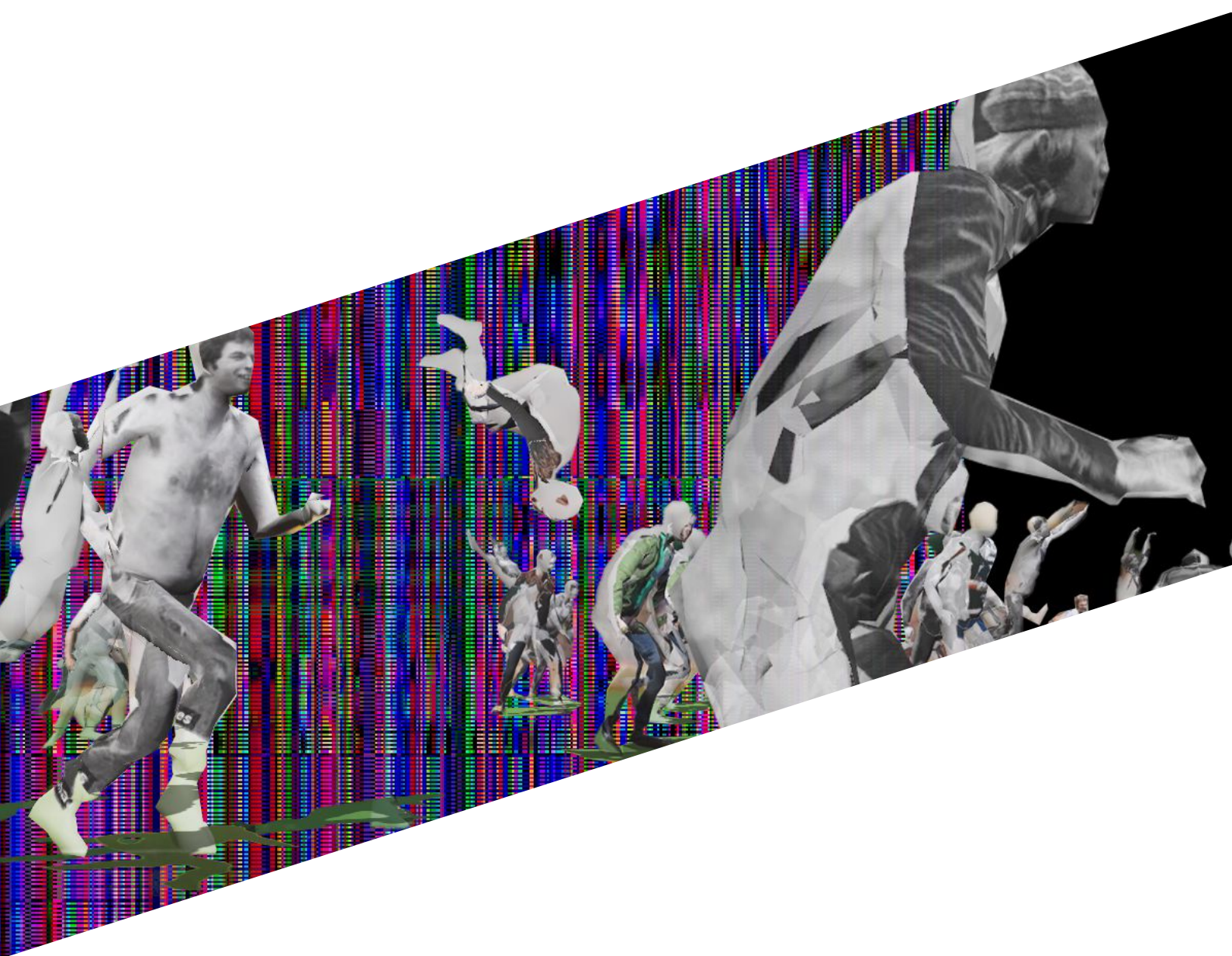


Nicolas Gourault, *Turba* (2021)

Protocol



TURBA - PROTOCOL - SUMMARY



INTRODUCTION

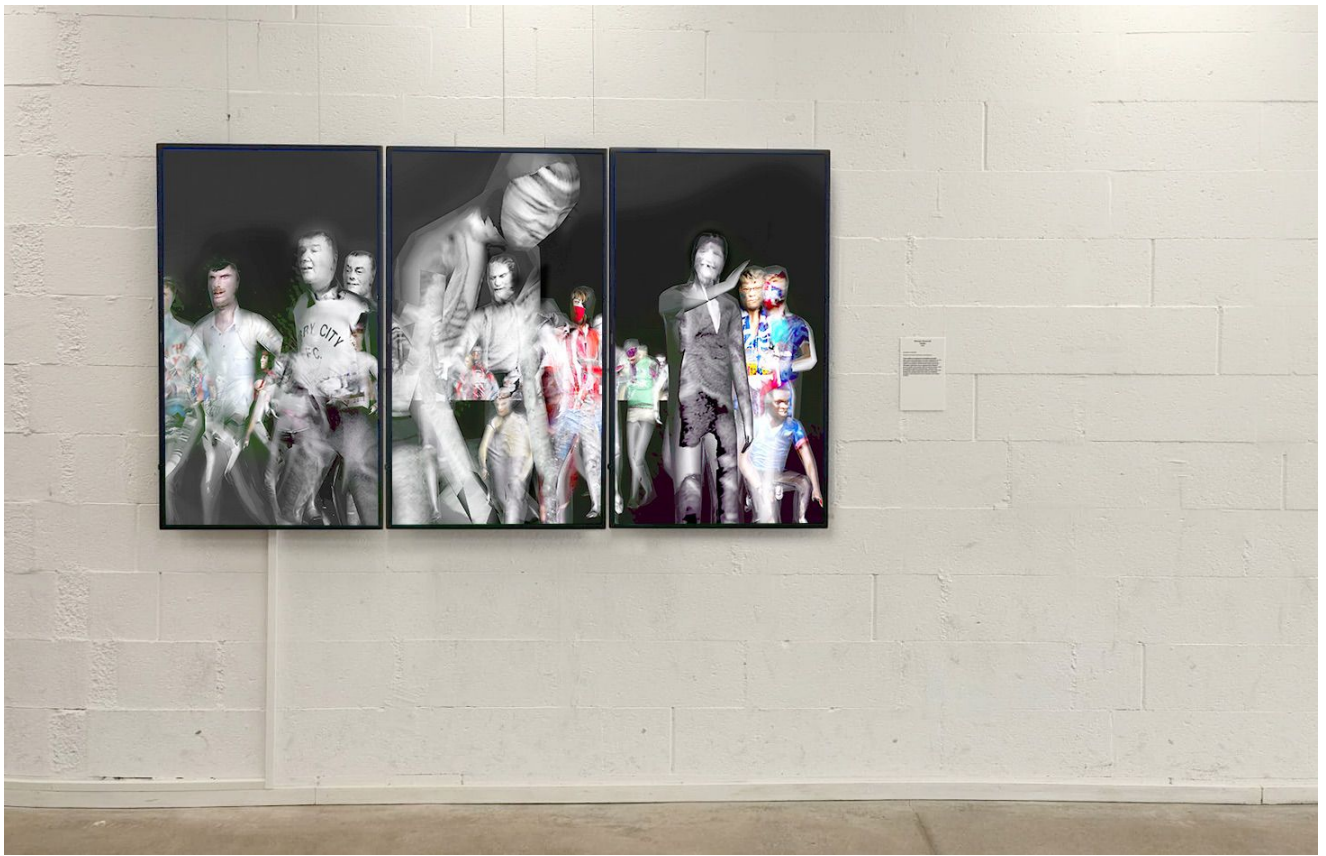
There are 2 options for the installation:

- a more ambitious and complex option, with software running on a laptop (supplied);
- a simpler, easy-to-deploy option, with a video file that can be displayed on a monitor or video projector.

For each of the 2 options, the work can be shown on different media, depending on the means available at the venue and in consultation with the artist:

- a horizontal monitor or video projector ;
- one vertical monitor or video projector ;
- two vertical monitors ;
- three vertical monitors.

There is also a 3rd option, to be discussed with the artist, in which the piece can be shown in a public space.



TURBA - PROTOCOLE - EQUIPMENT

EQUIPMENT

Supplied :

- Laptop with software
- 2 usb-c to HDMI video adapters
- video file (2K or 4K)



To be supplied :

- 1 to 3 TV / Monitor - minimum 50"
- 1 videoprojector
- HDMI cables

TABLE OF CONTENT

OPTION 1 : realtime software	5
SUMMARY	5
INSTALLATION DISPLAY	5
1 VERTICAL SCREEN / VIDEO-PROJECTOR	5
2 VERTICAL SCREENS	5
3 VERTICAL SCREENS	6
INSTALLATION SETUP	7
LAPTOP	7
Keyboard backlighting	7
Interrupt artwork to make modifications	8
Account information	10
Monitor/TV connection	10
Choose the right version of the artwork	12
Screen layout in Windows (multi-screen version)	18
Adjust computer noise	25
Disable windows update	26
Automatic on/off	27
MONITOR SETUP	32
TECHNICAL TROUBLESHOOT	32
REMOTE ACCESS	32
FORCE PC RESTART	32
ONLY ONE SCREEN IS WORKING	33
SHORTCUT TO INTERRUPT THE ARTWORK	33
INTERRUPT/ACTIVATE WINDOWS UPDATES	36
COMPUTER ON/OFF	37
Activer auto login	37
START UP	37
Shutdown	42
OPTION 2 : video file playback	49
SUMMARY	49
INSTALLATION DISPLAY	49
INSTALLATION SETUP	51
OPTION 3 : public space presentation	52

TURBA - PROTOCOL - OPTION 1

OPTION 1 : realtime software

SUMMARY

Equipment supplied: Laptop with artwork pre-installed and ready to play. A power supply and two usb-c to HDMI adapters.

The work must be prepared manually by the artist or a competent technician once before the start of the exhibition. Once prepared, the work is autonomous. The computer switches on and off automatically according to predefined schedules, the artwork launches automatically when the computer starts up, and relaunches automatically in the event of a bug. In the event of maintenance, the computer can be connected to the Internet for remote control by the artist or a qualified technician.

Installation is straightforward: simply connect the computer to the power supply, select the file to be launched when the computer starts up, connect the external monitors and arrange them correctly in Windows. Laying out the screens in Windows is the most time-consuming task, but once this is done the rest is very quick.

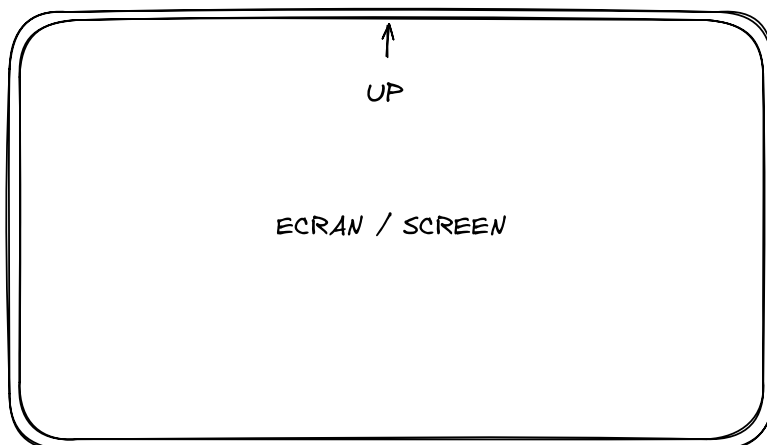
INSTALLATION DISPLAY

The installation is modular, and can take several forms to adapt to the supports available.

In vertical mode, pay attention to the orientation of the screens. Rotate them to the right (clockwise), as shown in the diagrams.

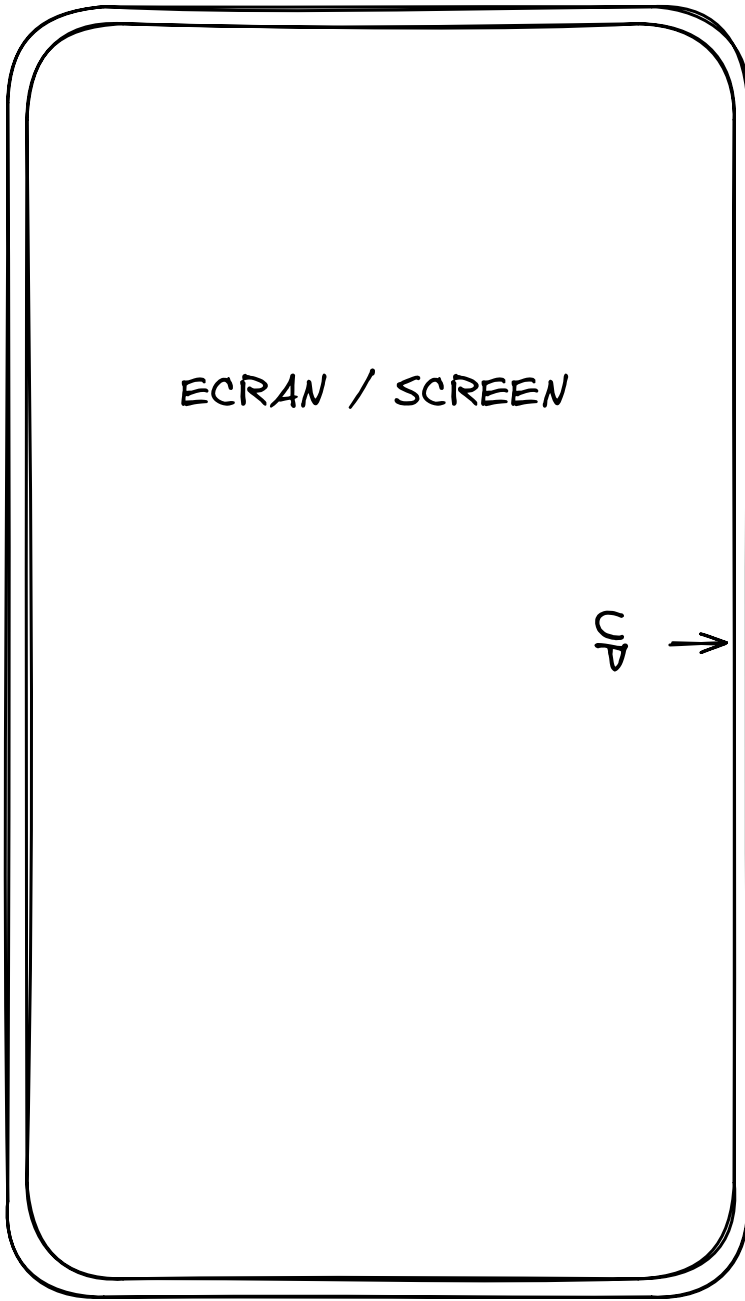
The work is best presented on screen, but it can also be shown as a video projection. Consult the artist for the choice of projection method.

1 HORIZONTAL SCREEN / VIDEO-PROJECTOR



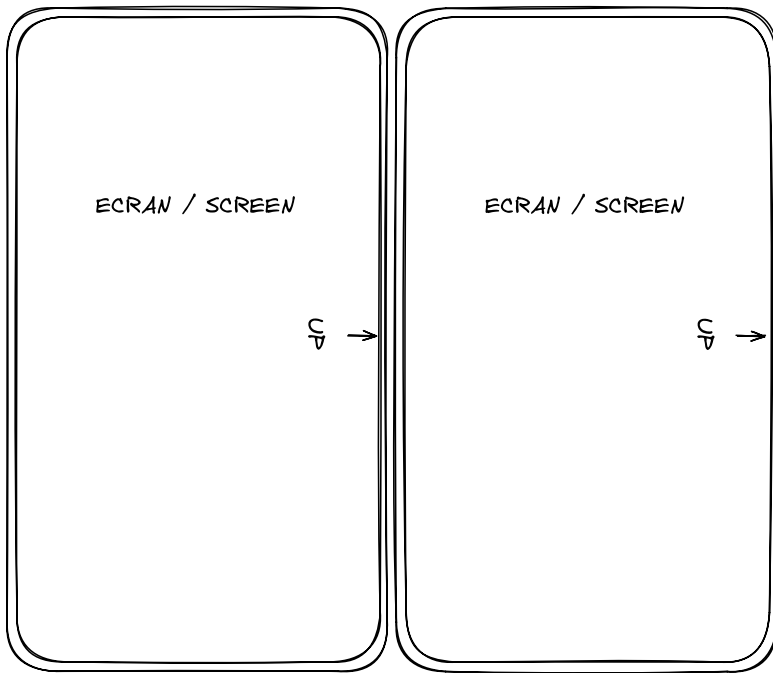
1 VERTICAL SCREEN / VIDEO-PROJECTOR

Screen rotated 90° clockwise



2 VERTICAL SCREENS

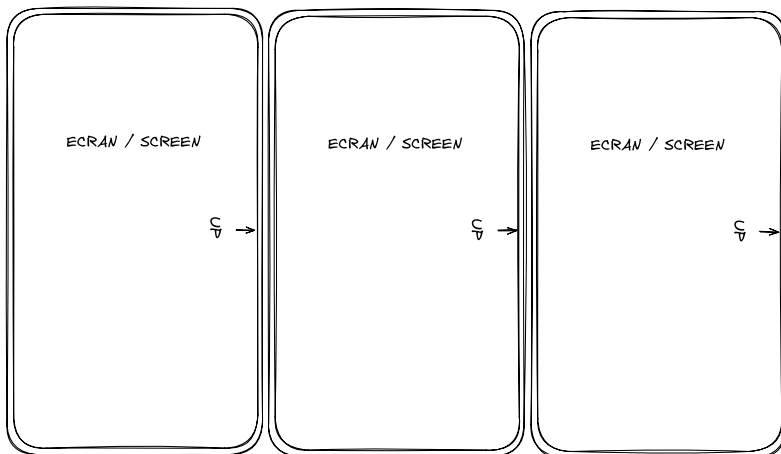
Screens turned 90° clockwise
Edge-to-edge screens



3 VERTICAL SCREENS

Screens turned 90° clockwise

Edge-to-edge screens



INSTALLATION SETUP

LAPTOP

Keyboard backlighting

Press the following keys to increase/decrease the keyboard backlight :



Interrupt artwork to make modifications

⚠ IMPORTANT ⚠ : The work starts automatically when the computer is started, a script prevents the work from stopping by itself. If it does, it is automatically restarted. This is a protection mechanism in case of a bug. To make any changes to the computer, you must first interrupt this script by using the keyboard shortcut :

1. Press windows + delete (del) at the same time



2. Wait 5 seconds, then press the escape key



Account information

Username : CNAP_TURBA

Password: turba

Monitor/TV connection

The rest of the artwork setup must be prepared with the monitors connected to the computer. Connect cables as follow :



Chargeur
Power

écran 1
screen 1

HDMI

écran 2
screen 2

écran 3
screen 3

2 adaptateurs
USB-C HDMI

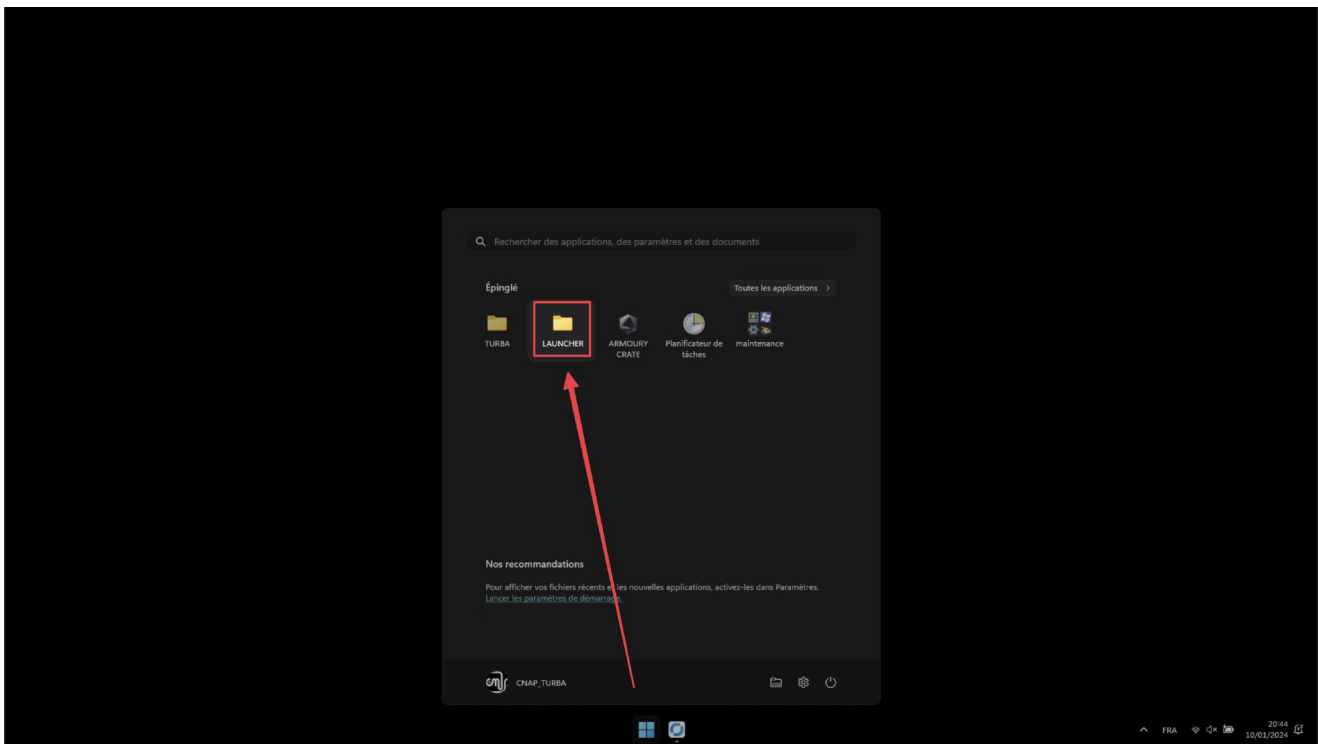
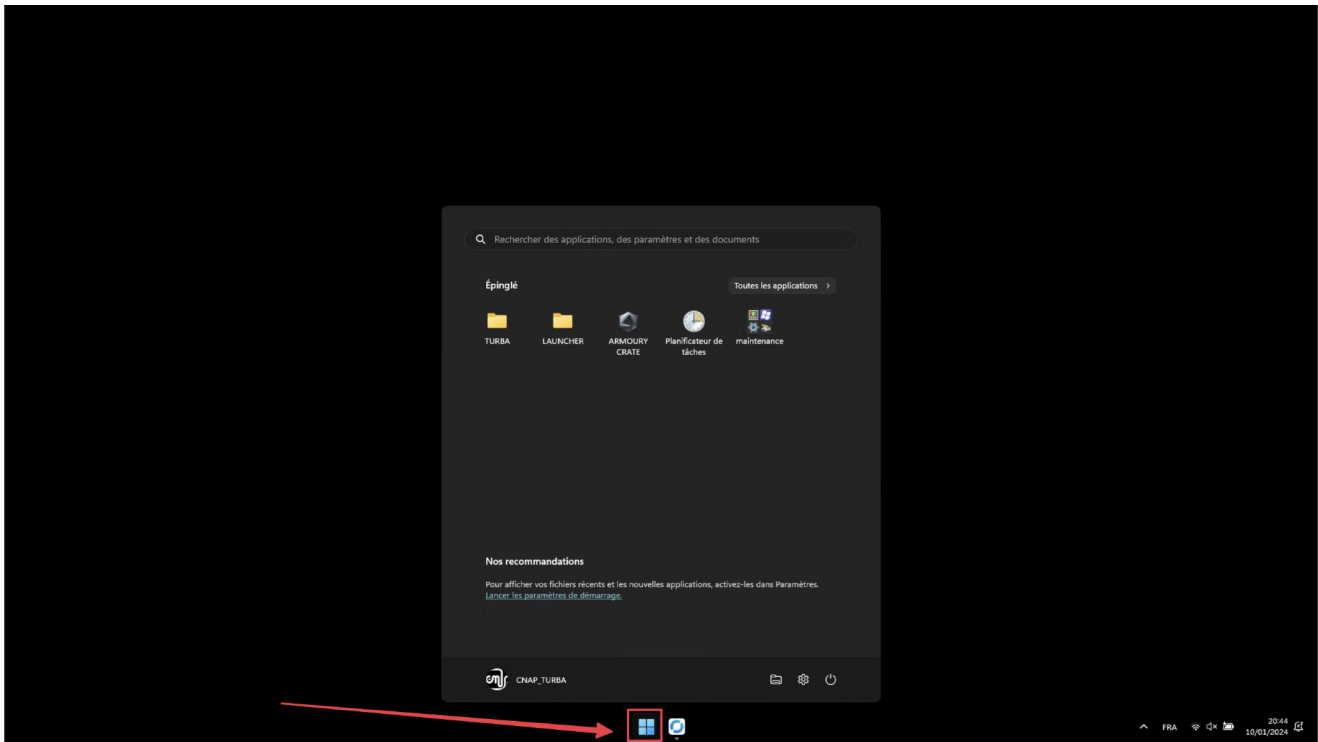


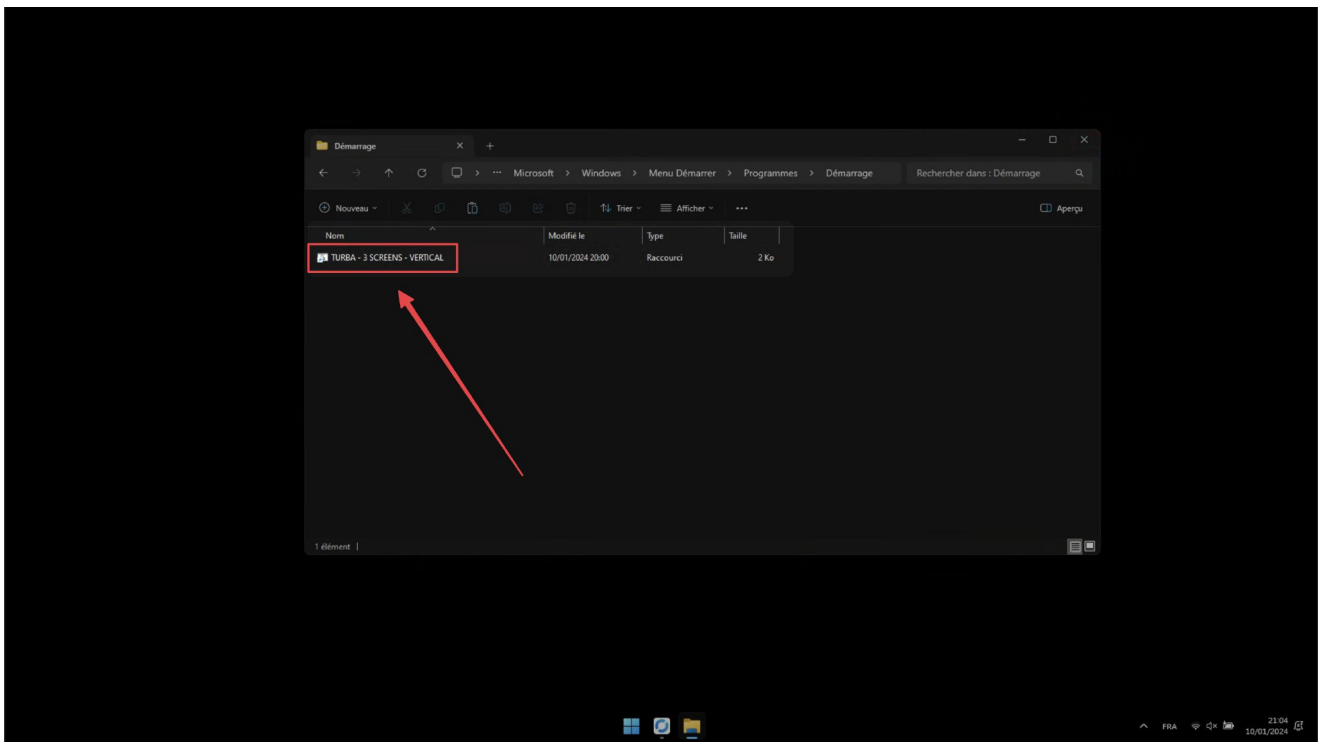
x2



Choose the right version of the artwork

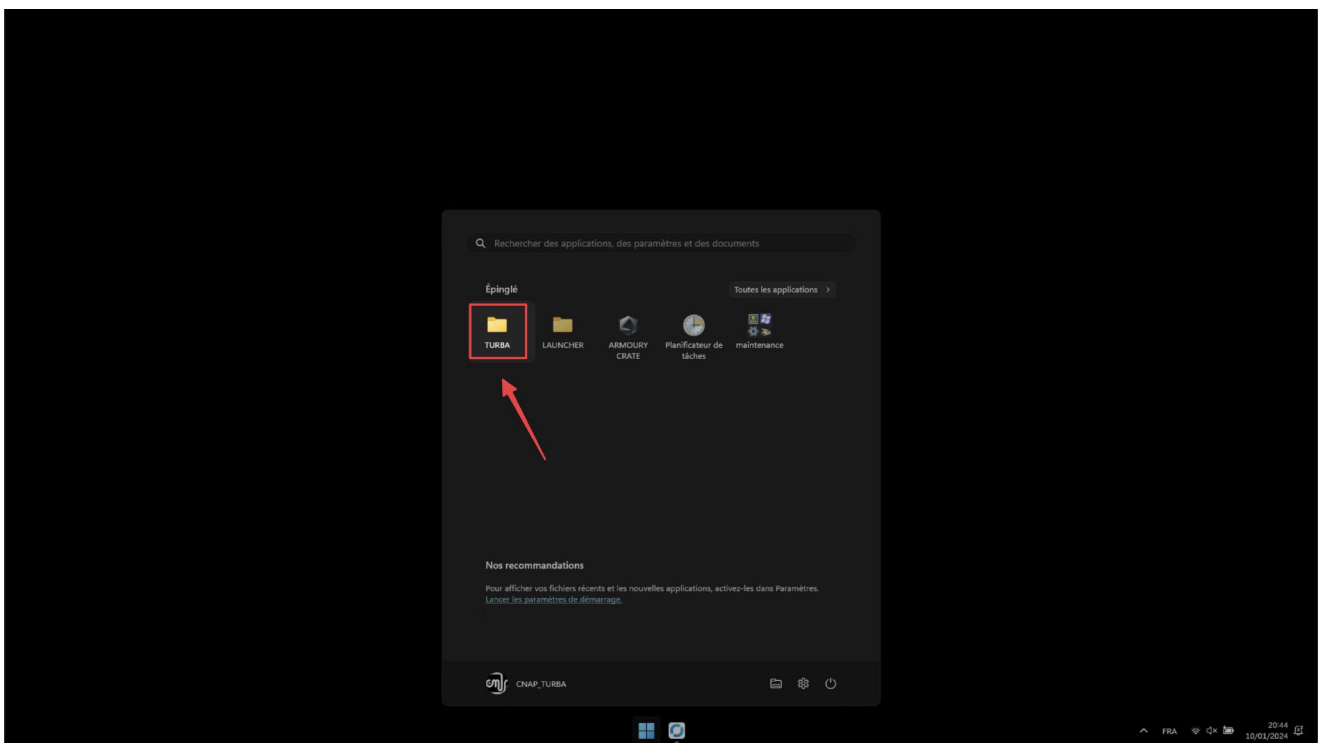
Check which version is launched when the computer starts up by opening the "LAUNCHER" folder.





