reminded of them in an intuitive way, and mark them off your list as they're completed. 	This permits you to get a quick look at traffic conditions.
8. Watchlist	**9. Weather**
The Watchlist Widget monitors stock values throughout the day. And, just like the Sports Widget, you can make it yours by customizing which stocks appear. 	The Weather Widget shares real-time weather conditions in your area, as well as the forecast for the following three days.

10. Top Stories

And last but certainly not least, this Widget aggregates headlines from a range of news sources.

Webography checked to search for this new feature of Windows 11:

- https://www.cnet.com/tech/computing/the-best-windows-11-features-android-apps-widgets-and-more/
- https://www.microsoft.com/en-us/windows/remote-resource-center/top-windows-Widgets-to-know-about?r=1