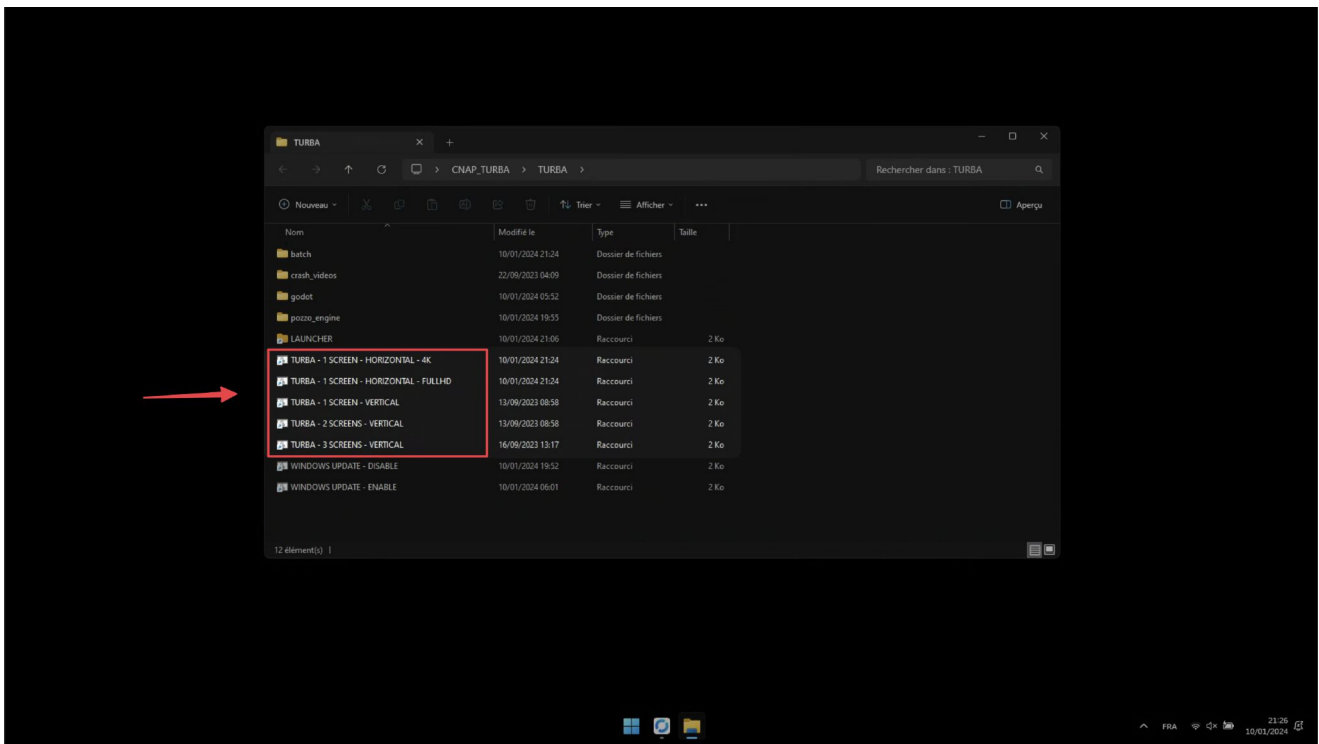
⚠ There should be only one file in the LAUNCHER. If there are more, delete the unnecessary files. ⚠

- If it's the right version: don't change anything and go straight to the next section ("Screen layout in Windows").
- If this is not the correct version: Open the "TURBA" folder.

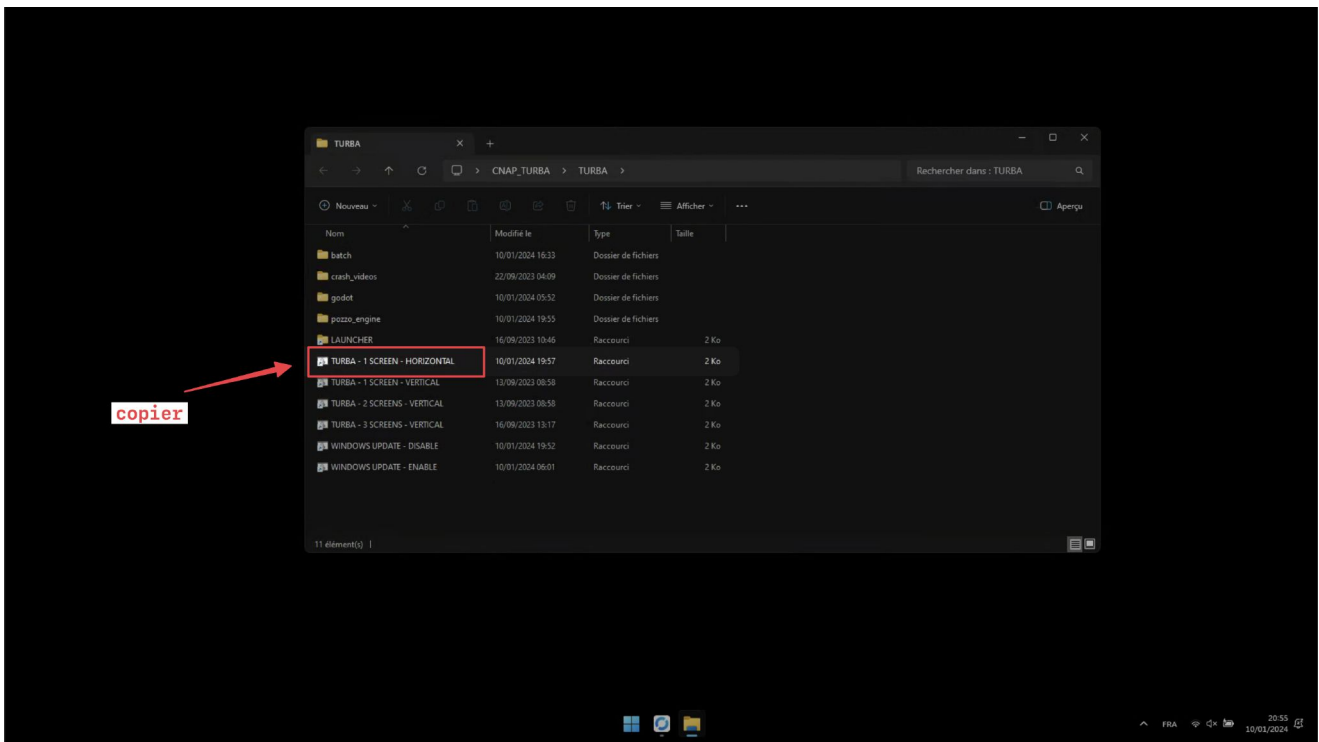


Select the desired artwork variant from the 5 available:

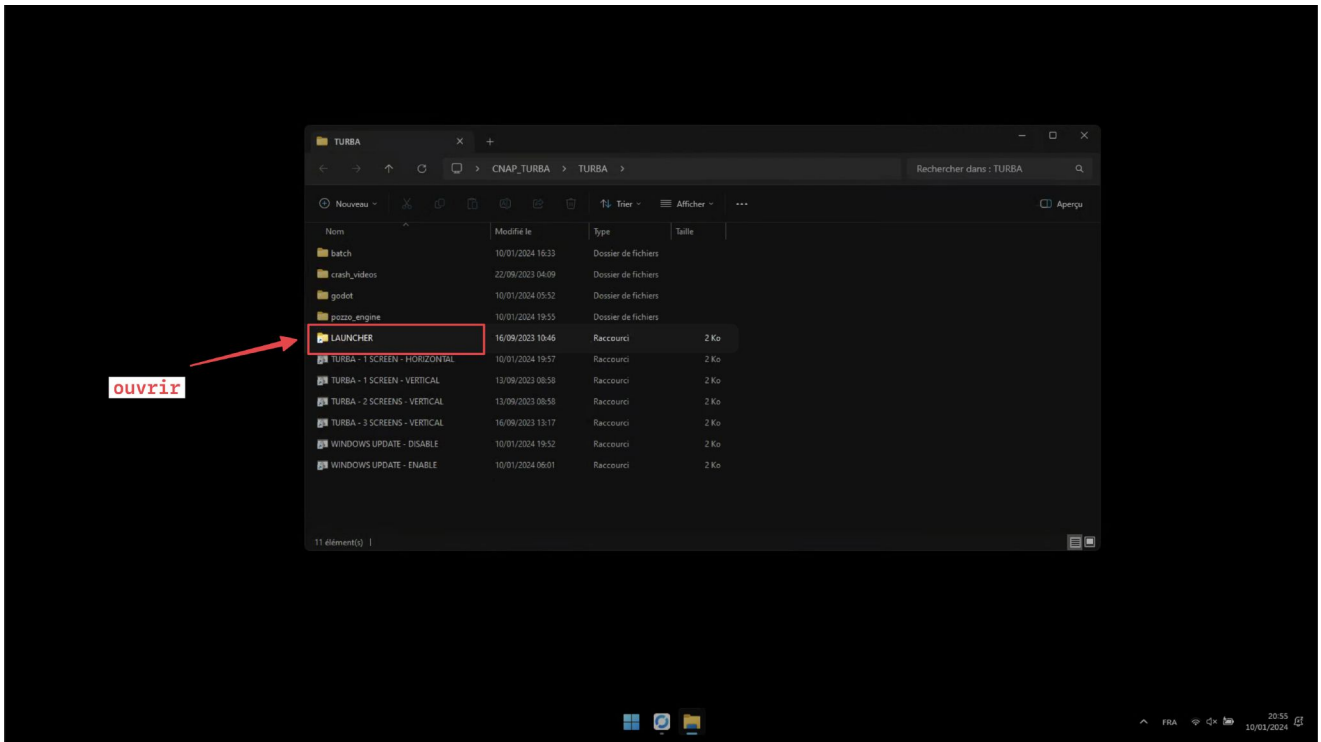
- "TURBA - 1 SCREEN - HORIZONTAL - 4K" : 4k (3840x2160) screen/video-projection system
- "TURBA - 1 SCREEN - HORIZONTAL - FULLHD" : full hd (1920x1080) screen / video projection
- "TURBA - 1 SCREEN - VERTICAL" : a vertical screen
- "TURBA - 2 SCREENS - VERTICAL" : two vertical screens
- "TURBA - 3 SCREENS - VERTICAL" : three vertical screens



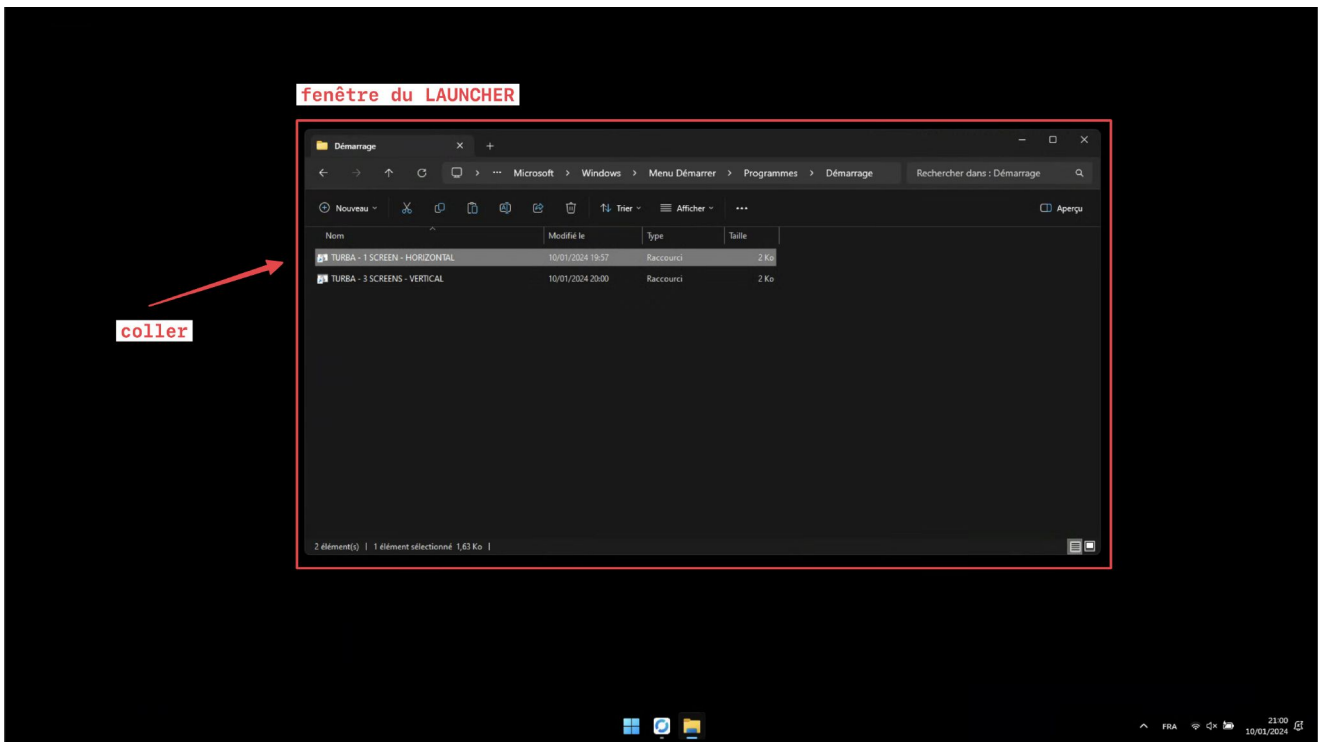
Copy the file corresponding to the chosen installation variant



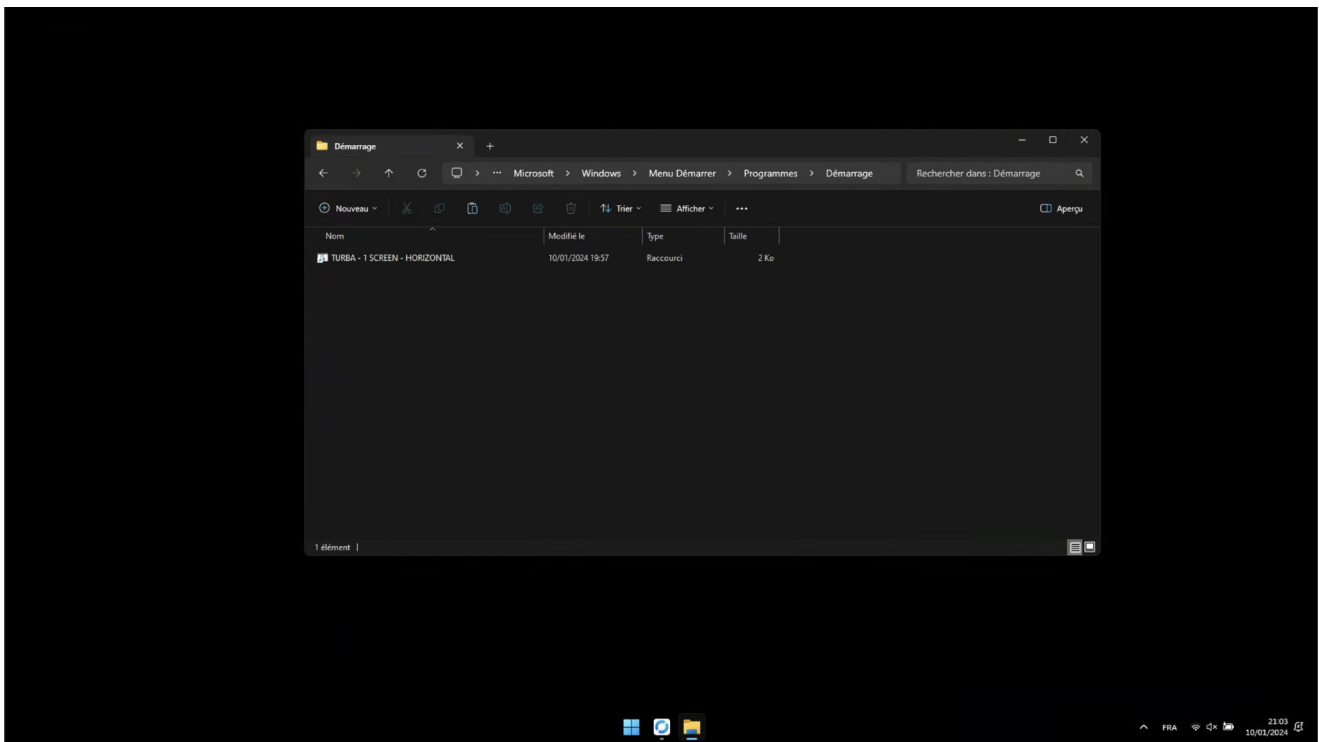
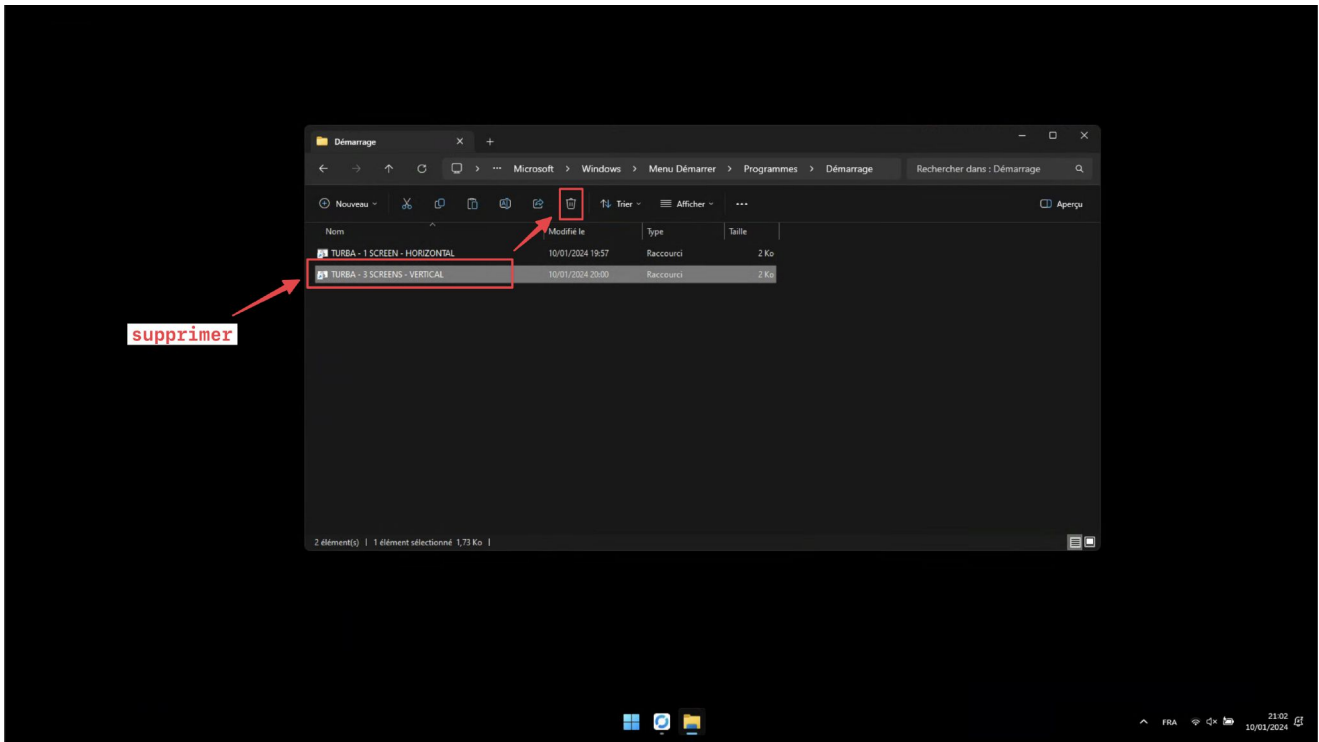
Open the "LAUNCHER" folder by double-clicking on the shortcut



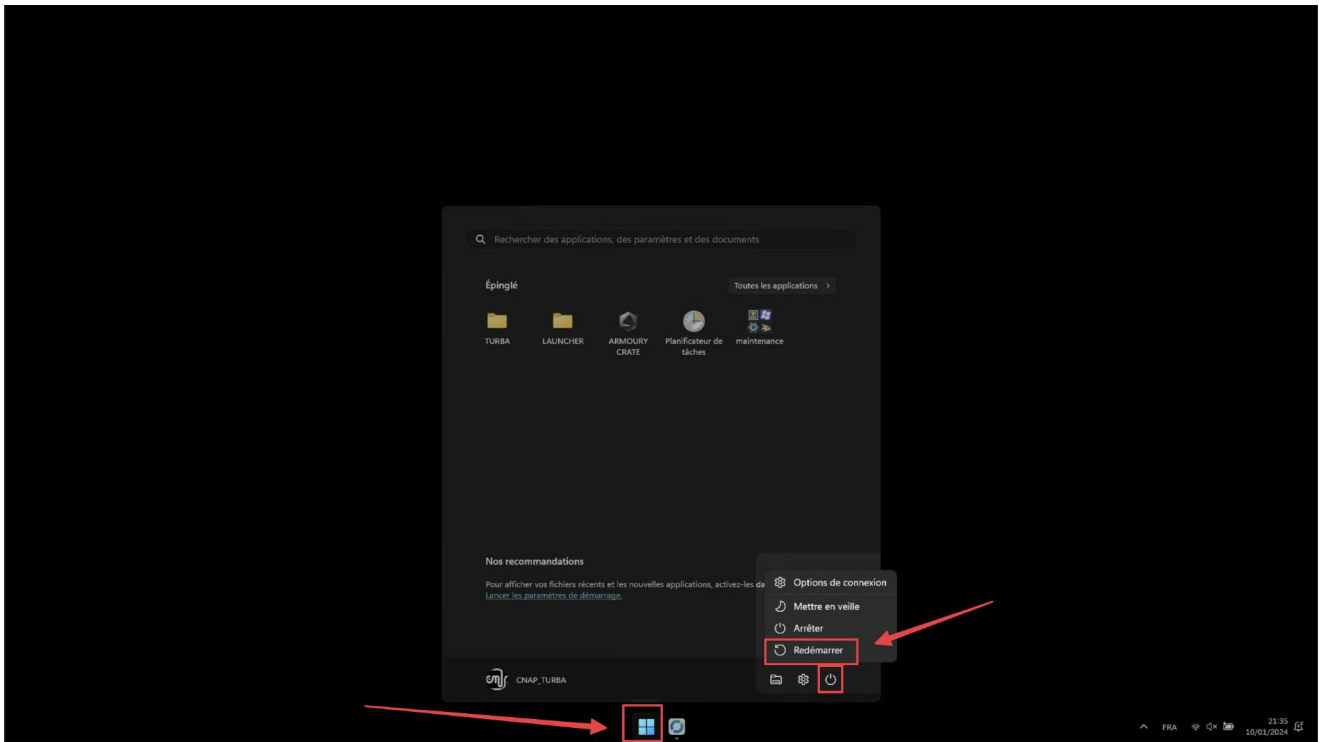
Paste file into "LAUNCHER" folder



Delete the previous file. ⚠ Only one file should remain. ⚠



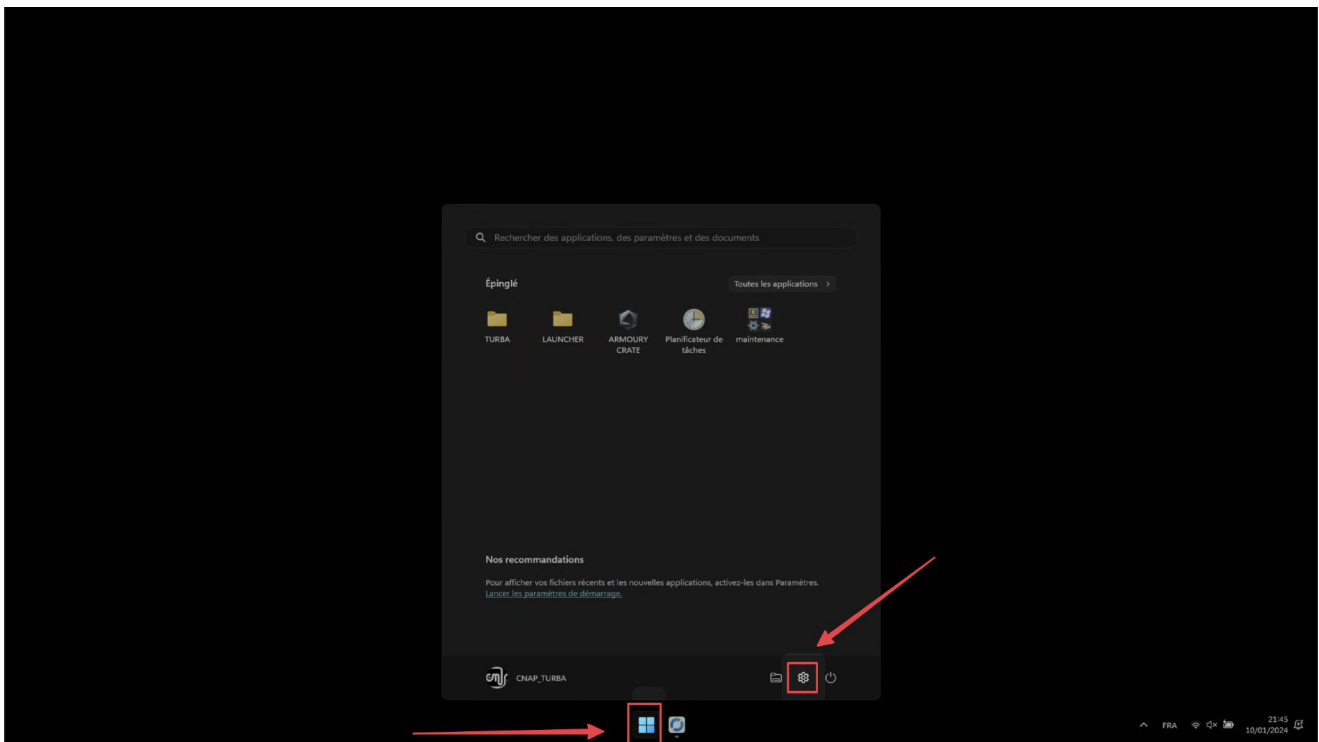
Restart the computer. On restart, the program will start automatically.



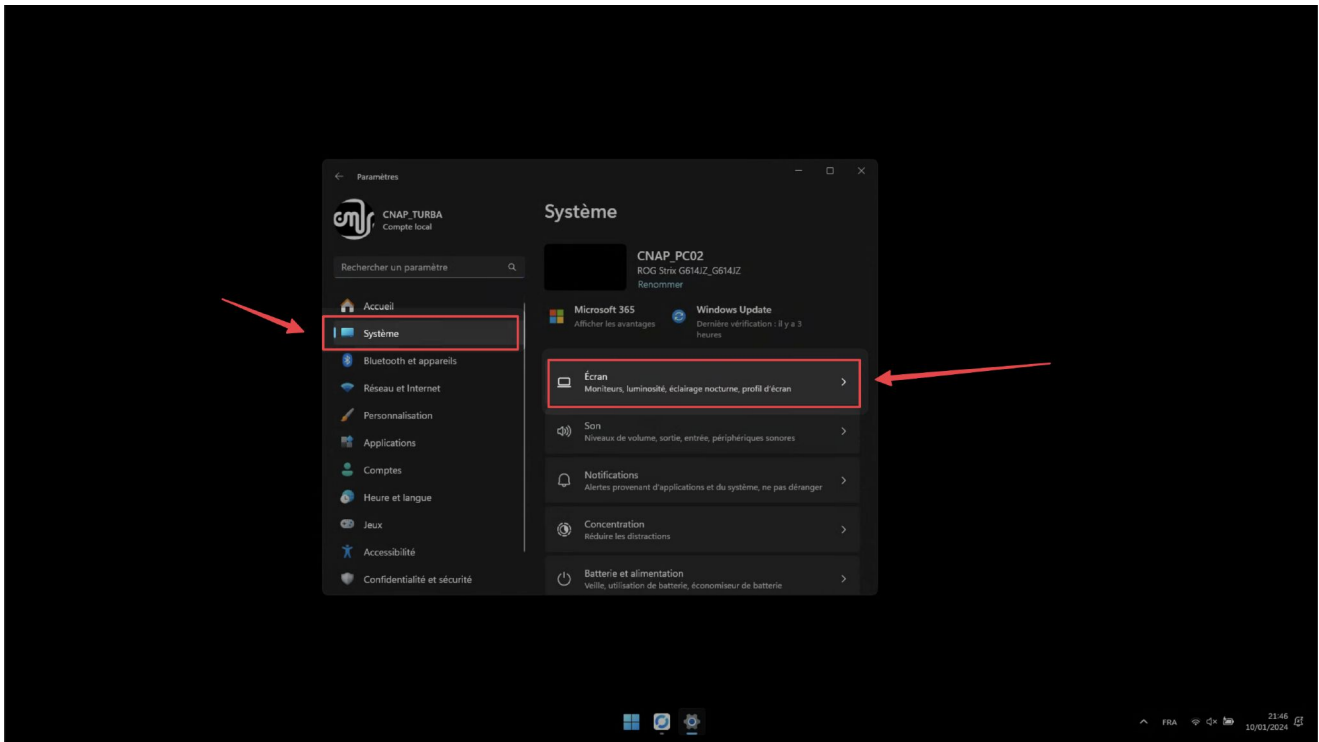
Screen layout in Windows (multi-screen version)

Start by connecting all the HDMI cables required.

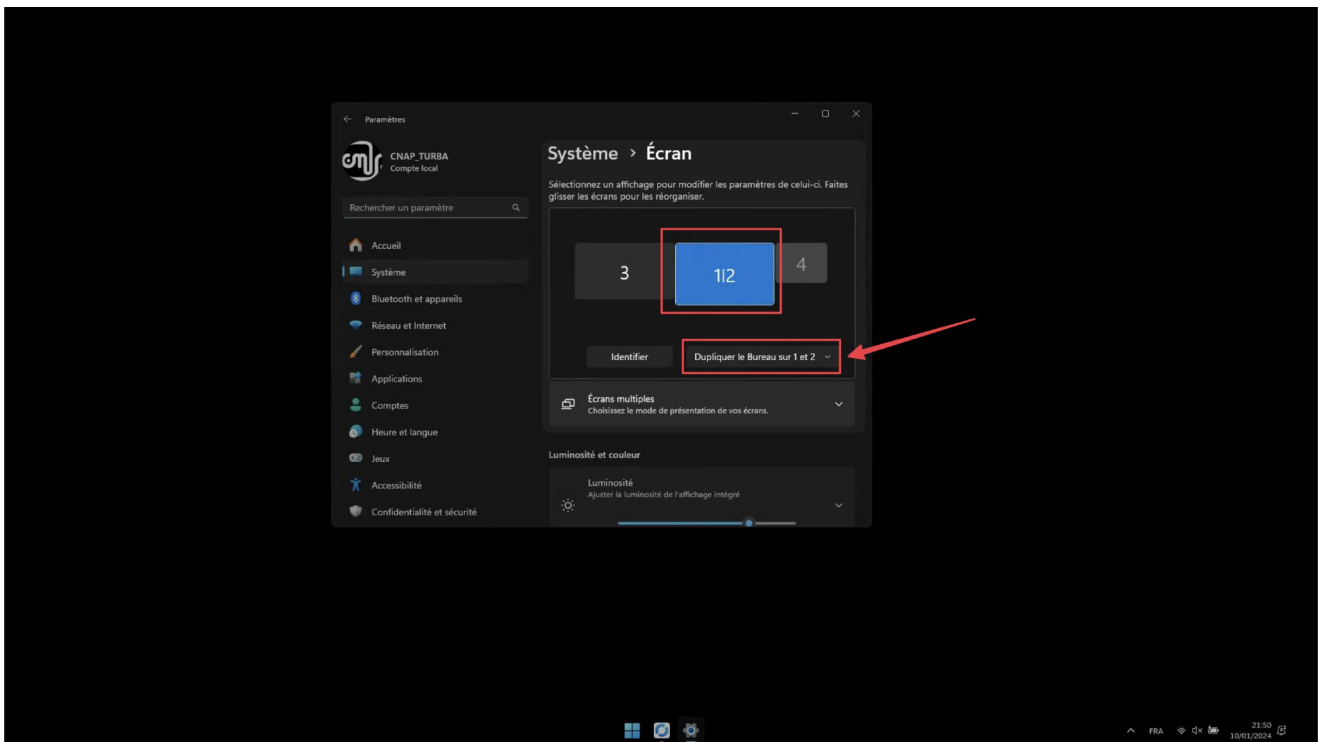
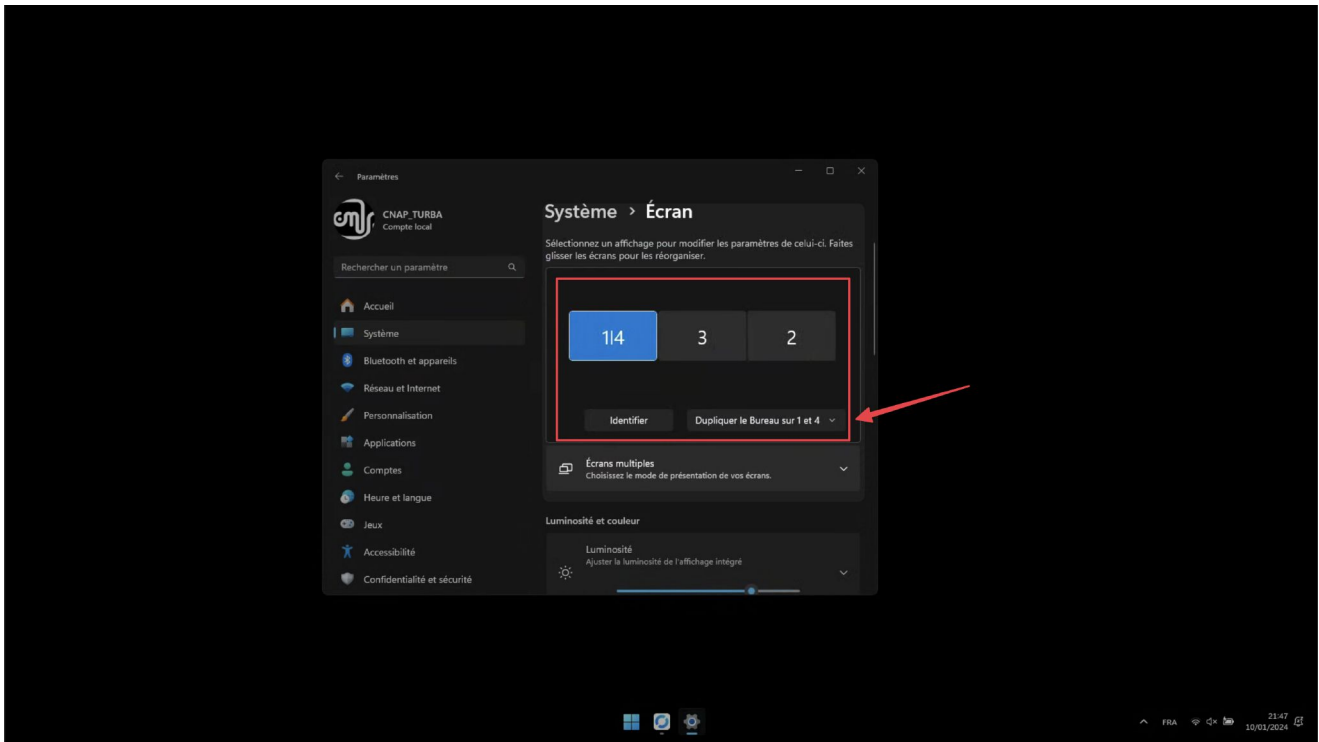
Open the system settings by clicking on the icon in the Start menu.



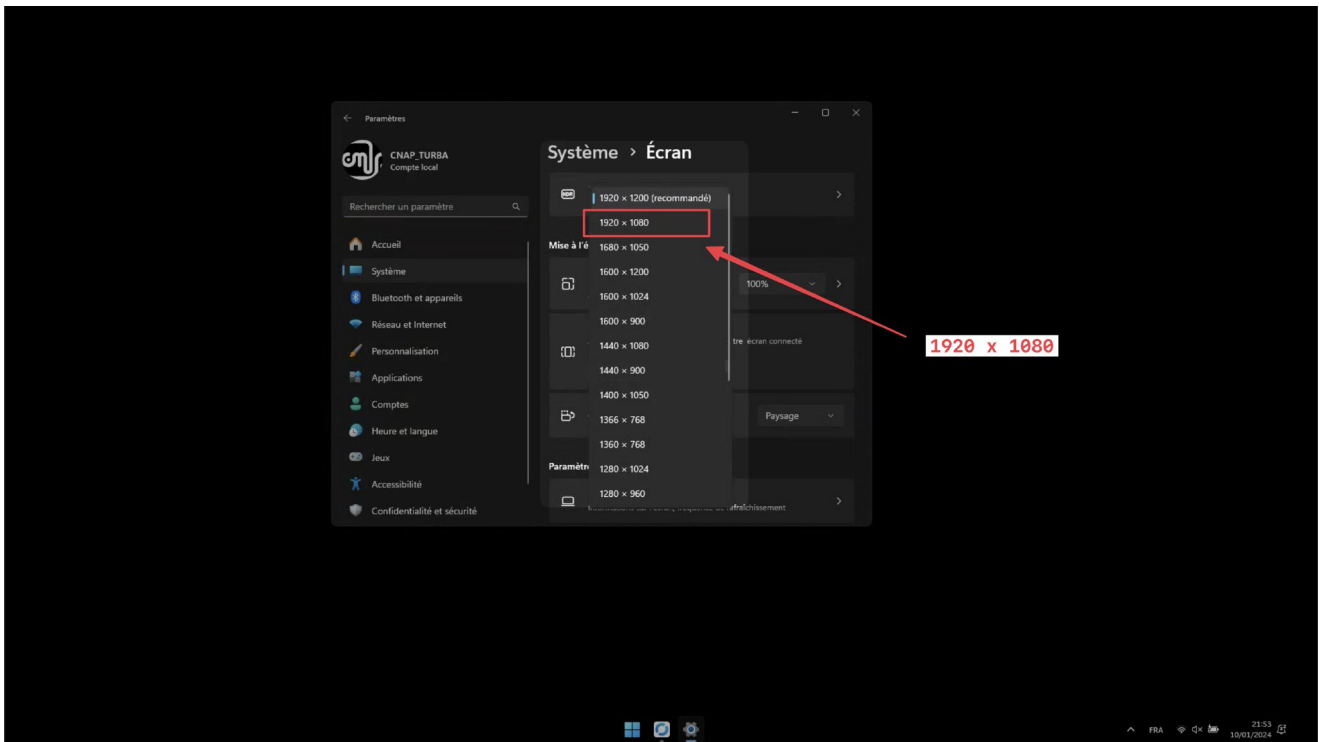
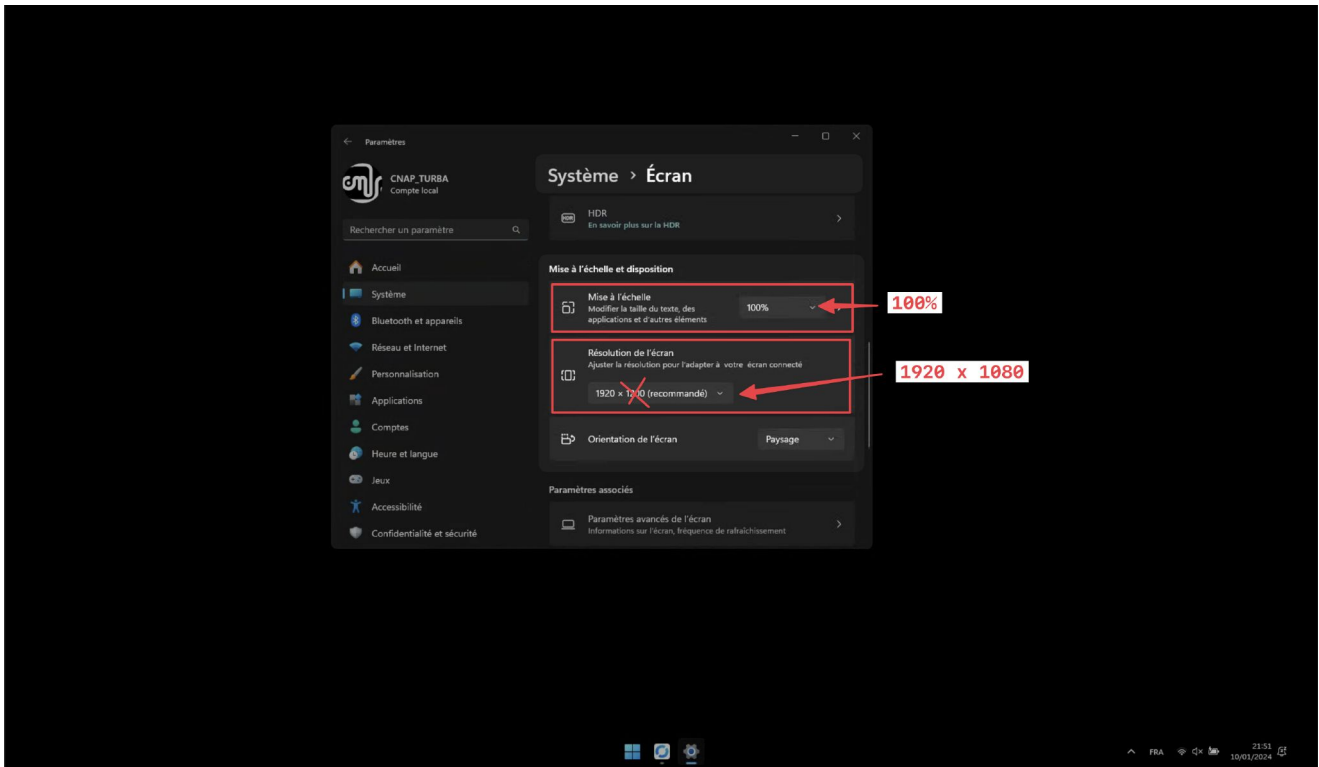
In the "System" tab, select the "Screen" menu



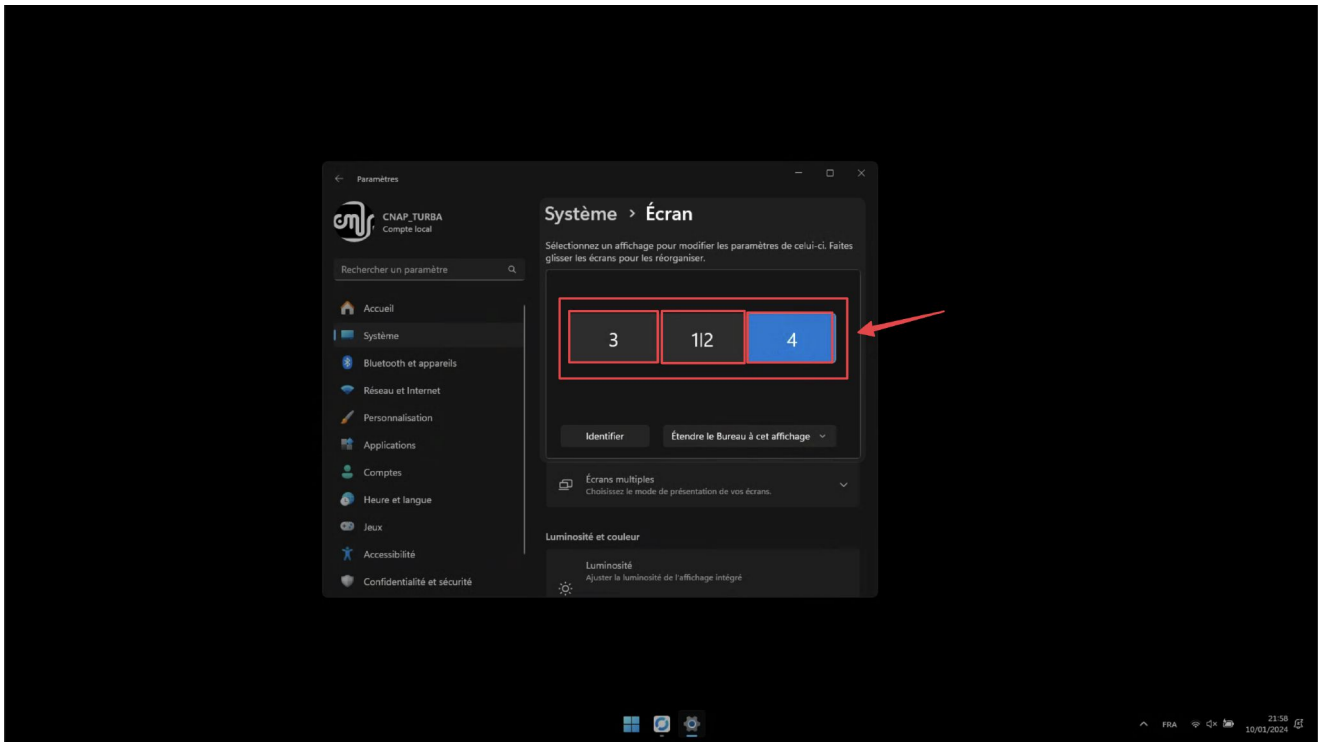
You need to arrange the screens in the right order. First, duplicate the desktop on screens 1 and 2.



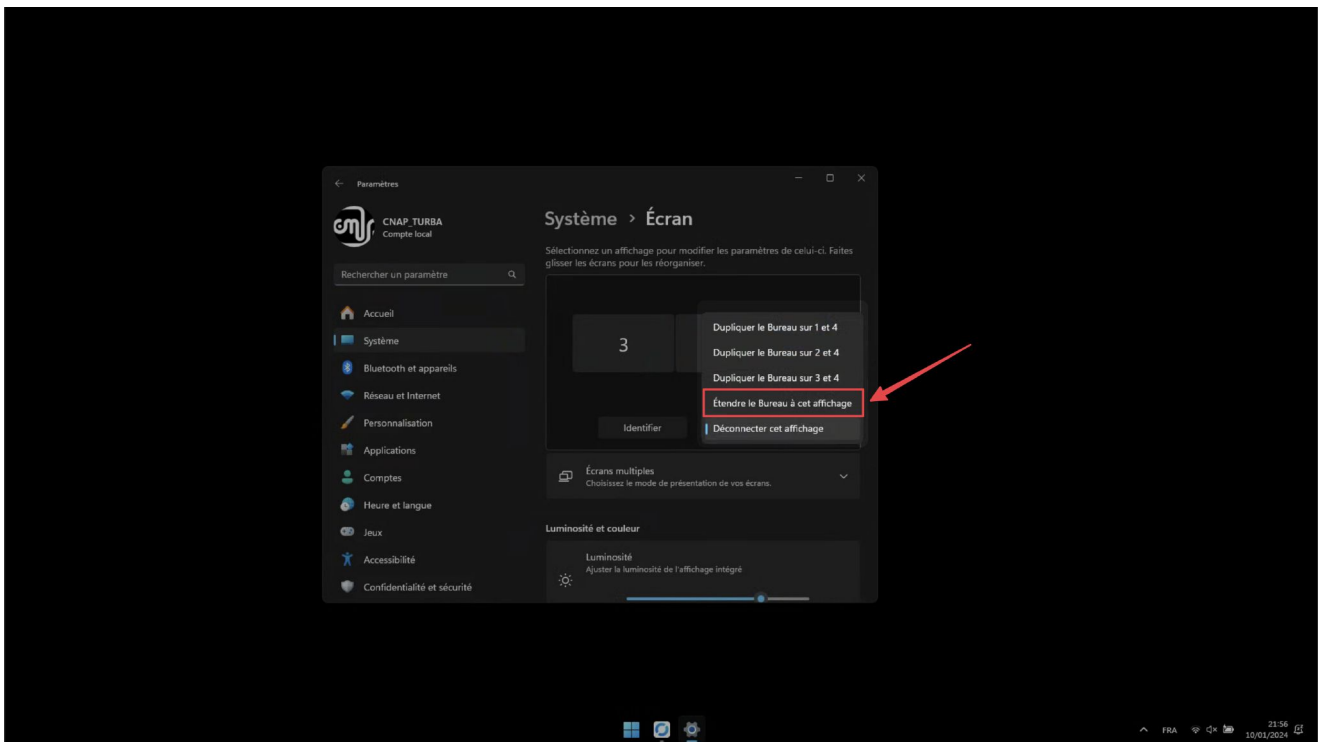
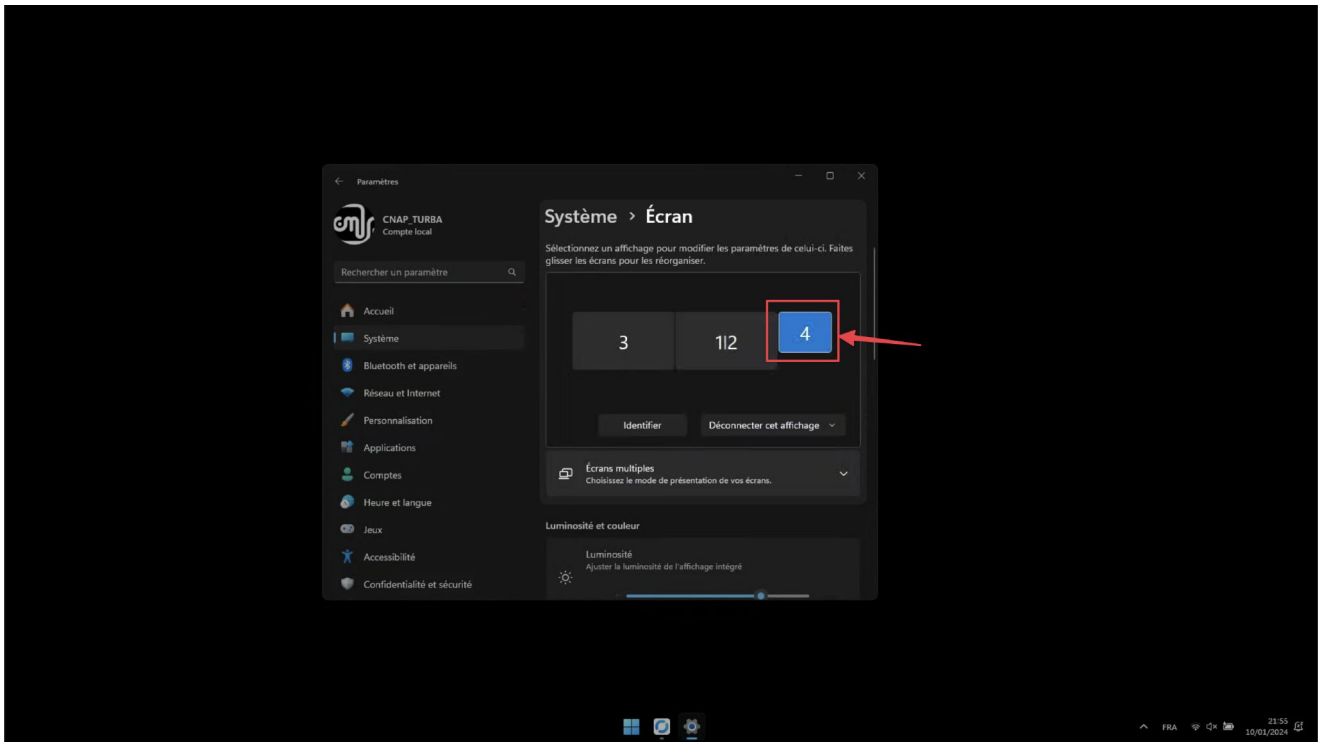
Once the screen has been duplicated, care must be taken to set the image resolution to 1920x1080 (\triangle NOT 1920x1200 which is the default \triangle) and scaling to 100%.



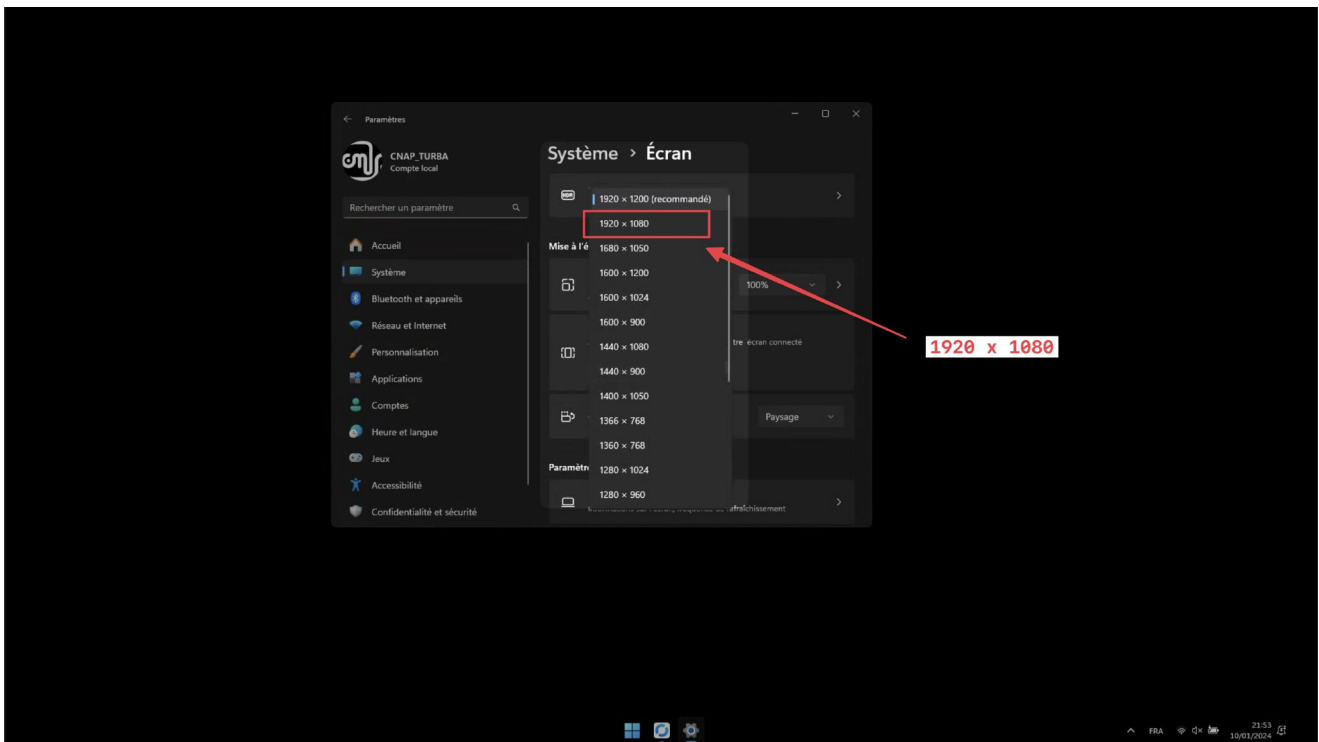
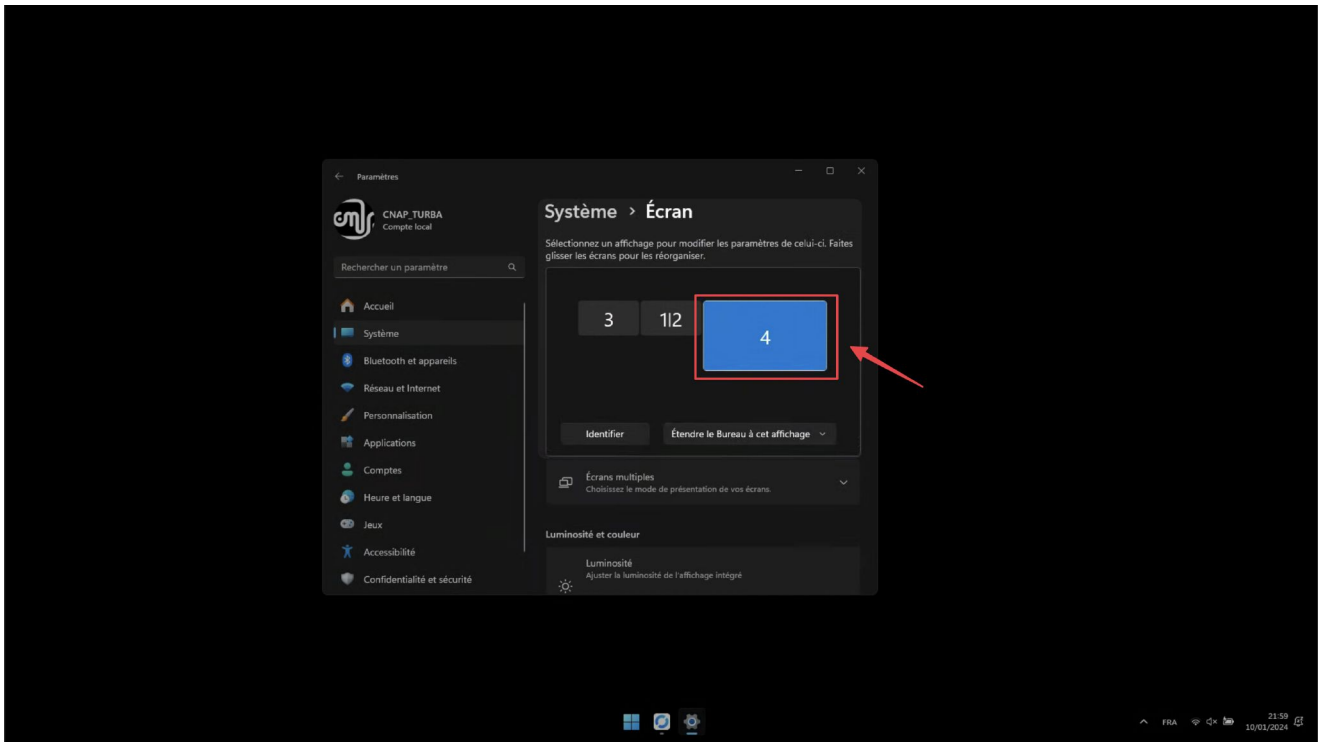
Prepare the other two screens, screens 3 and 4. All screens should be the same size, as shown in the image below.



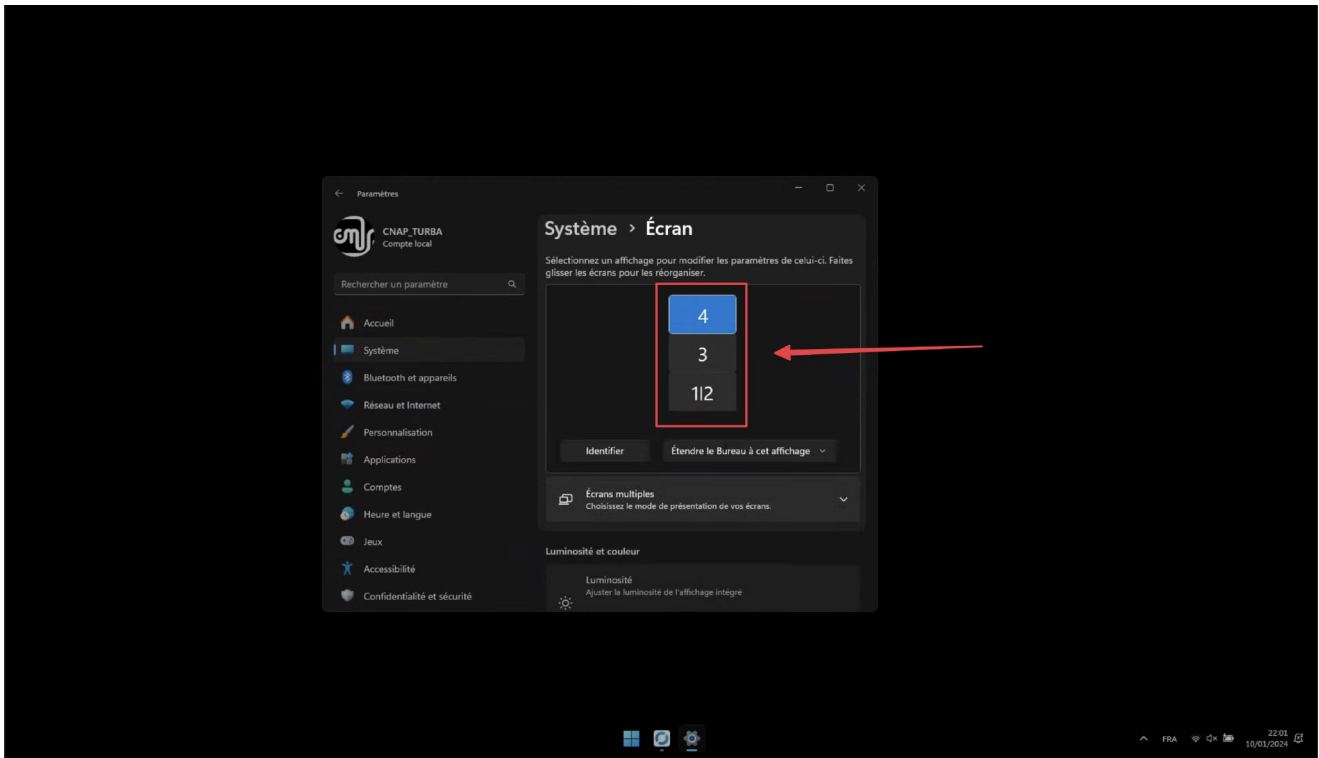
If a screen appears too small: select the "Extend desktop to this display" option



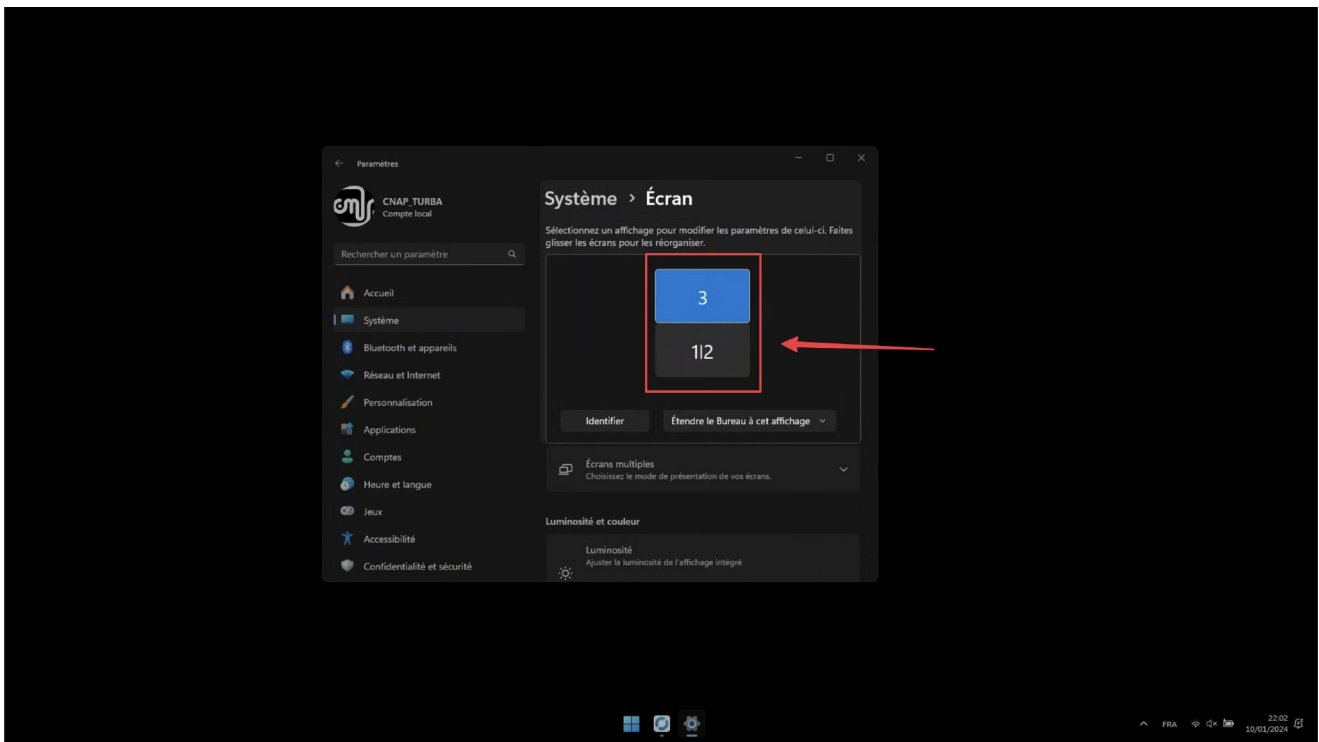
If a screen appears too large: reduce its resolution to exactly 1920x1080.



Once all the screens are the same size, stack them vertically, starting with screen 1/2 at the bottom, then screen 3 and finally screen 4.

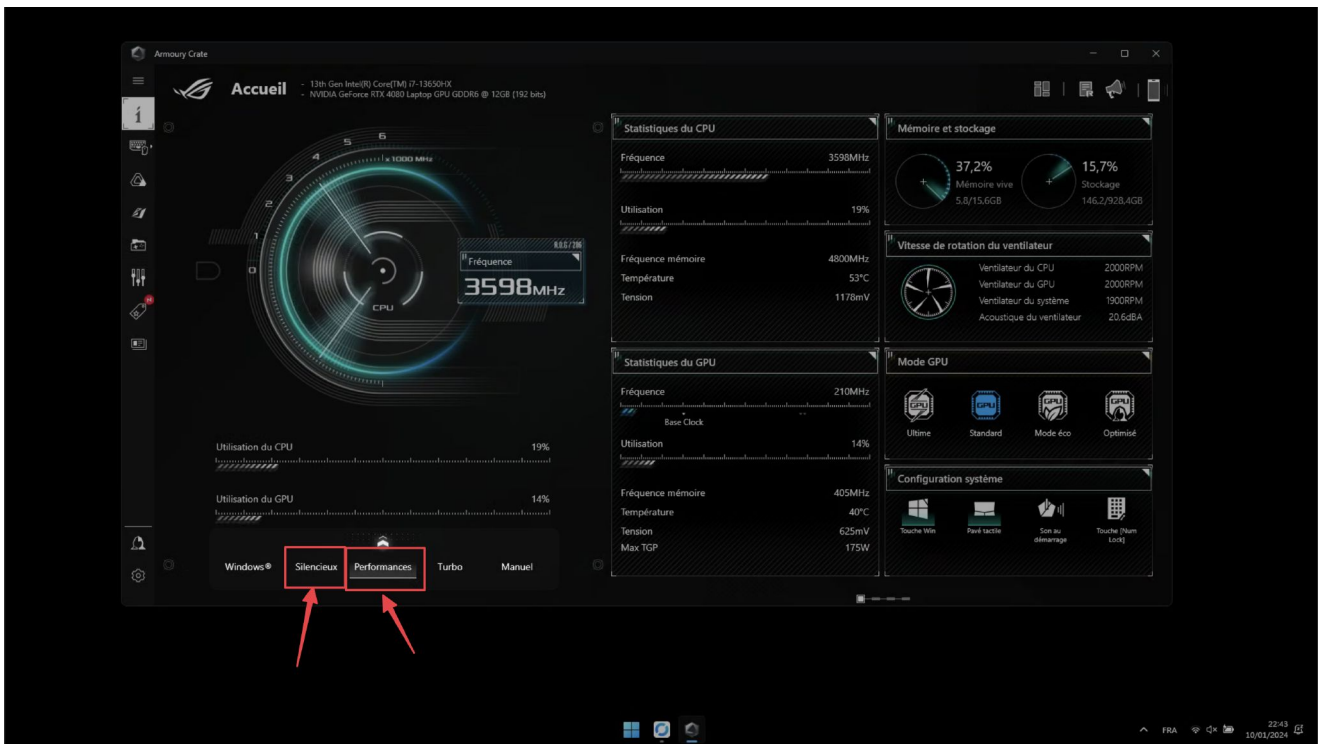
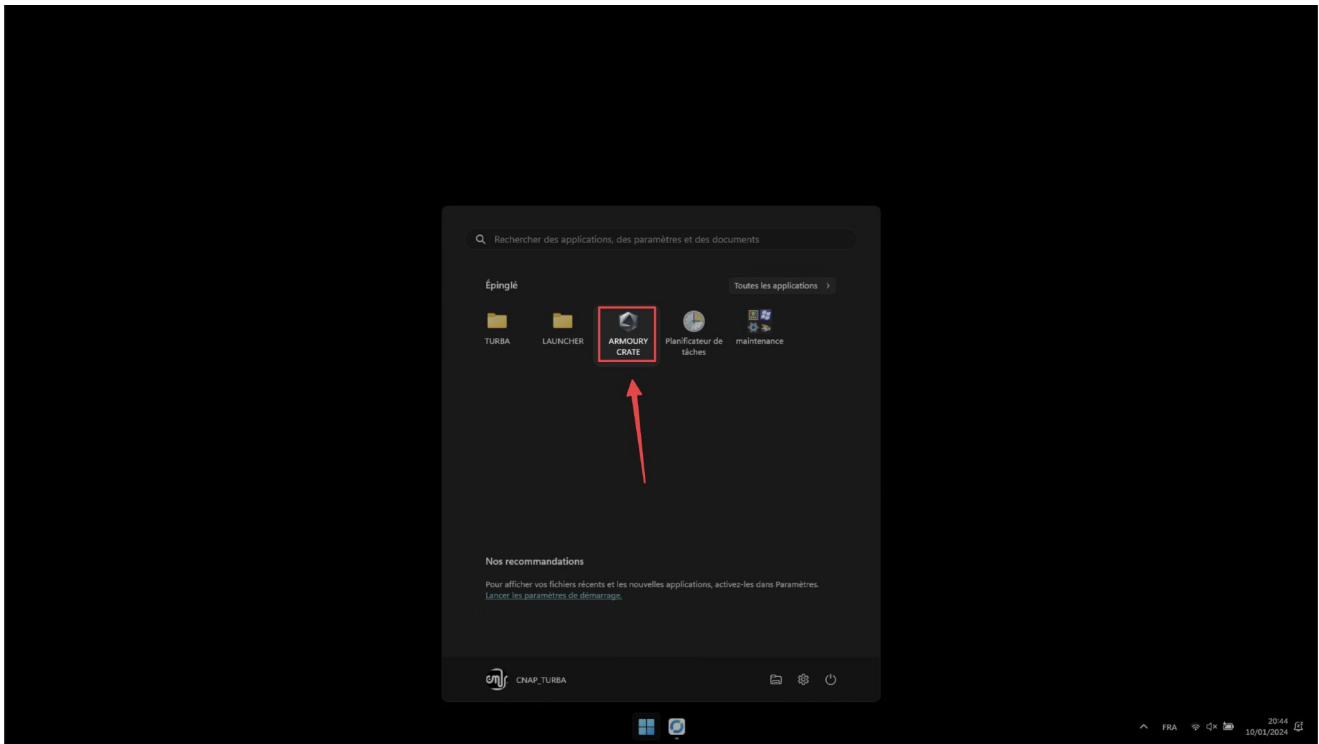


For a 2-screen device only, stack screen 3 on top of screen 1/2.



Adjust computer noise

If the noise from the computer's fans is too loud during exposure, it is possible to reduce the volume. To do this, change the power mode in the "Armoury Crate" application in the start menu.

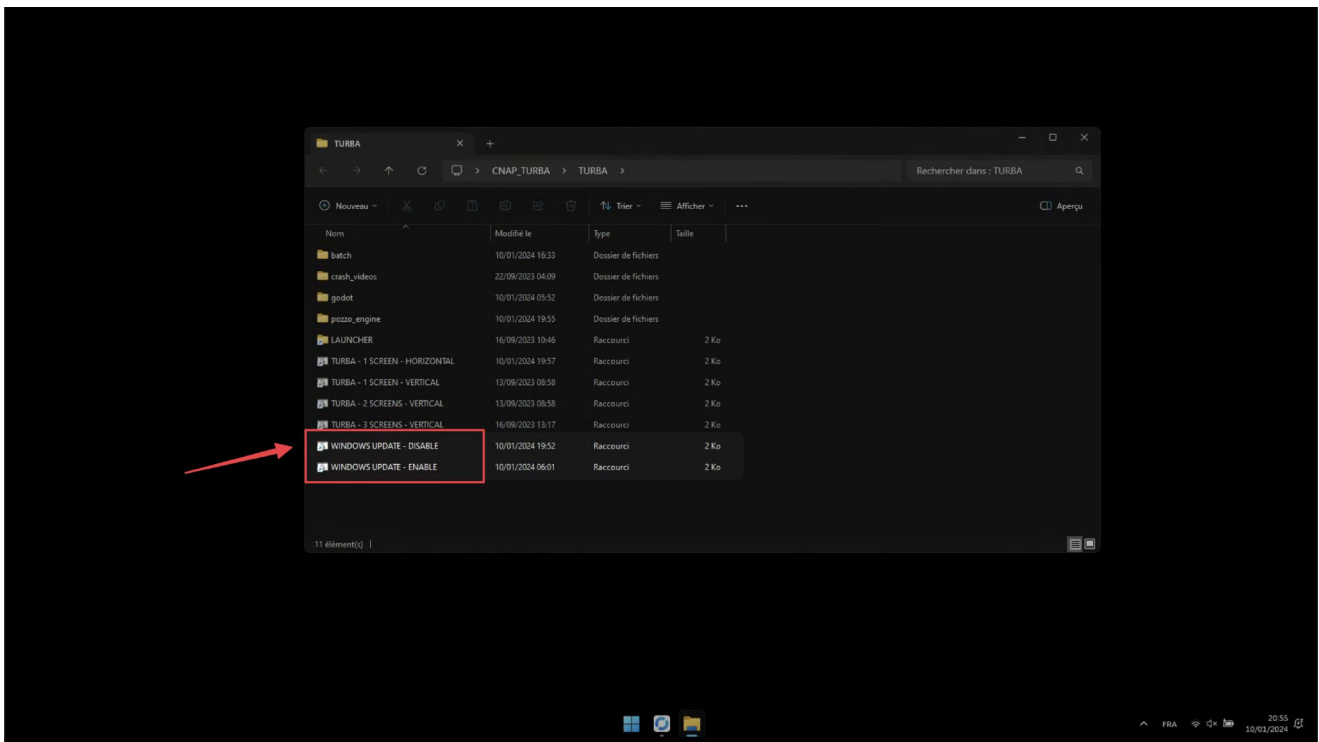


In the "Armoury Crate" application window, 5 power options appear in the bottom left-hand corner. The 2 most important options are: "Performance" and "Silent".

- "Performance" mode: default setting, in a normal sound environment or when the computer is separated from the display area.
- "Silent" mode: to be used if the computer is placed in the exhibition space and it must be very quiet.

Disable windows update

Open the "TURBA" folder. Double-click on "WINDOWS UPDATE - DISABLE". Confirm the window that appears.



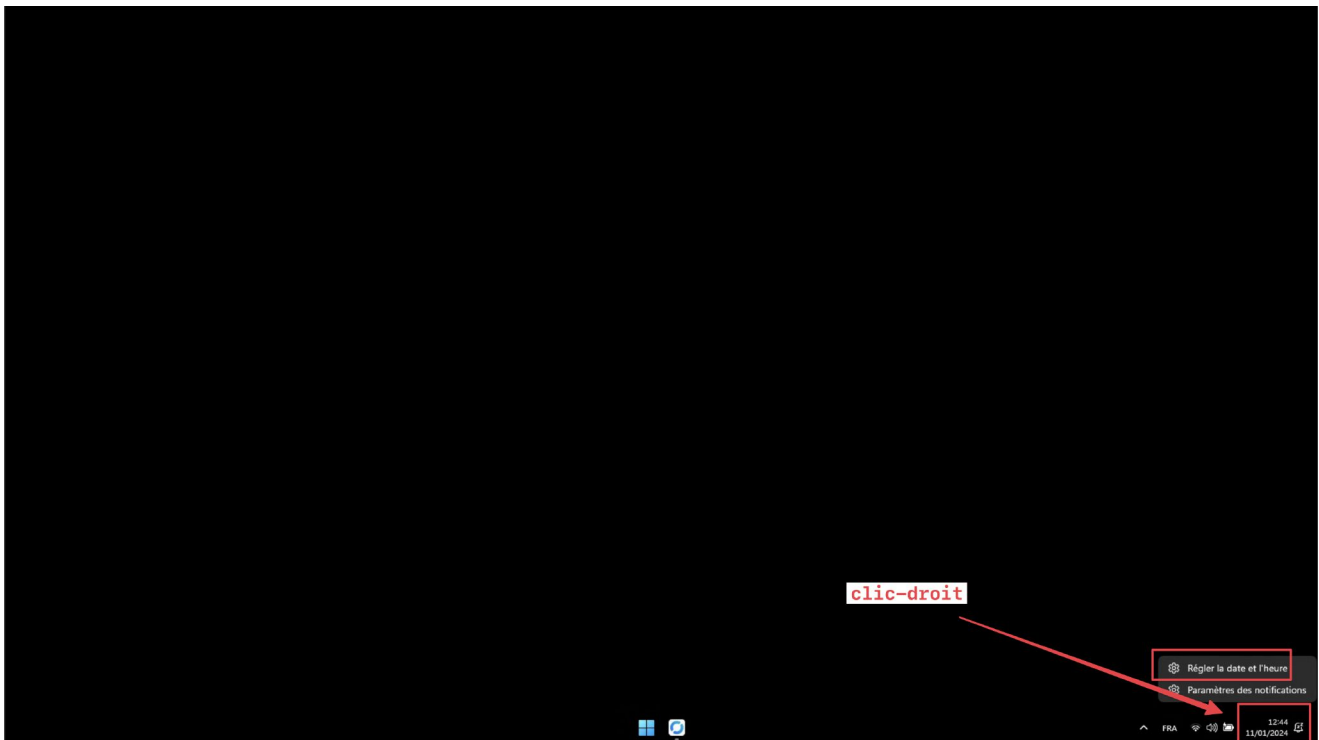
Automatic on/off

The work is automatically switched on and off at predefined times. There's no need to start the work every morning and switch it off every evening.

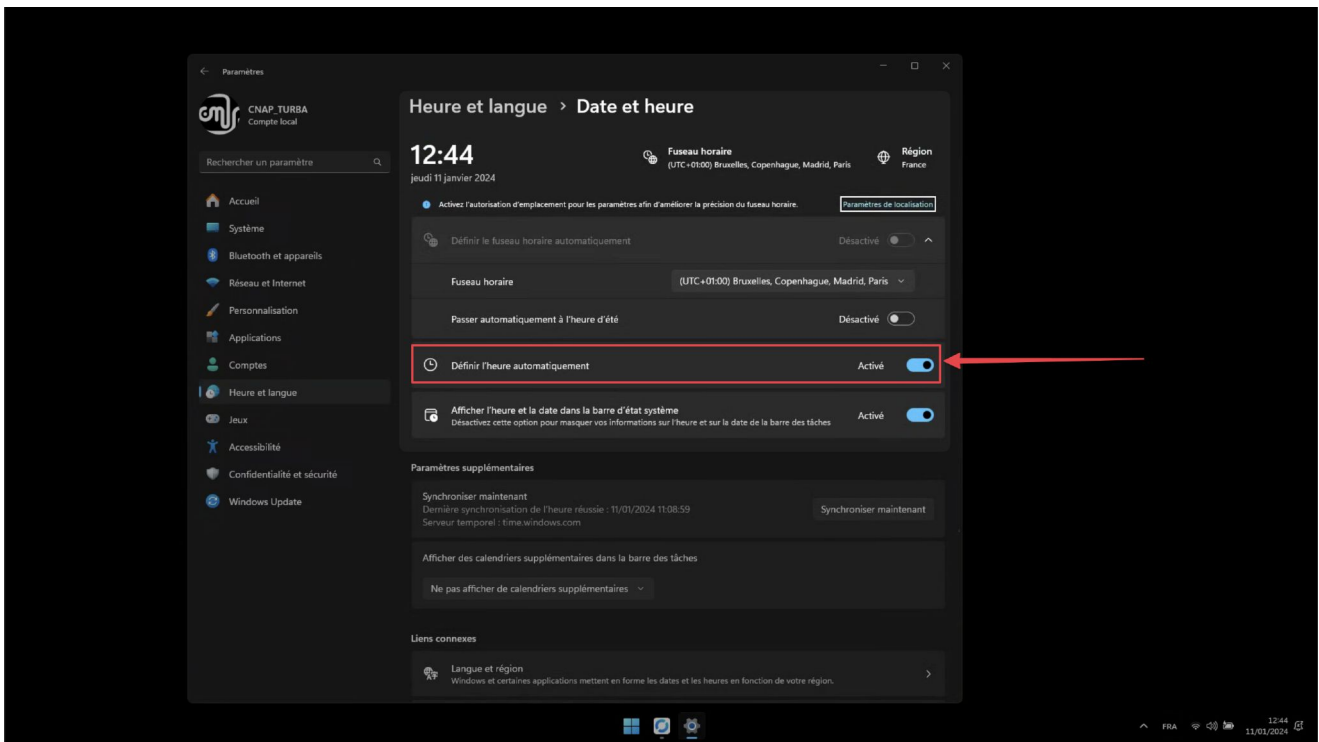
To operate, the computer must be plugged into the mains.

⚠ IMPORTANT: don't shut down the computer, otherwise it won't turn back on automatically without pressing the power button. You'll have to put it to sleep to be able to turn it back on automatically via a script. ⚠

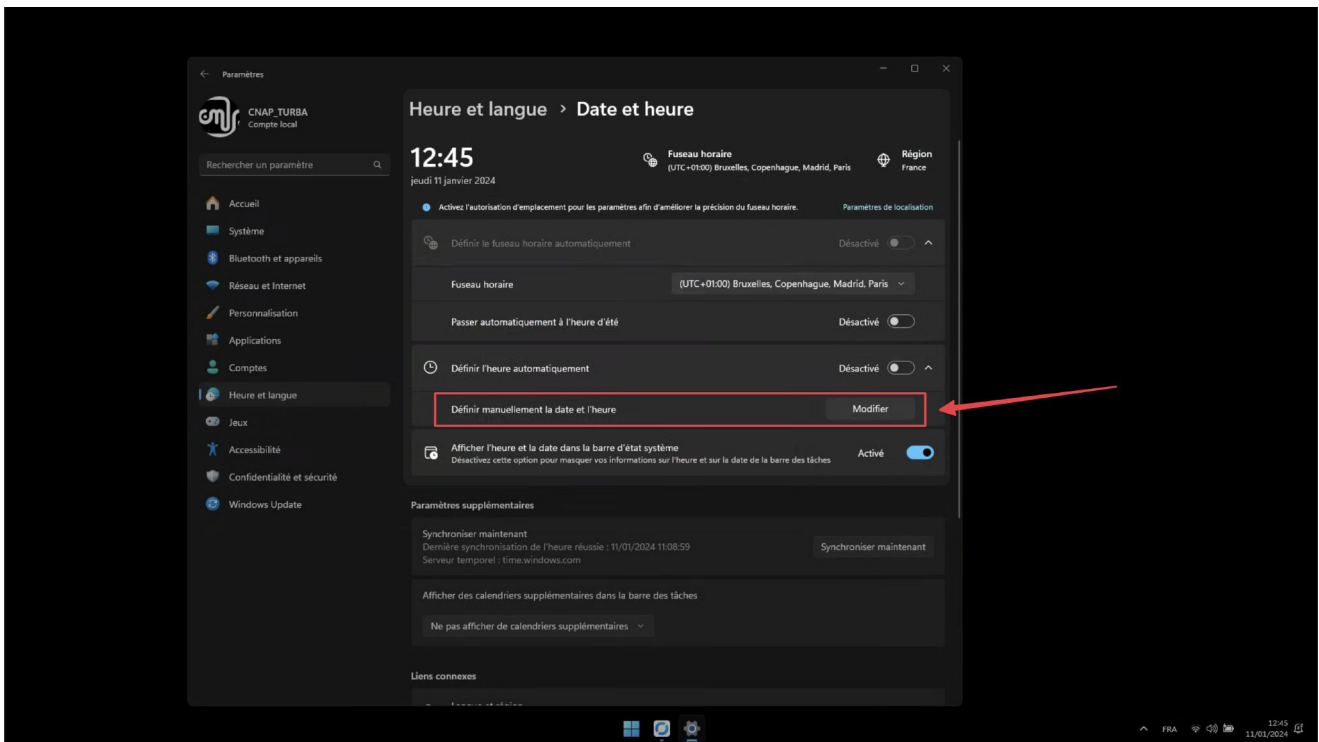
⚠ IMPORTANT: FIRST of all, set the time in Windows ⚠



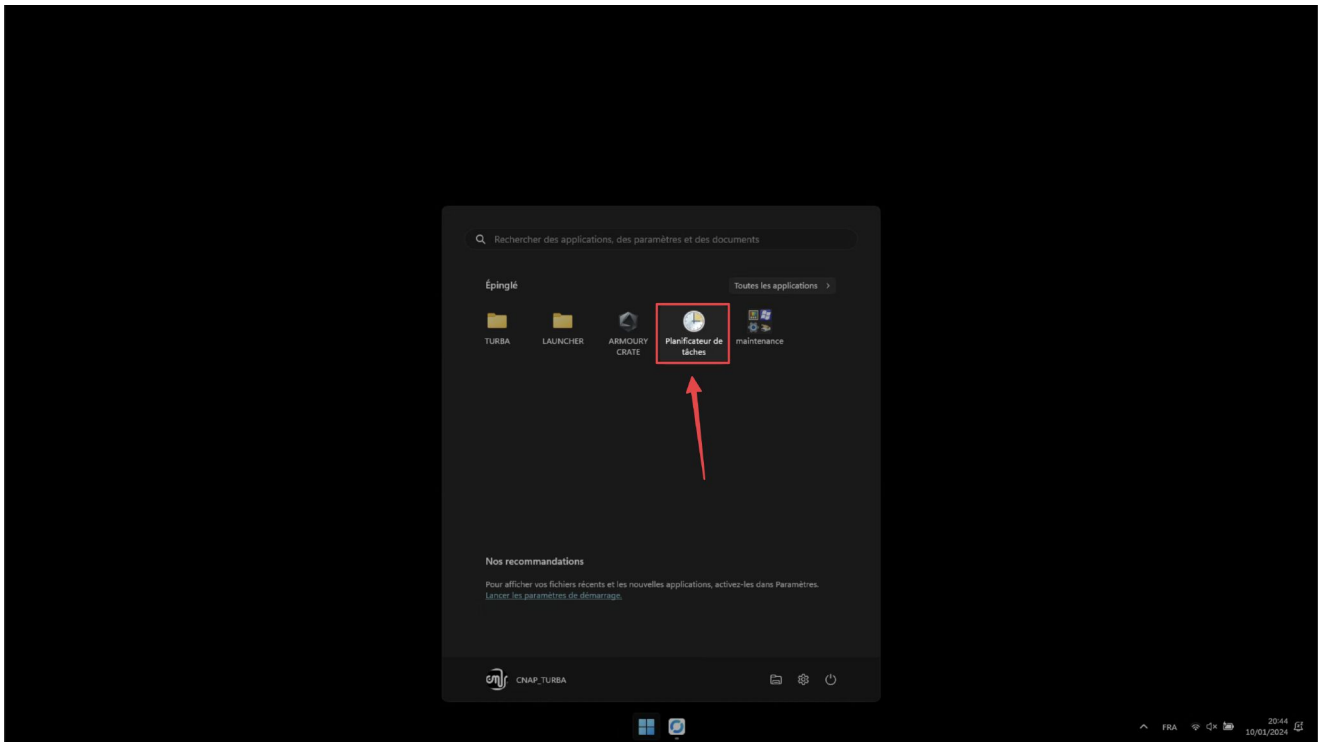
If the computer is connected to the Internet: activate automatic time setting



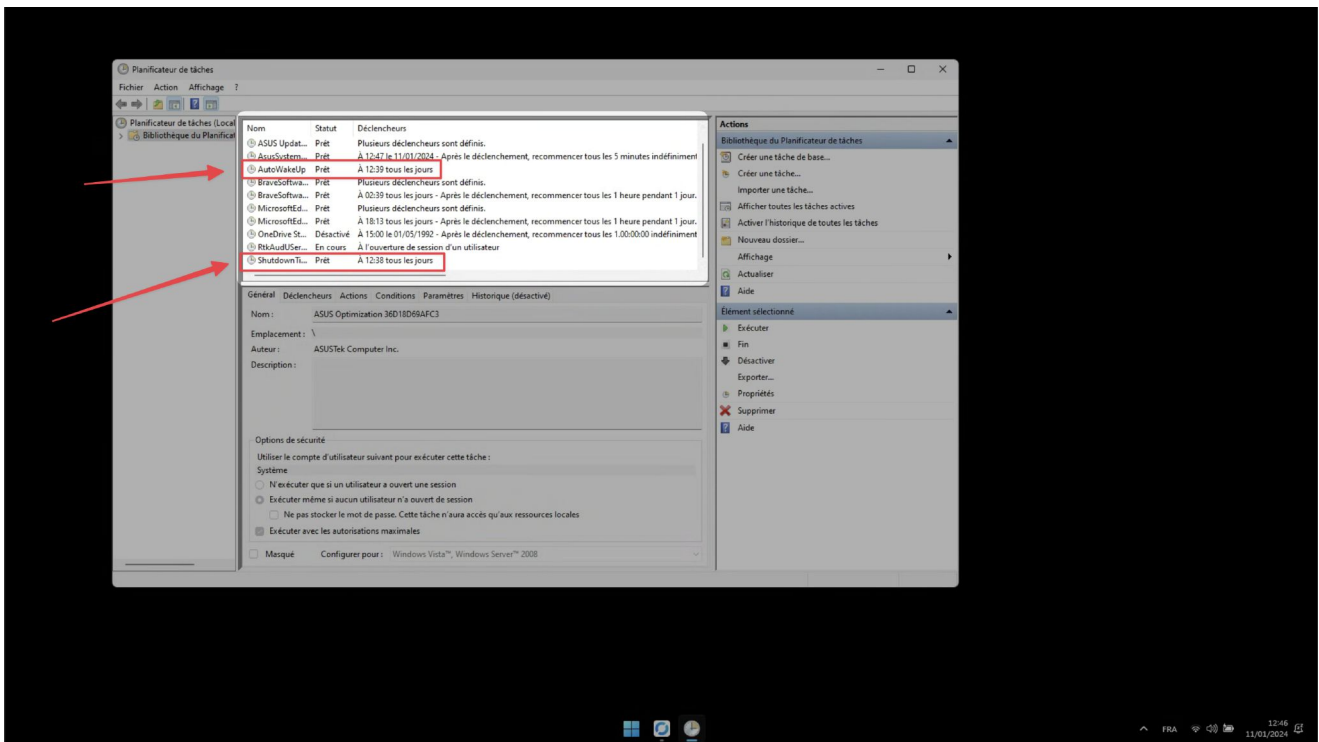
If the computer is not connected to the Internet: set the time manually



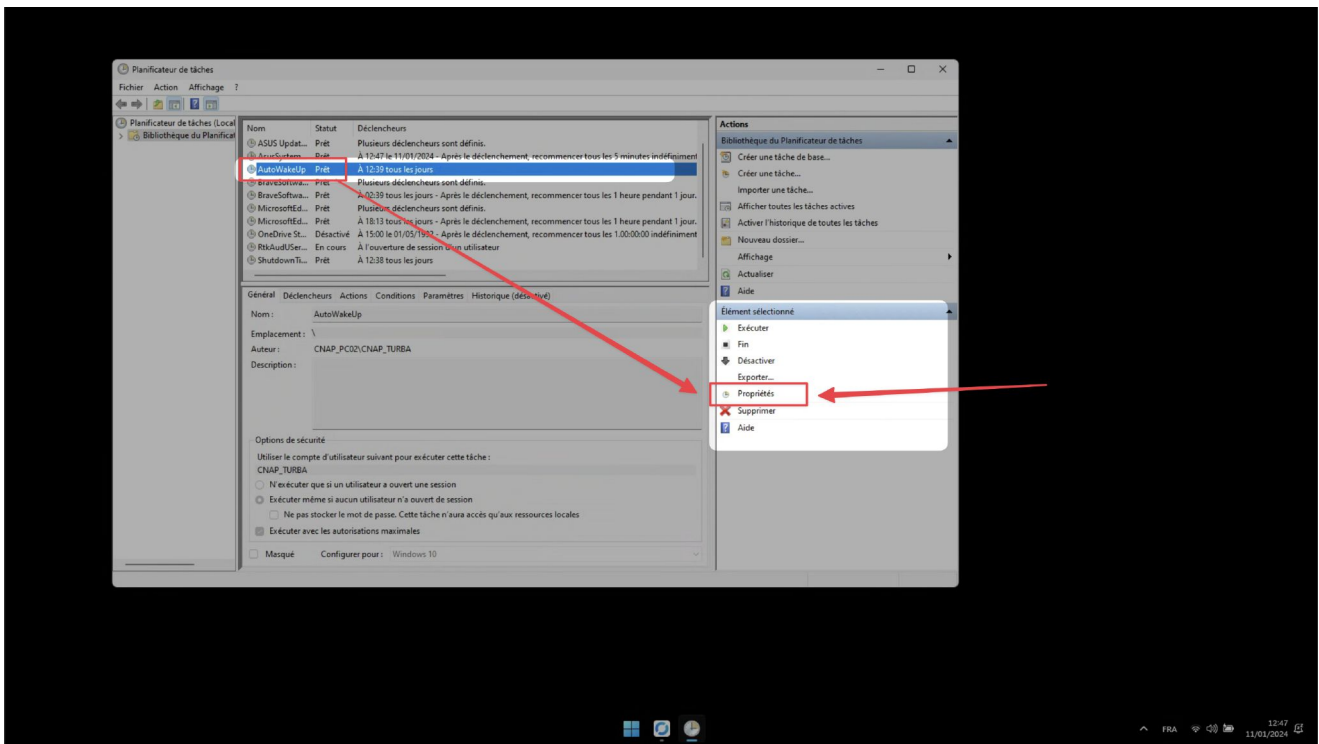
To set automatic switch-on and switch-off times. In the Windows Start menu, open the "Task Scheduler" application



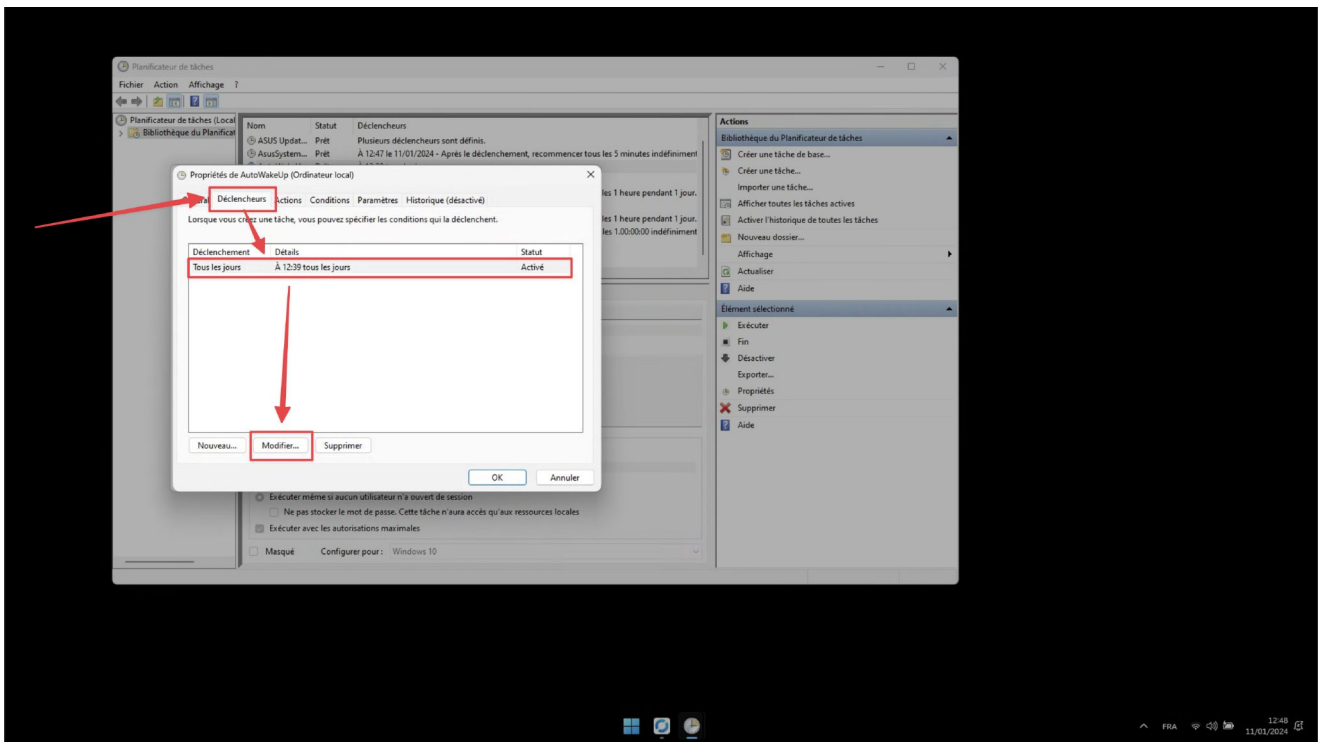
In the Task Scheduler window, identify the 2 tasks named "AutoWakeUp" and "ShutdownTimer".



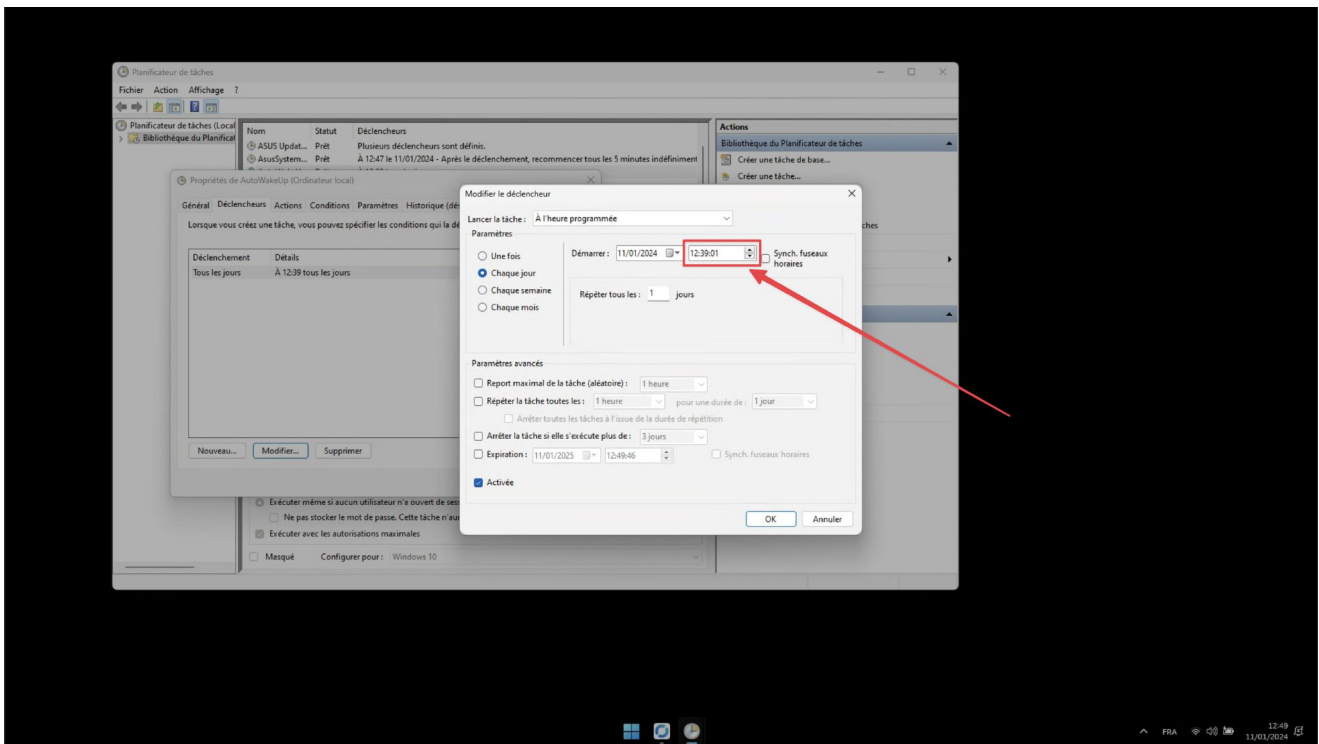
To plan the startup schedule. Select the task entitled "AutoWakeUp", and in the right-hand panel, choose the "Properties" option.



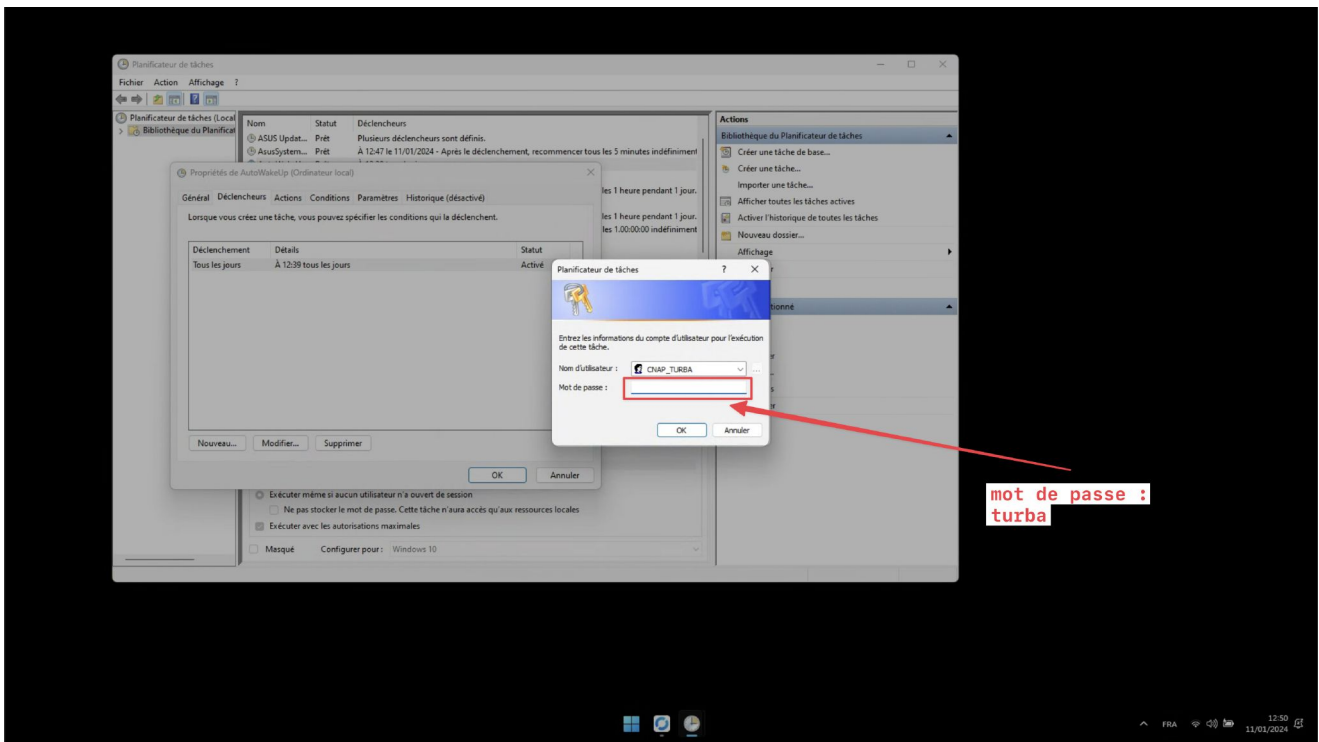
In the Properties window, select the "Triggers" tab, then click on "Modify" at the bottom of the page.



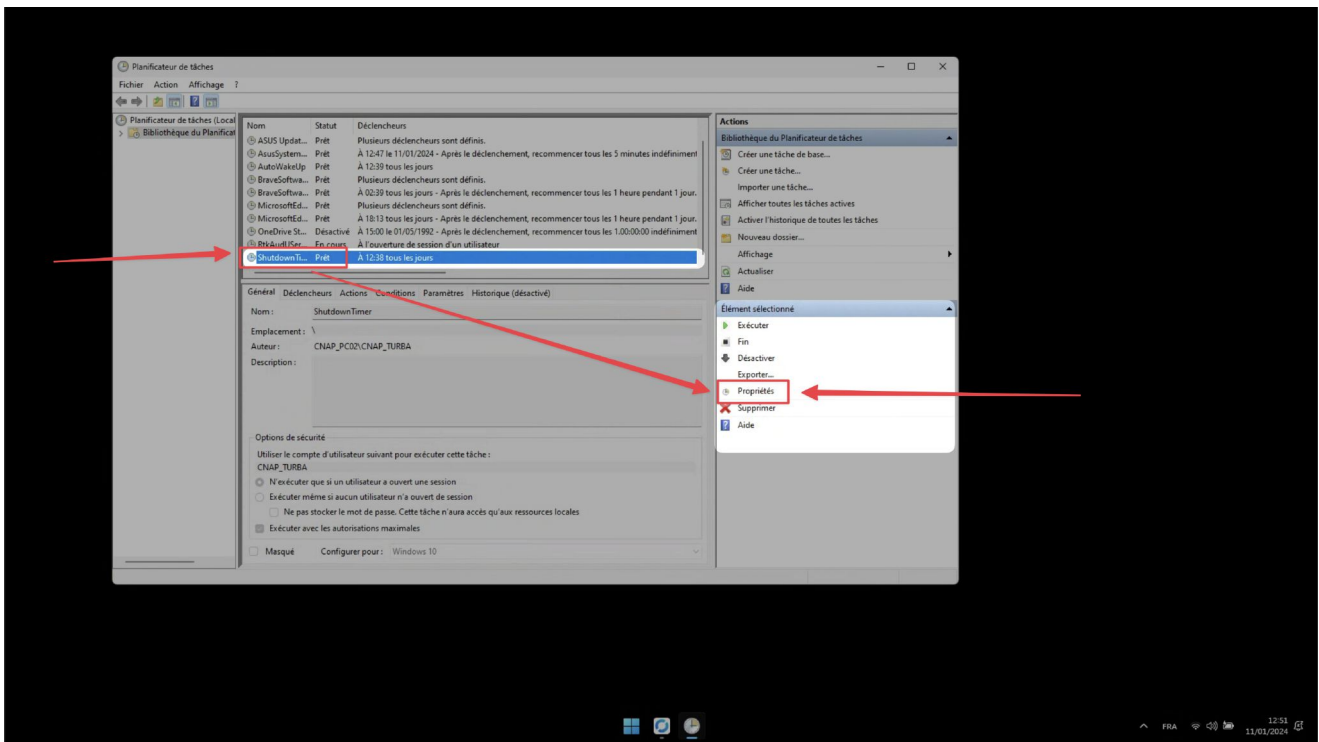
In the new window, set only the start time; do not change any other settings. In the event of a specific need (e.g. exceptional extension of the duration of the exhibition on a specific date), contact the artist to make the change.



Click "OK" twice, and enter the user password: turba.



To schedule the shutdown timer. Select the task entitled "ShutdownTimer", and in the panel on the right, choose the "Properties" option. Then repeat the same steps as for "AutoWakeUp".



Confirm and exit.

MONITOR SETUP

- △ All monitors must be of exactly the same model.
- △ On each monitor//TV: disable all image enhancement settings (activate professional mode if available or otherwise disable image interpolation, contrast enhancement, sharpness enhancement, etc.).
- △ For vertical screens: remember to deactivate portrait mode (the image must be in landscape format; the artwork manages the image pivot on its side).

TECHNICAL TROUBLESHOOT

REMOTE ACCESS

In the event of a technical problem on the work, it is possible to connect remotely to the PC, if it has a wifi or wired (ethernet) connection.

Simply download and install the free Rustdesk software on the computer used for maintenance.

If Rustdesk becomes obsolete, it can be replaced by more recent remote control software.

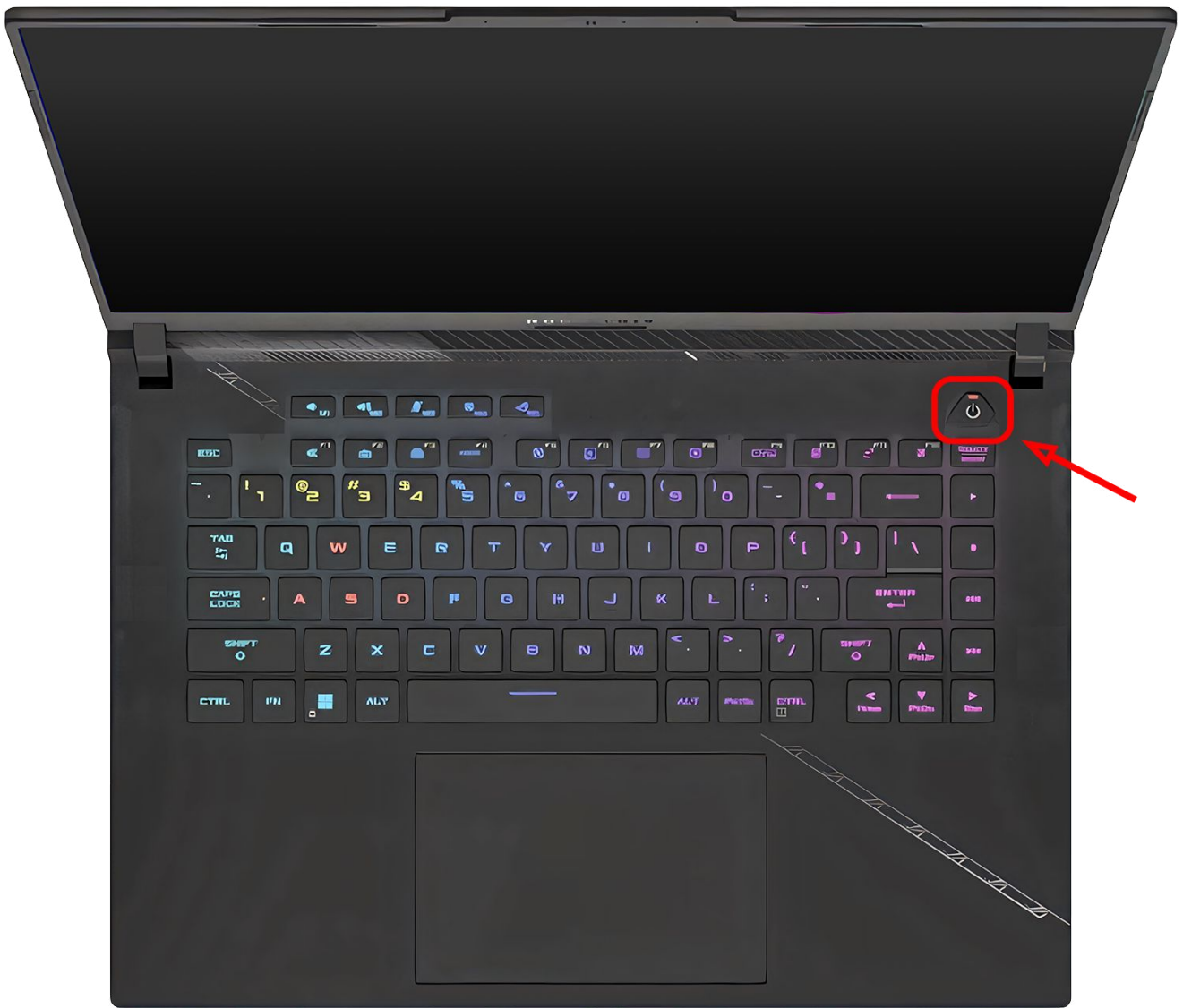
Once inside the Rustdesk software, the computer can be accessed with these logins:

ID : 405 599 294

MDP : TurbaCNAP2021!

FORCE PC RESTART

Keep the power button pressed for a long time (about 1 minute). The computer will eventually restart.



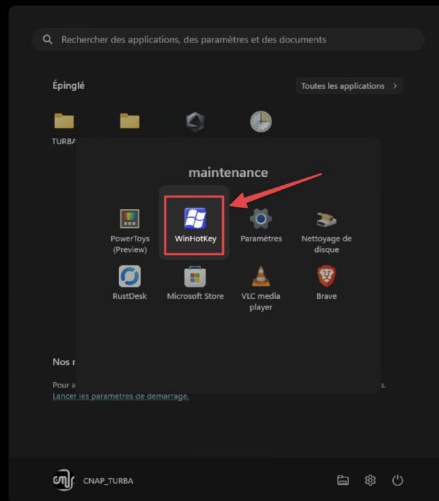
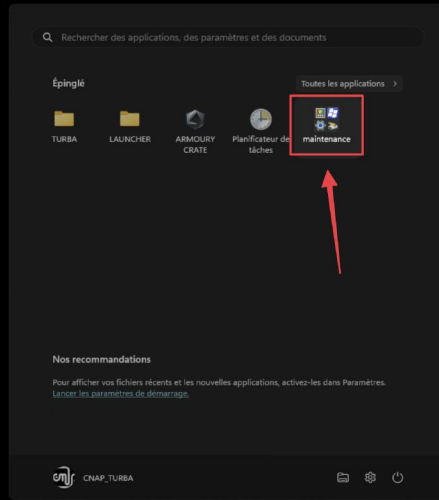
ONLY ONE SCREEN IS WORKING

In the event of a technical problem, for example if a screen goes black, or if the screens are moved, the computer must be restarted.

Either interrupt the script with the shortcut windows+delete and restart manually.
Or by forcing a reboot with a long press on the power button.

SHORTCUT TO INTERRUPT THE ARTWORK

The keyboard shortcut that handles this action is controlled by the WinHotKey application, located in the "Maintenance" subfolder of the Windows Start menu.

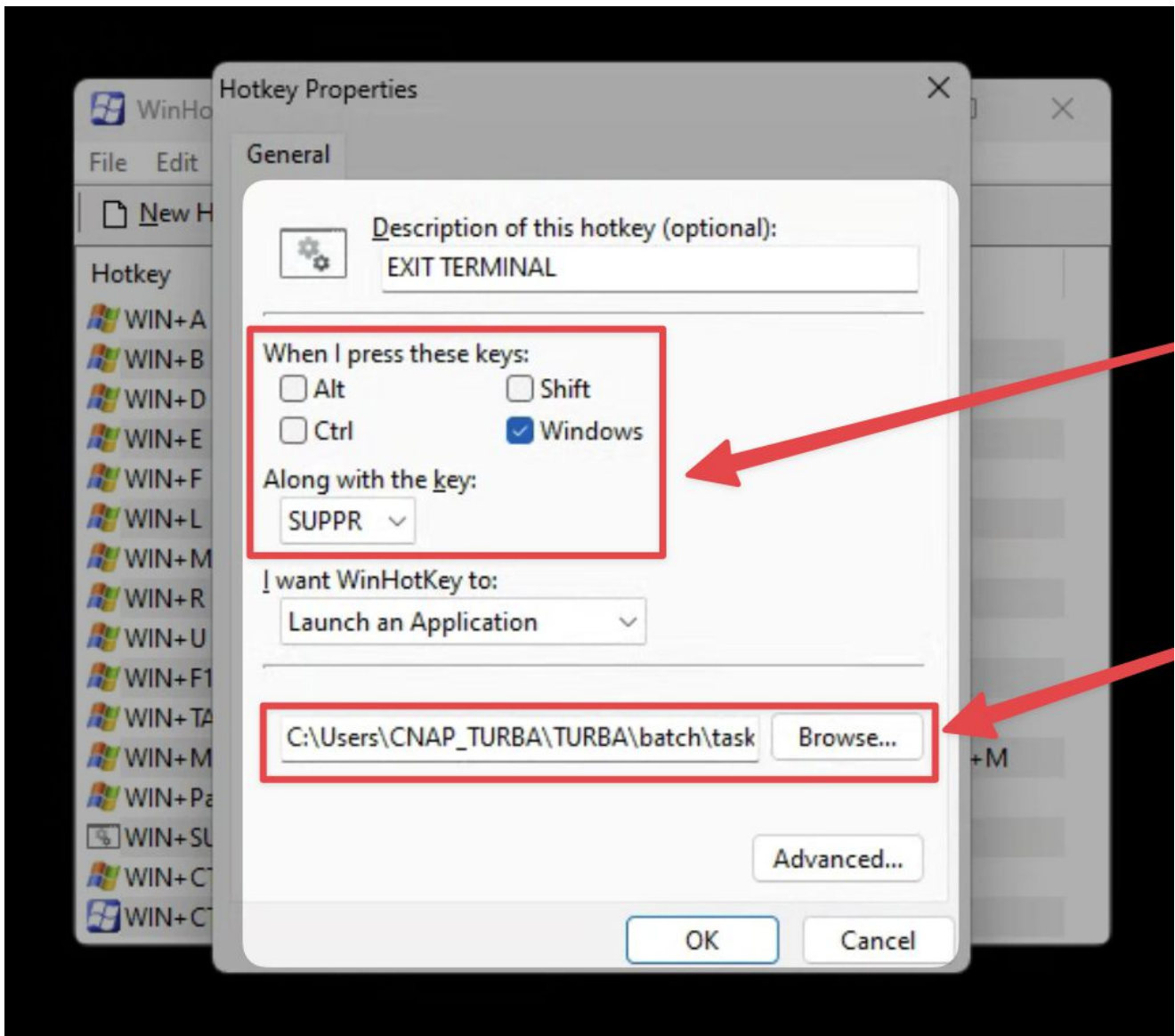


WinHotKey Configuration

File Edit Help

New Hotkey... Edit Hotkey... Remove Hotkey

Hotkey	Action	Target
WIN+A	Launch applicati...	Simulation for bug testing
WIN+B	Control window:	Focus the Task Bar & Desktop
WIN+D	Control window:	Hide / Show the Desktop (toggle)
WIN+E	Launch applicati...	Windows Explorer
WIN+F	Launch applicati...	Find files & folders
WIN+L	Security:	Lock your computer or Switch users
WIN+M	Control window:	Minimize all windows
WIN+R	Launch applicati...	Run...
WIN+U	Launch applicati...	Accessibility Utility Manager
WIN+F1	Launch applicati...	Windows Help
WIN+TAB	Control window:	Cycle through buttons in the task bar
WIN+MAJ+M	Control window:	Restore windows minimized by Win+M
WIN+Pause	Launch applicati...	System Properties
WIN+SUPPR	Launch applicati...	EXIT TERMINAL
WIN+CTRL+F	Launch applicati...	Find computers
WIN+CTRL+F11	Launch applicati...	WinHotKey Configuration



Le chemin complet du script est : "C:\Users\CNAP_TURBA\TURBA\batch\taskkill_terminal.bat"

INTERRUPT/ACTIVATE WINDOWS UPDATES

Références :

[article en ligne](#)

[windows - How to code a BAT file to always run as admin mode? - Stack Overflow](#)

Disable :

```
set "params=%*"
cd /d "%~dp0" && ( if exist "%temp%\getadmin.vbs" del "%temp%\getadmin.vbs" ) && fsutil
dirty query %systemdrive% 1>nul 2>nul || ( echo Set UAC =
CreateObject^("Shell.Application") : UAC.ShellExecute "cmd.exe", "/k cd ""%~sdp0"" &&
""%~s0"" %params%", "", "runas", 1 >> "%temp%\getadmin.vbs" && "%temp%\getadmin.vbs" &&
exit /B )

reg add "HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\WindowsUpdate\Auto
Update" /v AUOptions /t REG_DWORD /d 1 /f

exit
```

Enable :

```
set "params=%*"
cd /d "%~dp0" && ( if exist "%temp%\getadmin.vbs" del "%temp%\getadmin.vbs" ) && fsutil
dirty query %systemdrive% 1>nul 2>nul || ( echo Set UAC =
CreateObject^("Shell.Application") : UAC.ShellExecute "cmd.exe", "/k cd ""%~sdp0"" &&
""%~s0"" %params%", "", "runas", 1 >> "%temp%\getadmin.vbs" && "%temp%\getadmin.vbs" &&
exit /B )

reg add "HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\WindowsUpdate\Auto
Update" /v AUOptions /t REG_DWORD /d 0 /f

exit
```

COMPUTER ON/OFF

Références complètes :

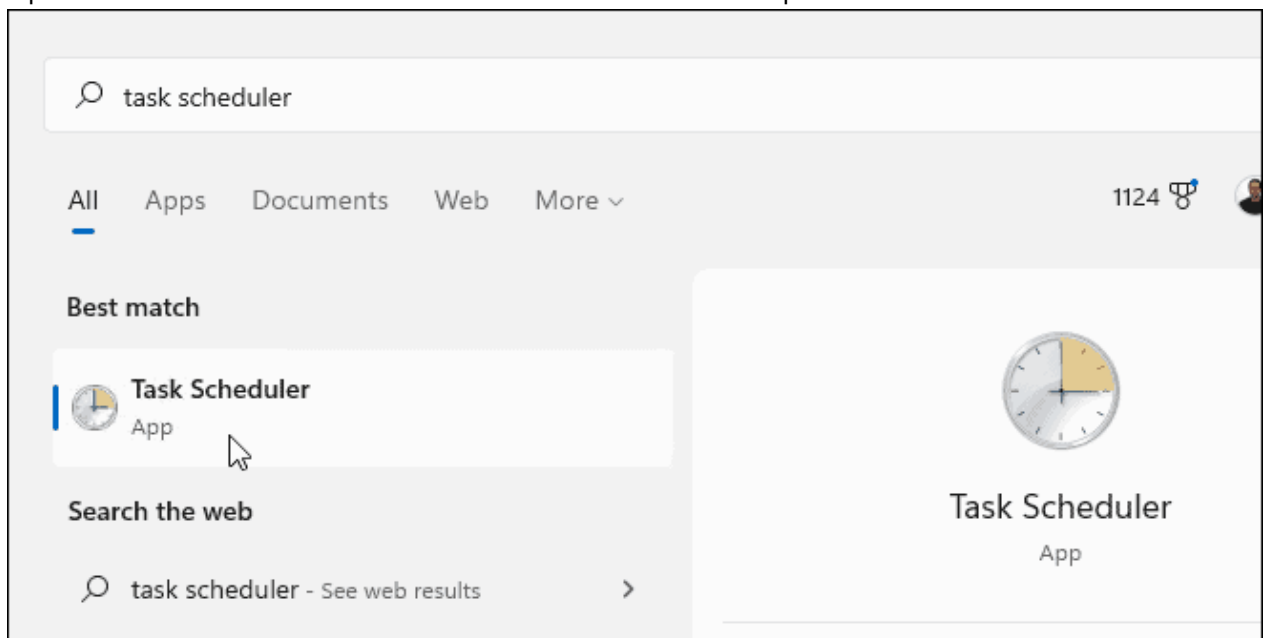
Activer auto login

1. type win+r, enter regedit
2. In *left* pane of *Registry Editor* window, navigate to following registry key :
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Winlogon
3. Change/Add "Valeur chaîne" :
DefaultUserName → valeur : CNAP_TURBA
DefaultPassword → valeur : turba
DefaultDomainName → valeur : CNAP_PC02
4. Change/Add "Valeur DQWORD 32 bits" :
AutoAdminLogon → valeur : 1
5. Reboot

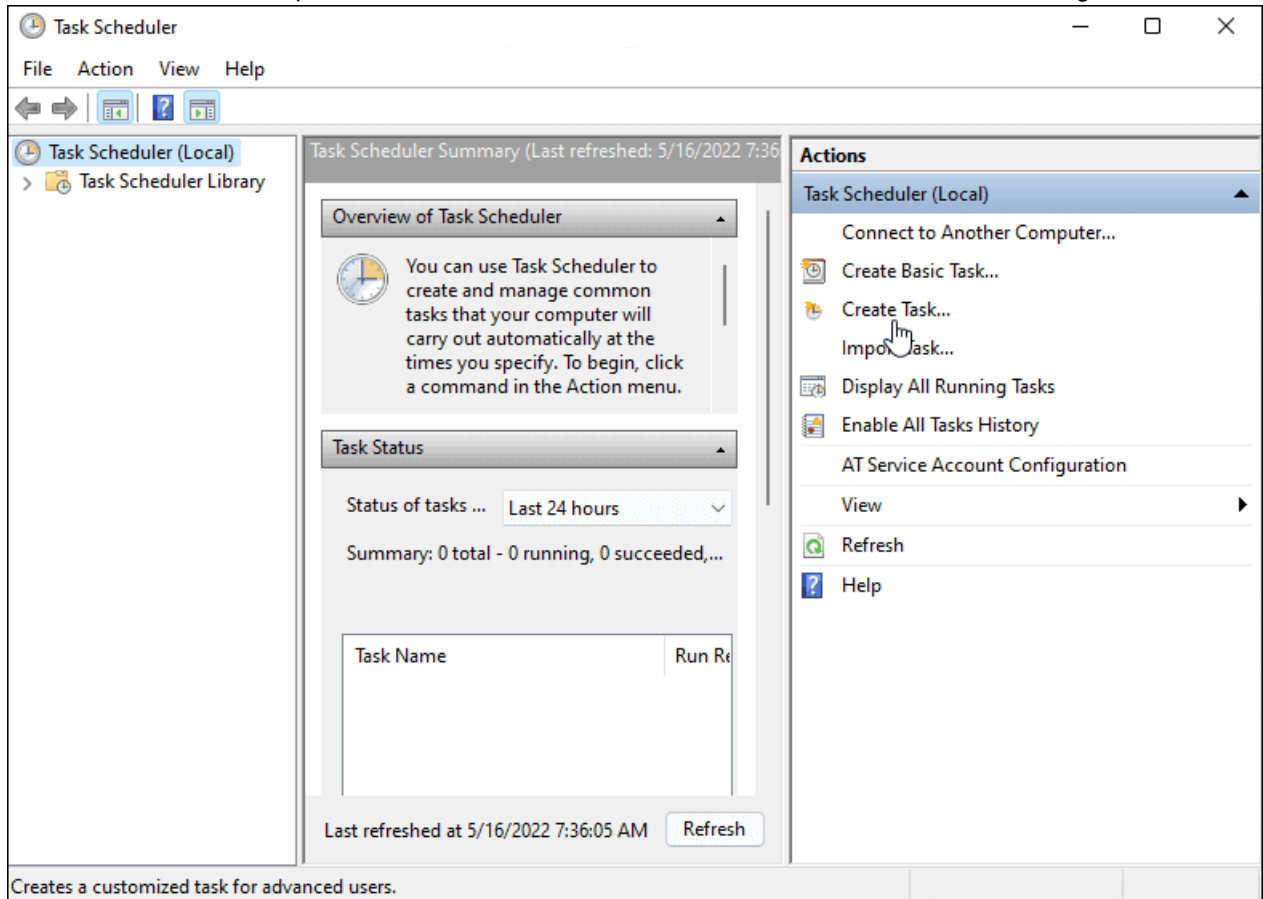
START UP

To use **Task Scheduler** to wake up Windows 11, use the following steps:

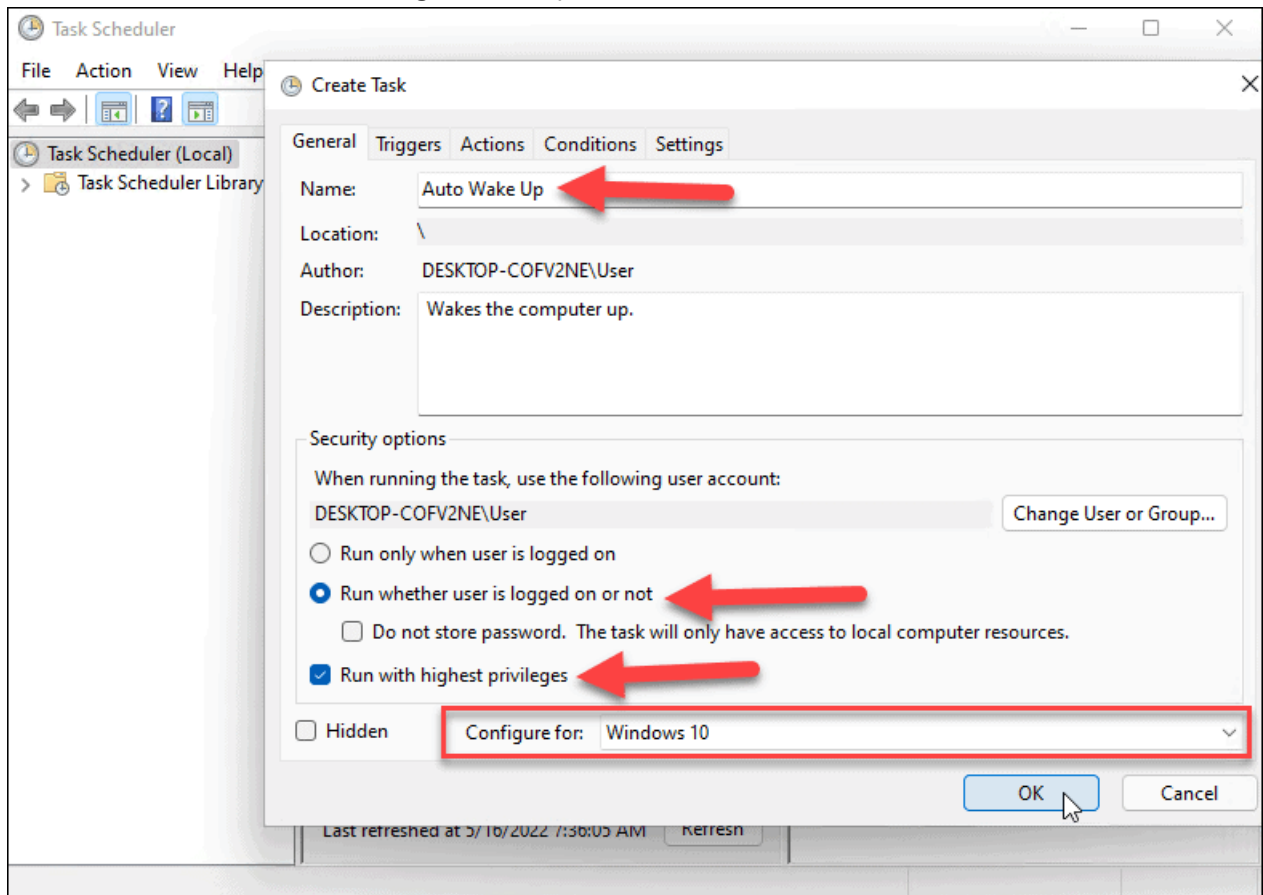
1. Open the **Start** menu and search for **task scheduler**—select the top result.



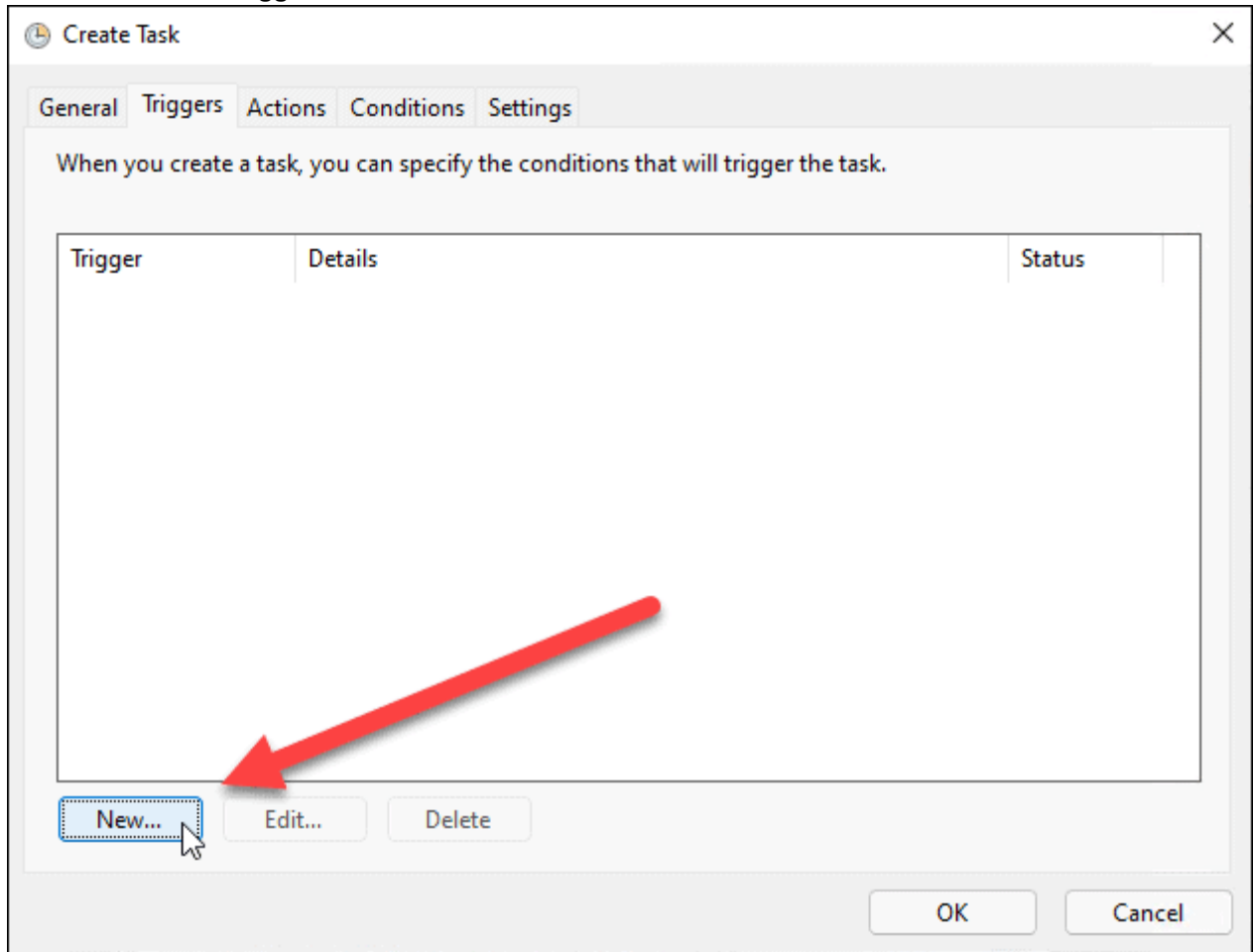
- When **Task Scheduler** opens, click **Action > Create Task** under the **Action** section on the right.



- Under the **General** tab in the **Name** field, type in a name for the task (eg. **Auto Wake Up**).
- Optionally, type in a description for the task.
- Select the **Run whether user is logged on or not** option.
- Choose the **Run with highest privileges** option.
- Select **Windows 10** from the **Configure for** dropdown and click **OK**.



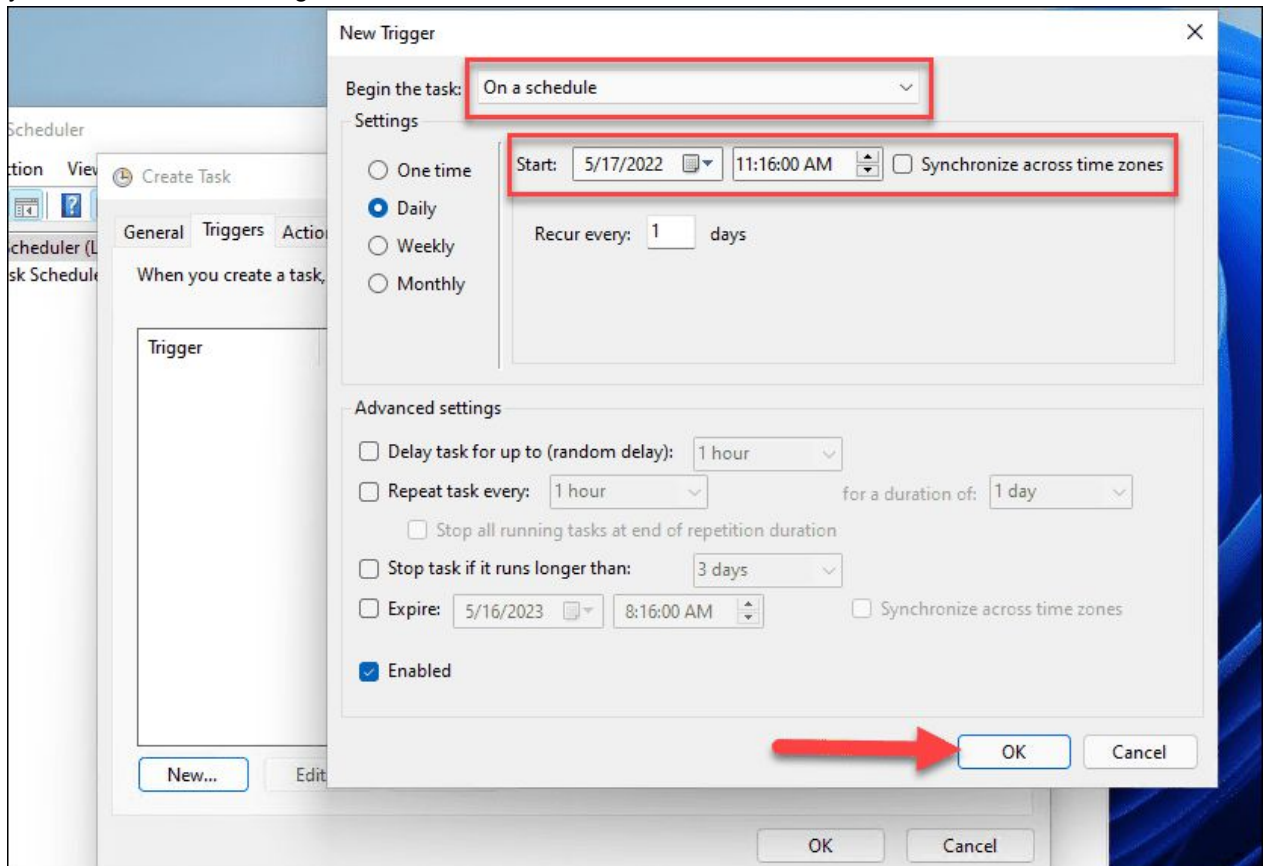
8. Next, switch to the **Triggers** tab and click the **New** button in the lower-left corner.



9. Now, set the **Begin the task** dropdown to **On a schedule**.

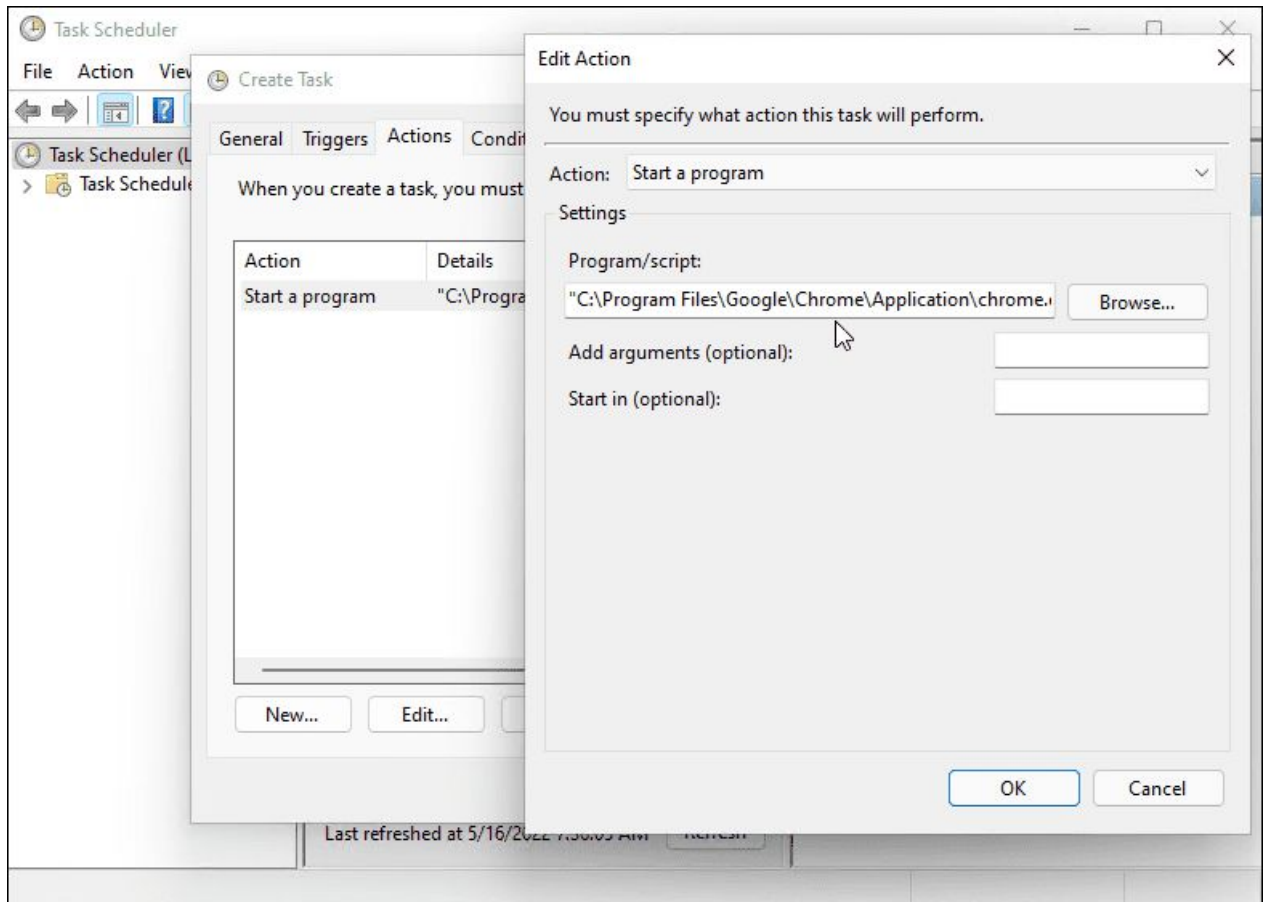
10. Set the frequency of the task (eg. **one time**, **daily**, **weekly**) and set the start schedule for the task.

11. You can also synchronize across time zones if you travel frequently. There are some advanced settings, but you should be fine leaving them alone for this.

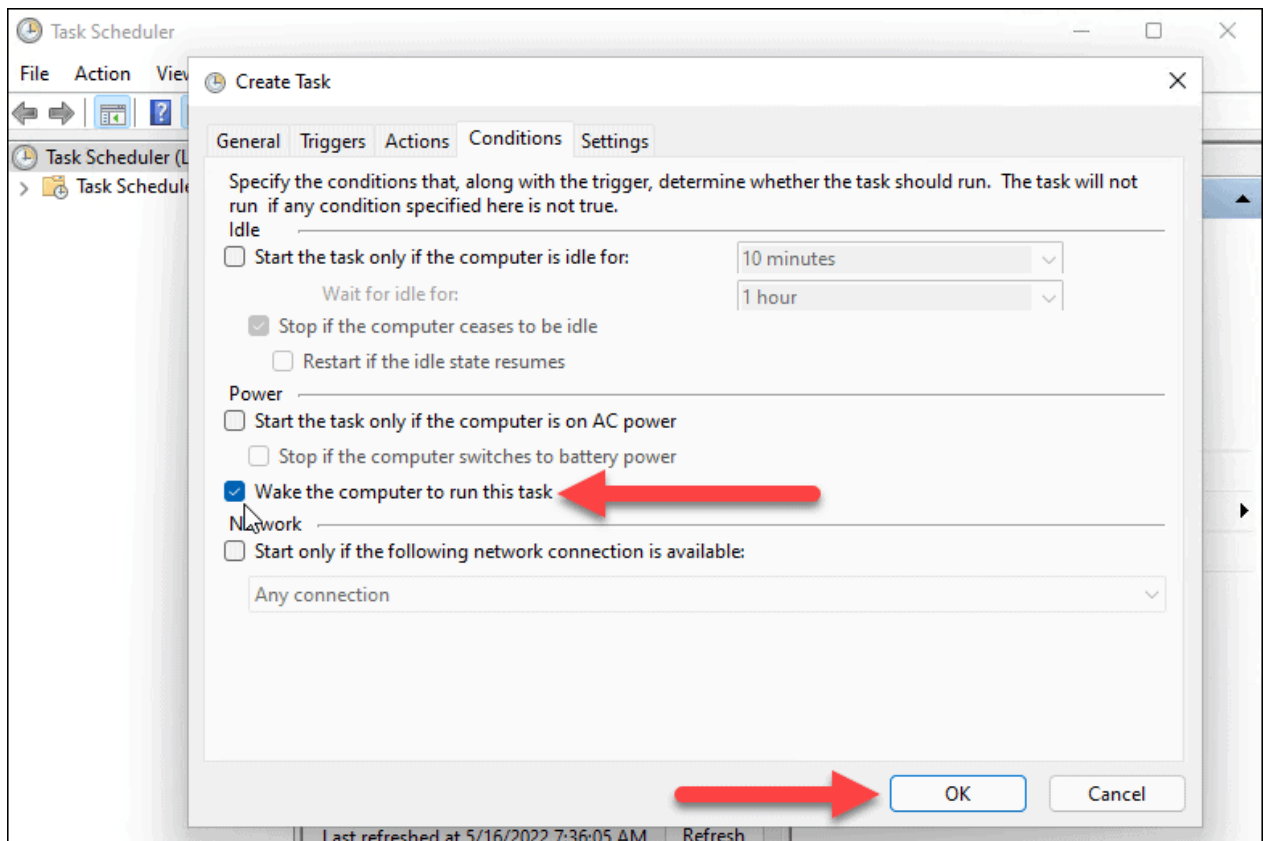


12. When you complete the settings, click **OK**.

- Click the **Actions** tab and select **Start a program** for the action, and browse to the app's executable. For instance, we set Google Chrome to launch when the PC starts up. Note that you need at least one app set to start.
- Click **OK** when done.



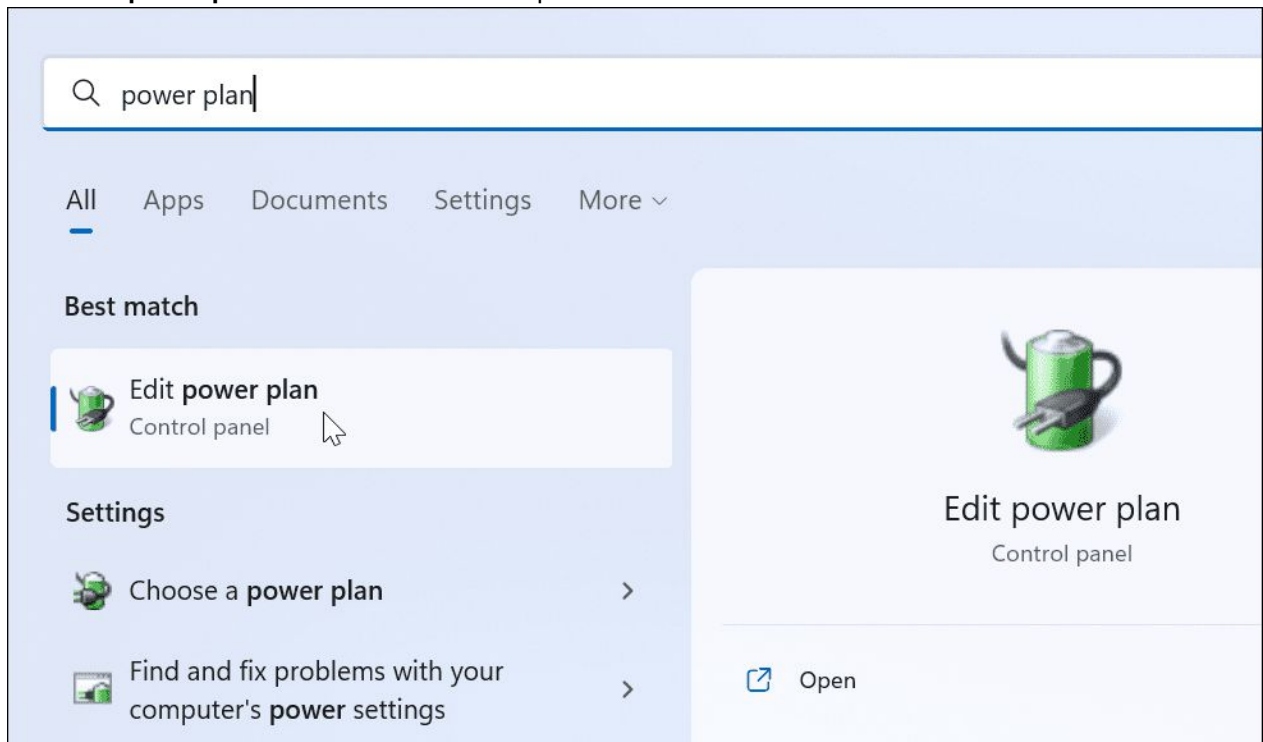
- Click on the **Conditions** tab, select **Wake the computer to run this task** under the **Power** section, and click **OK**.



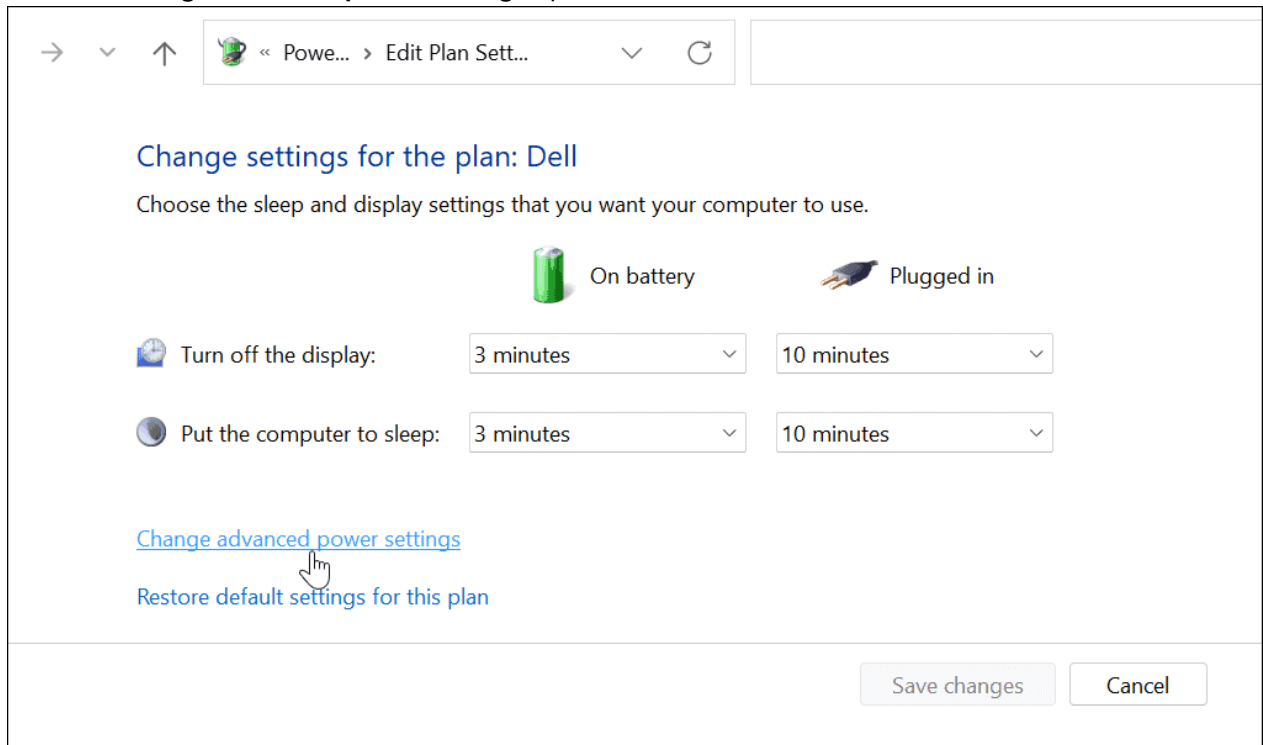
To make Windows 11 start automatically, you'll need to check that **wake-up timers** are enabled in your power settings.

Use the following steps to manage wake timers on Windows 11:

1. Open the **Start menu** and search for **power settings**.
2. Click **Edit power plan** from the **Best match** options.

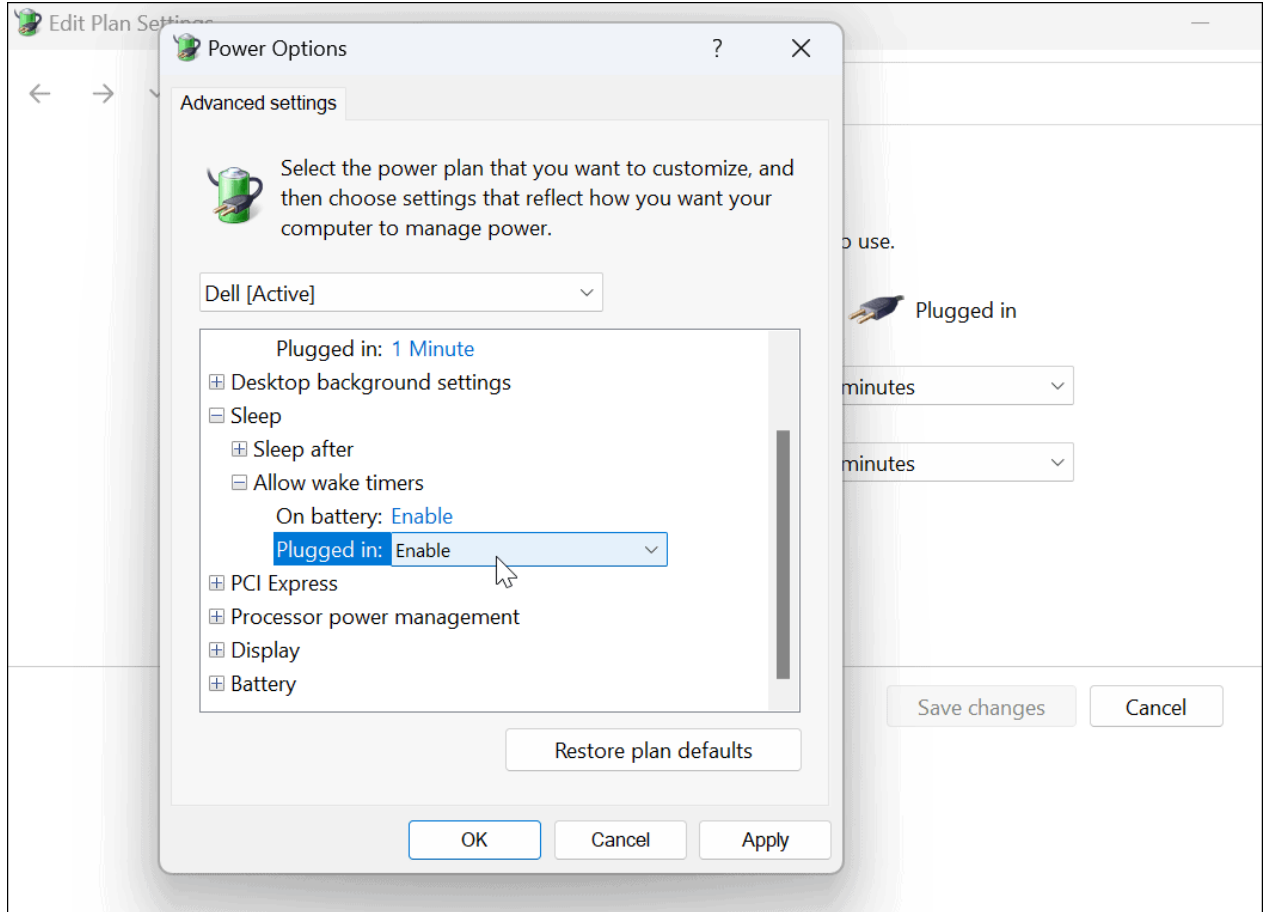


3. Click the **Change advanced power settings** option.



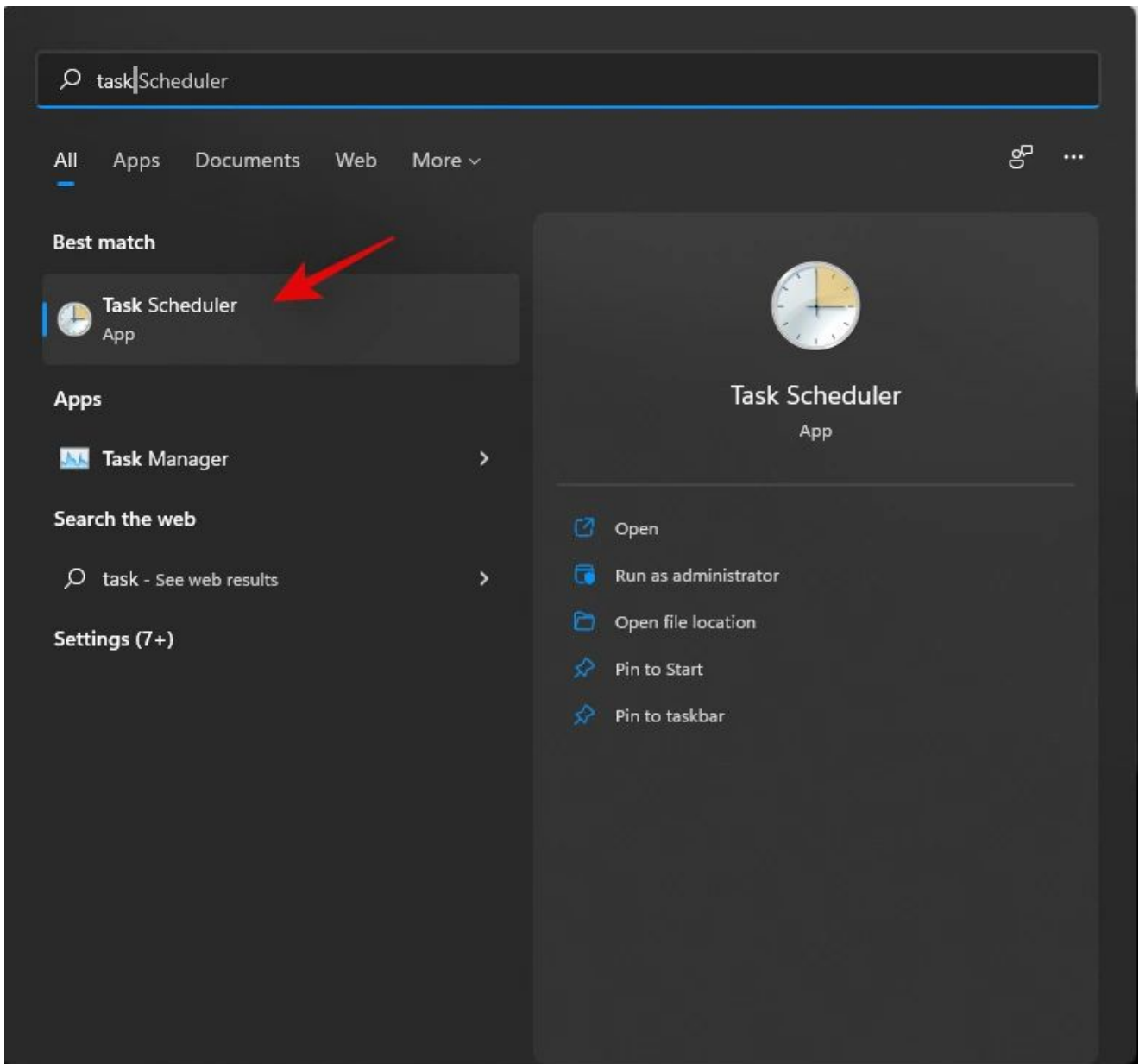
4. When the **Power Options** window appears, expand the **Sleep > Allow wake timers** category.

5. Make sure both **On Battery** and **Plugged in** are set to **Enabled**.

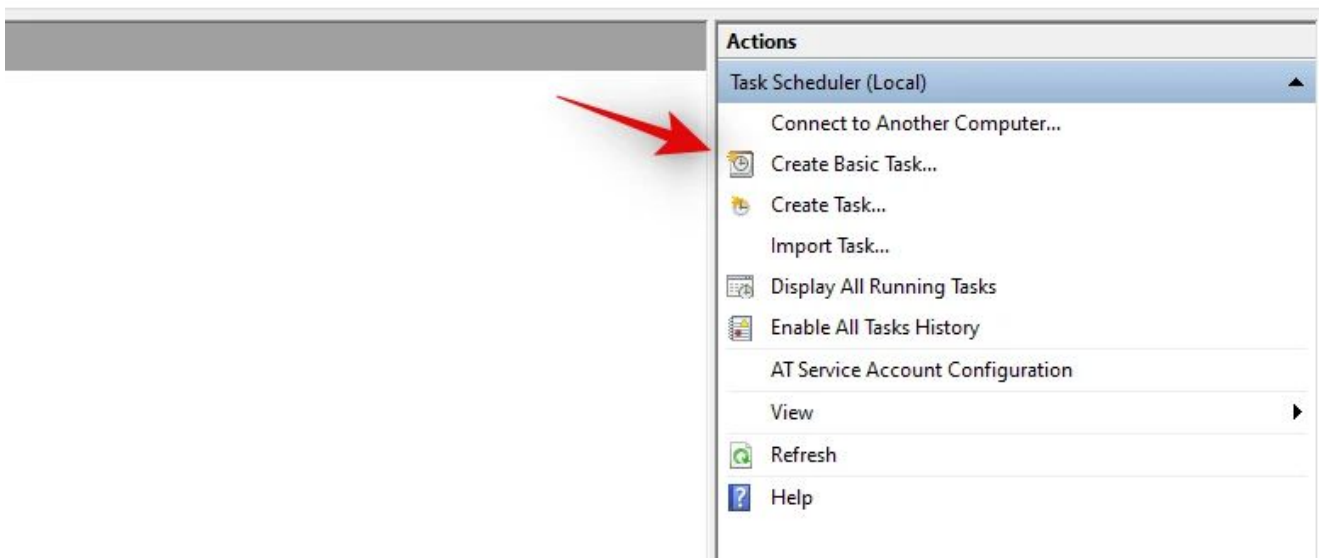


Shutdown

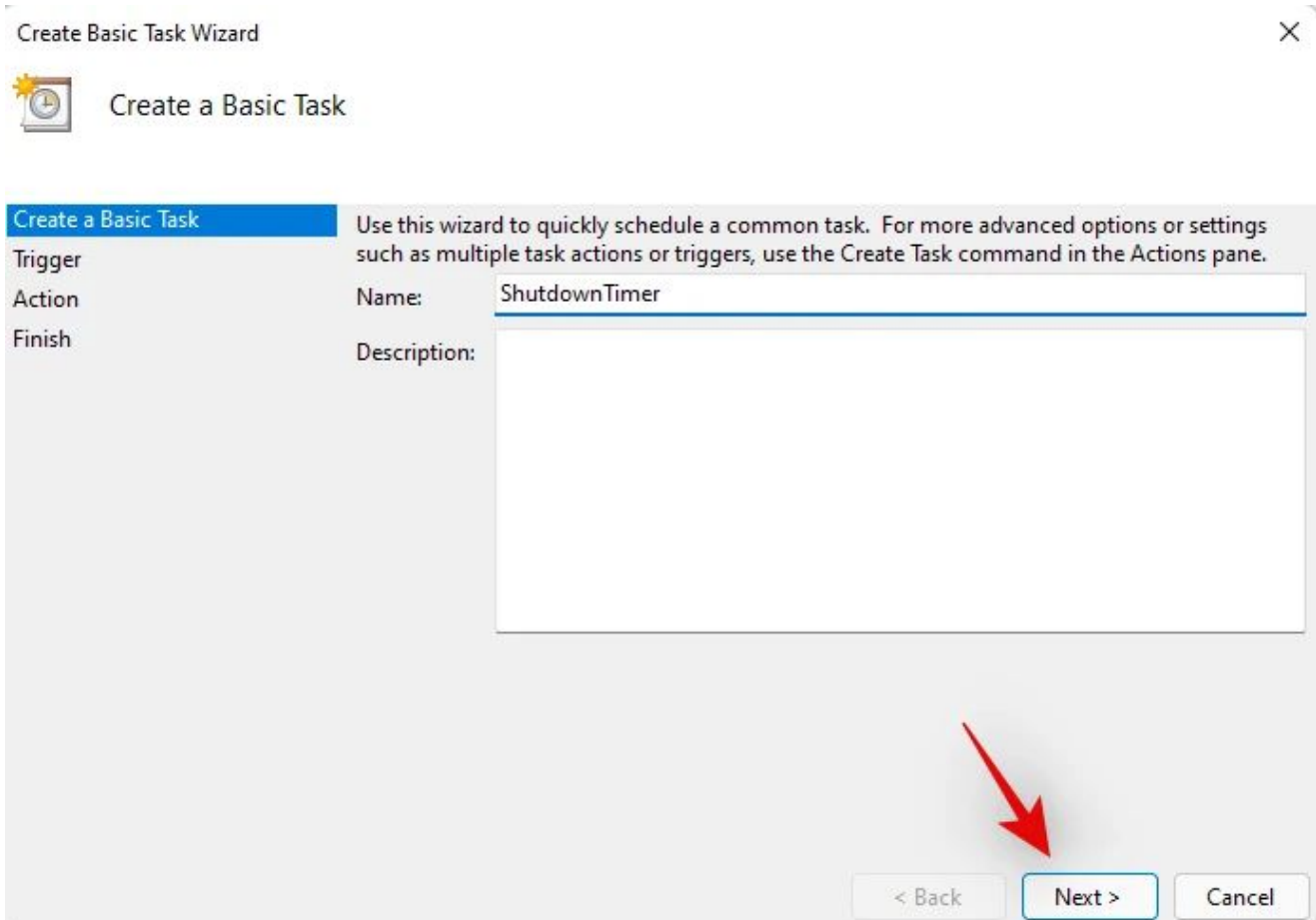
Launch the Start menu, search for the 'Task Scheduler' and launch the same from your search results.



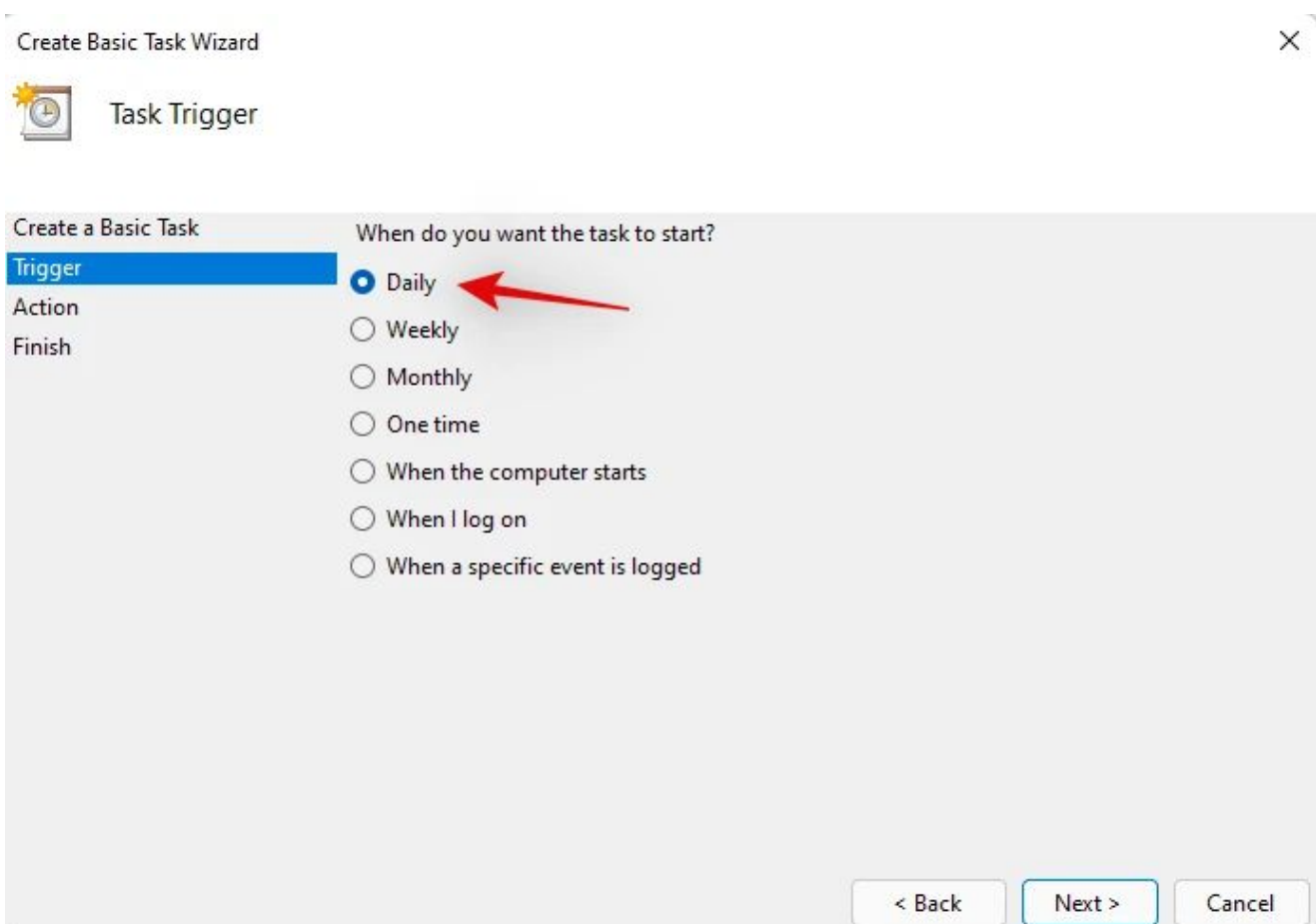
Click on 'Create Basic Task' on your right.



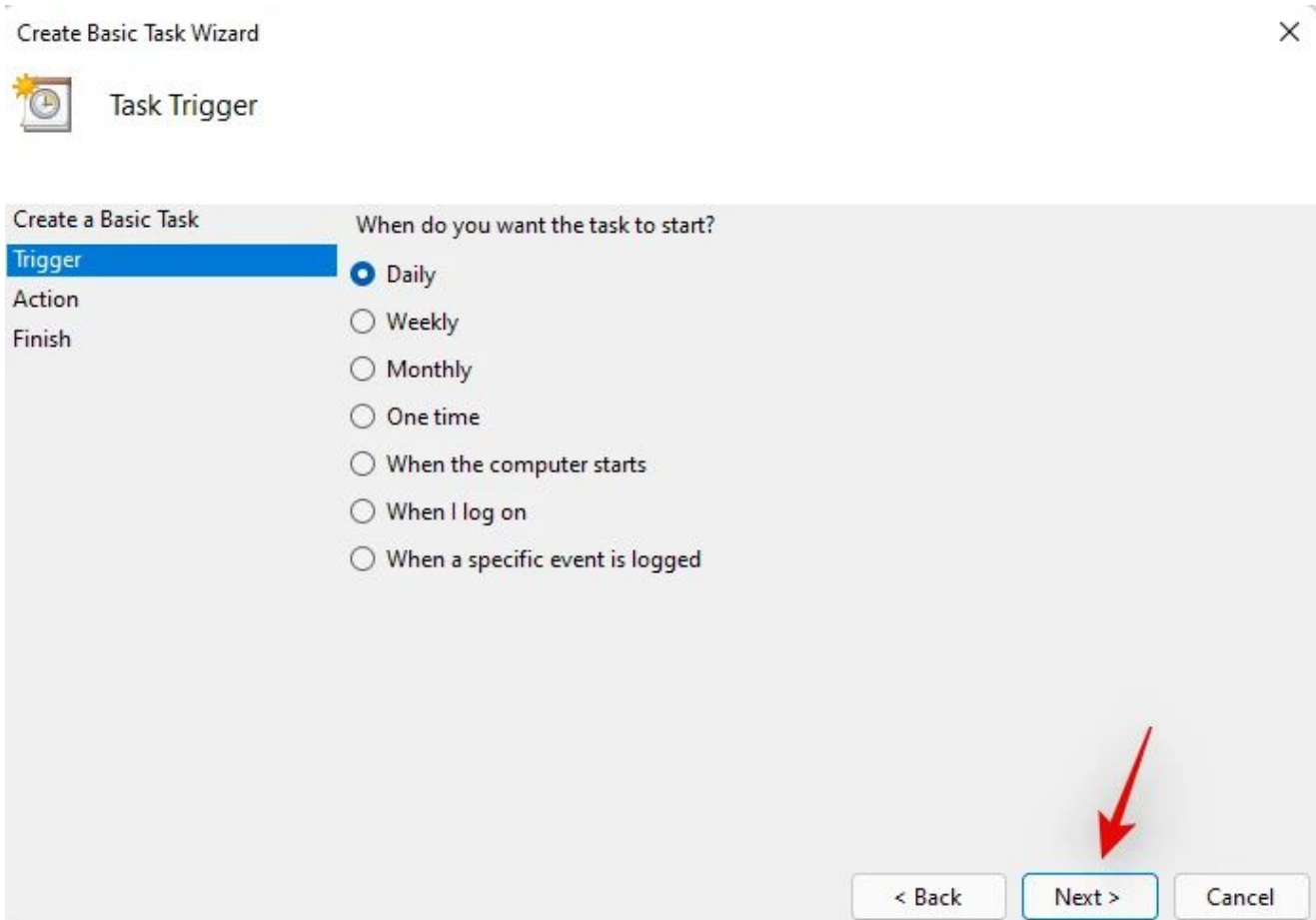
Enter a relevant name for your new shutdown task. Click on 'Next' once you are done.



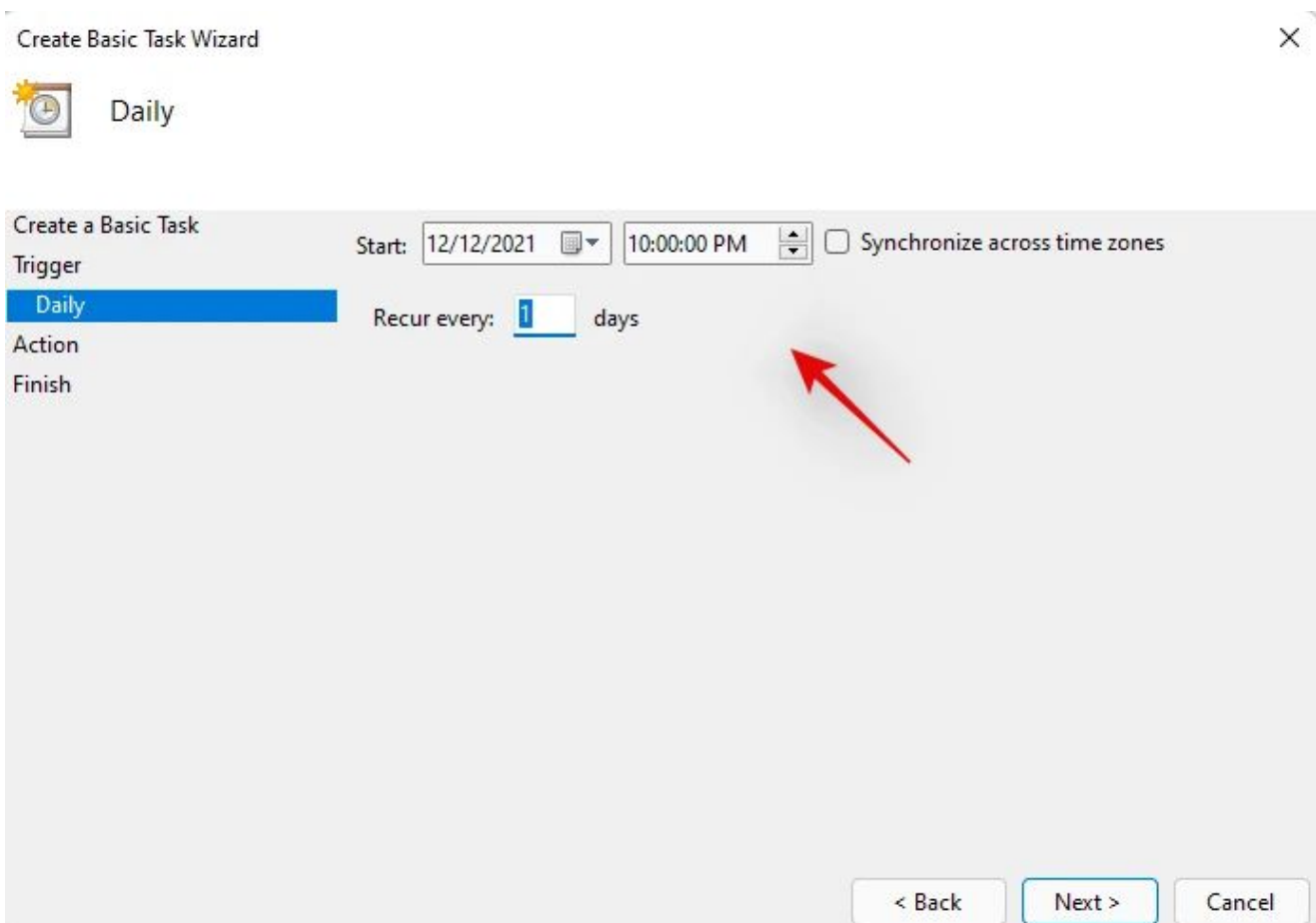
Select whether you wish for the task to happen daily, weekly, or monthly.



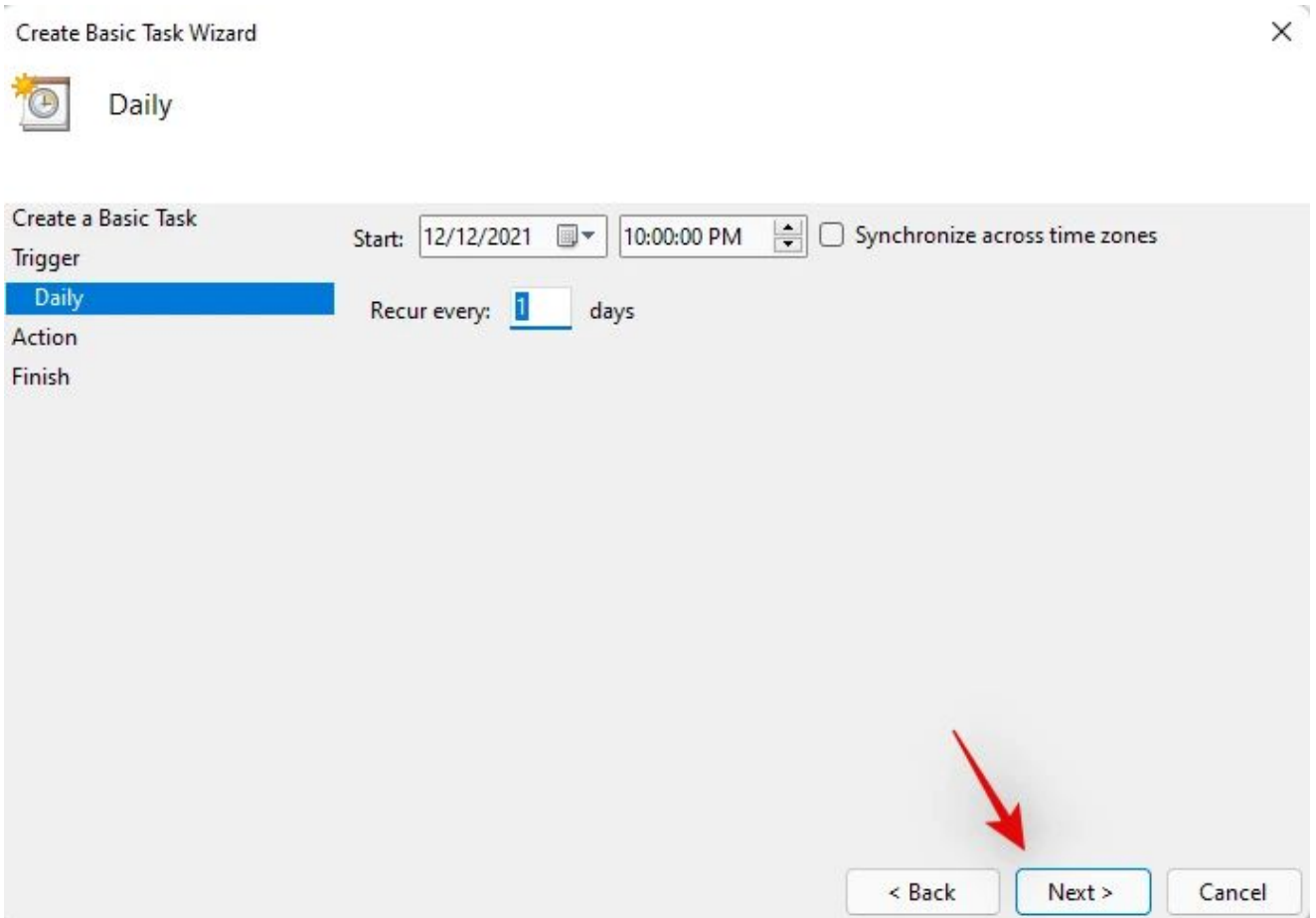
Click on 'Next'.



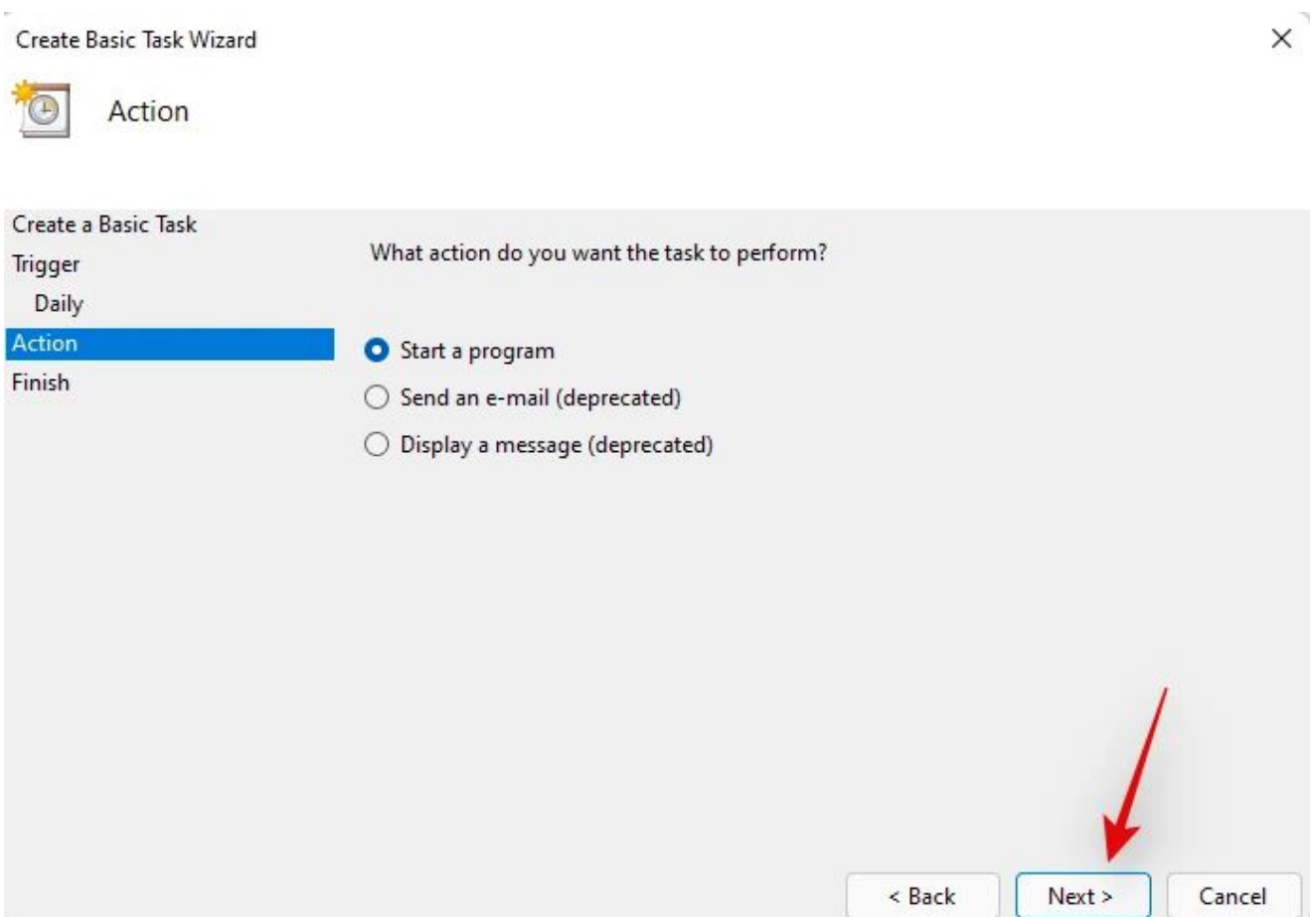
Depending on your choice enter the desired time to shut down your PC. I have chosen to shut down my PC at 10 PM every day as shown below.



Click on 'Next' once you are done.




Now click and select 'Start a program'. Select 'Next', once done.



Enter the following path in the 'Program/Script' field and click on 'Next'.

C:\Windows\System32\Shutdown.exe

Create Basic Task Wizard ✕


 Start a Program

Create a Basic Task

Trigger	Program/script:	<input type="text" value="C:\Windows\System32\Shutdown.exe"/> <input data-bbox="1251 432 1414 472" type="button" value="Browse..."/>
Daily	Add arguments (optional):	<input type="text"/>
Action	Start in (optional):	<input type="text"/>
Start a Program		
Finish		

Finally, click on 'Finish'.

Create Basic Task Wizard ✕

 Summary

Create a Basic Task

Trigger	Name:	<input type="text" value="Shutdown Timer"/>
Daily	Description:	<input type="text"/>
Action	Trigger:	<input type="text" value="Daily; At 10:00 PM every day"/>
Start a Program	Action:	<input type="text" value="Start a program; C:\Windows\System32\Shutdown.exe"/>
Finish		

Open the Properties dialog for this task when I click Finish
When you click Finish, the new task will be created and added to your Windows schedule.

And that's it! Your PC will now automatically shut down at the desired times selected by you.

Référence : [Créer un raccourci pour la fonction Shutdown de Windows](#)

Create a .bat file with these lines :

```
C:\Windows\System32\shutdown.exe -s -t 00
```

Run this file from the Windows Task Scheduler.

TURBA - PROTOCOL - OPTION 2

OPTION 2 : video file playback

SUMMARY

Material supplied: video file adapted to the broadcast medium.

This is the simplest and least expensive way of broadcasting. It is designed to be easily prepared by any video technician. The artist doesn't necessarily have to be involved in the editing.

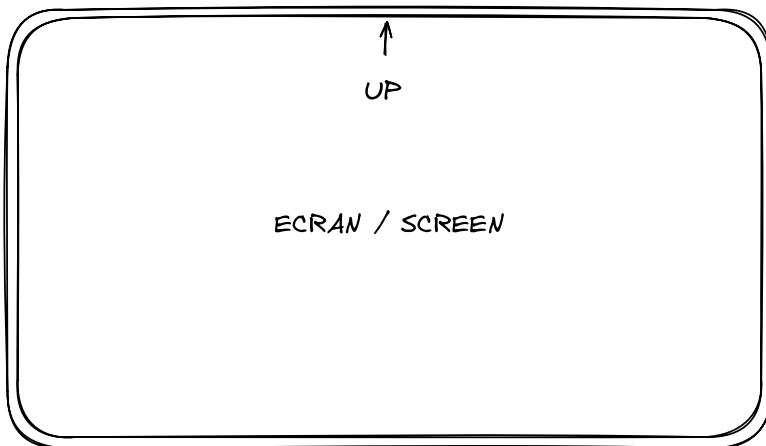
INSTALLATION DISPLAY

The installation is modular, and can take several forms to adapt to the supports available.

In vertical mode, pay attention to the orientation of the screens. Rotate them to the right (clockwise), as shown in the diagrams.

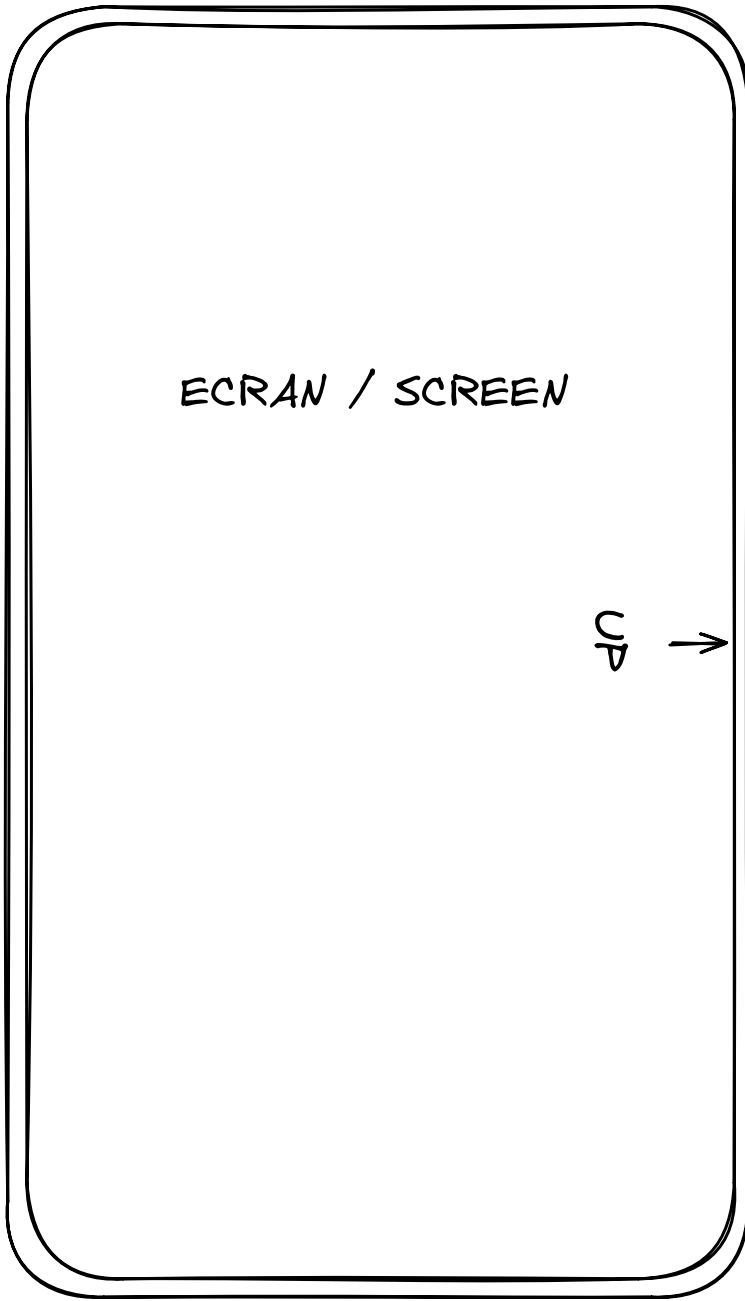
The work is best presented on screen, but it can also be shown as a video projection. Consult the artist for the choice of projection method.

1 HORIZONTAL SCREEN / VIDEO-PROJECTOR



1 VERTICAL SCREEN / VIDEO-PROJECTOR

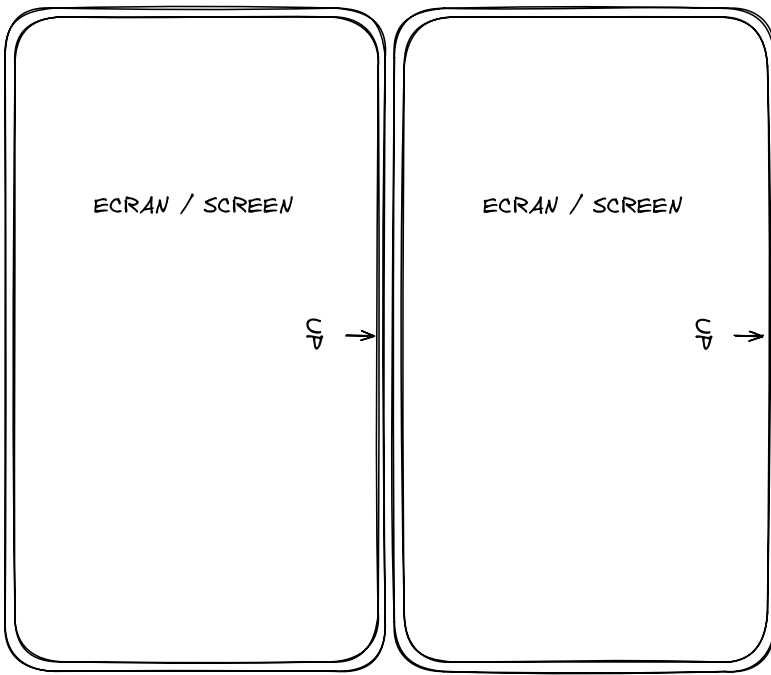
Tilted 90° clockwise



2 VERTICAL SCREENS

Tilted 90° clockwise

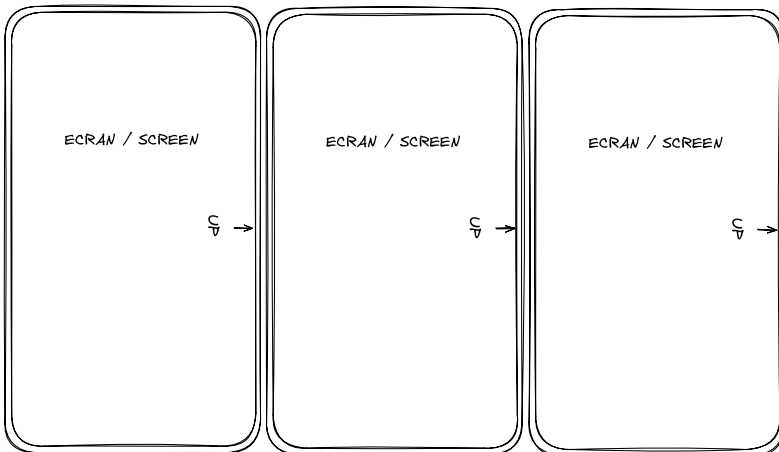
Edge-to-edge



3 VERTICAL SCREENS

Tilted 90° clockwise

Edge-to-edge



INSTALLATION SETUP

The artist provides a horizontal or vertical video file, as required, without sound, which the venue can adapt to the available screen or projector.

TURBA - PROTOCOL - OPTION 3

OPTION 3 : public space presentation

For this version of the installation, the number of monitors and their arrangement is to be defined in consultation between the venue and the artist. The general idea is to take advantage of dynamic displays (information monitors, advertising screens, etc.) in the public space to present the work.

For this version of the work, the material support can either be the real-time software, or one or more video files, for greater simplicity.