

Computer settings

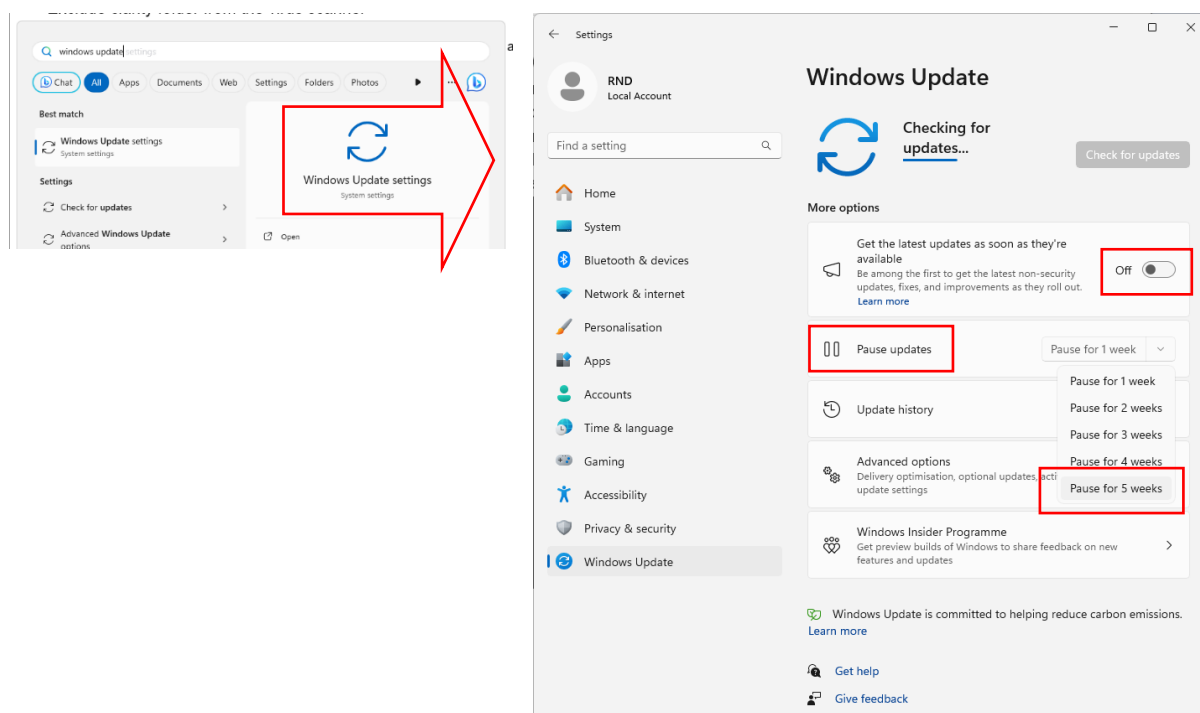
The use of laboratory instruments that are under control of a Chromatography Data System (CDS) requires an uninterrupted digital connection with the computer. For a stable digital communication, we recommend checking/adjusting the following settings:

1. Windows update Pause the automated installation of updates
2. Virus scanner Exclude the CDS data folder for the scanner
3. Firewall Indicate the CDS executables to be trusted apps
4. Energy saving Deactivate all power saving options (auto shutdown, sleep, hybrid sleep and hibernate mode) of the computer hardware incl. USB and LAN ports

This document shows the detailed settings and screen dumps for a computer that will be running under **Windows 11** (and Clarity CDS as an example).

1. Pause Windows Updates

By default, the Windows Update feature is enabled on Windows 11 and the system will continuously scan for updates. To pause the Windows update, open the Windows Update settings (use the search bar to find it).

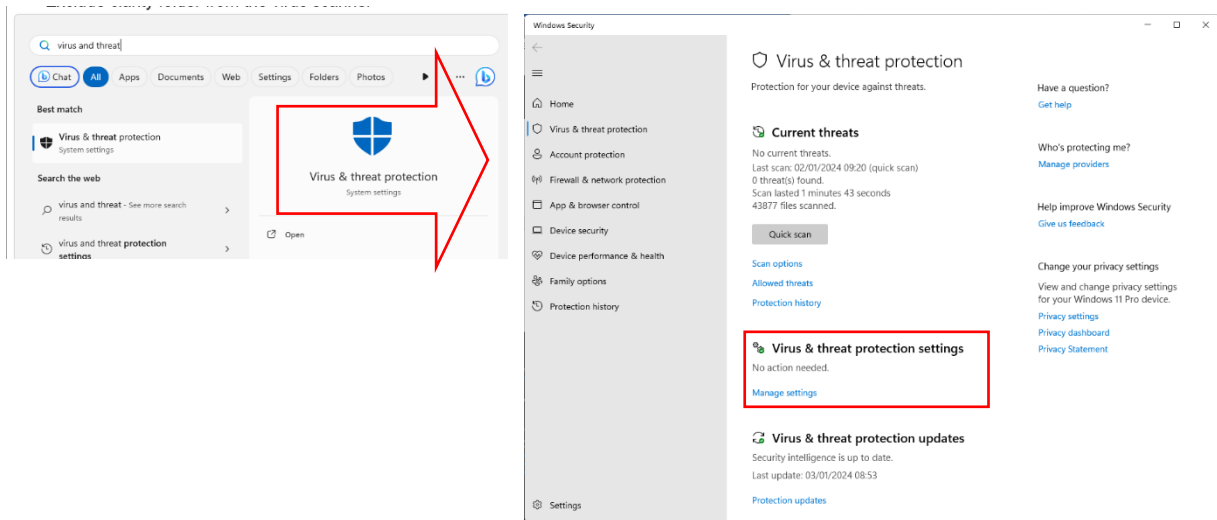


Change the current settings to the following:

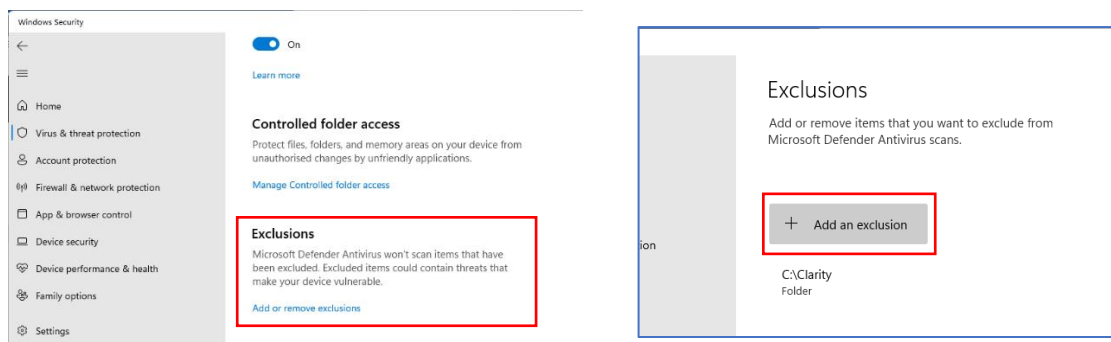
1. Turn off option "Get the latest updates as soon as they're available".
2. Pause updates (choose the maximum of 5 weeks).

2. Exclude the CDS folder from the virus scanner

To exclude the Clarity CDS program and data folder from the virus scanner, open the Windows Virus & threat protection (use the search bar to find it):



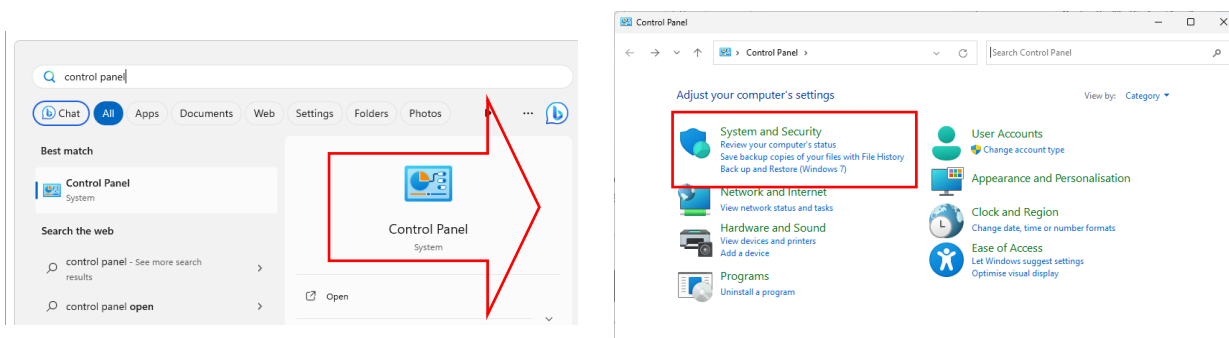
1. Select 'Manage settings'
2. Scroll down to the sub-setting "Exclusions" and click on "add or remove exclusions".



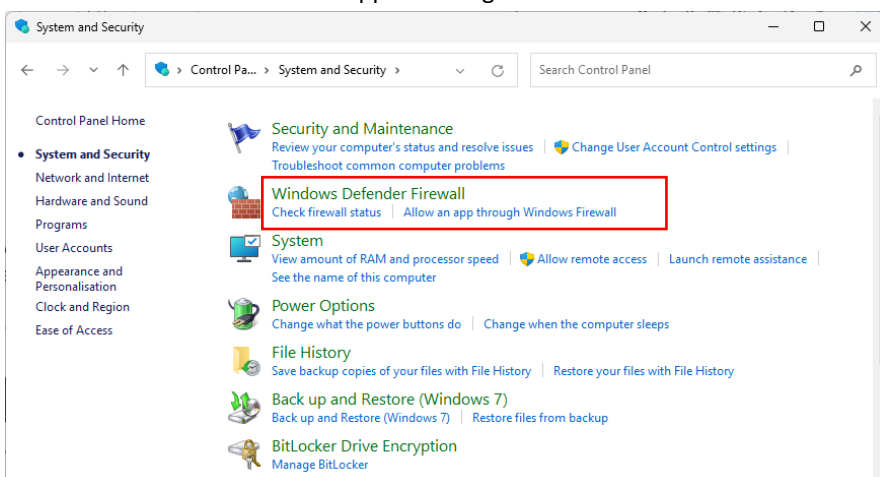
3. Add the CDS related program/data folder (Clarity in this example) to the exclusions list.

3. Allow the CDS app to communicate through the Windows firewall

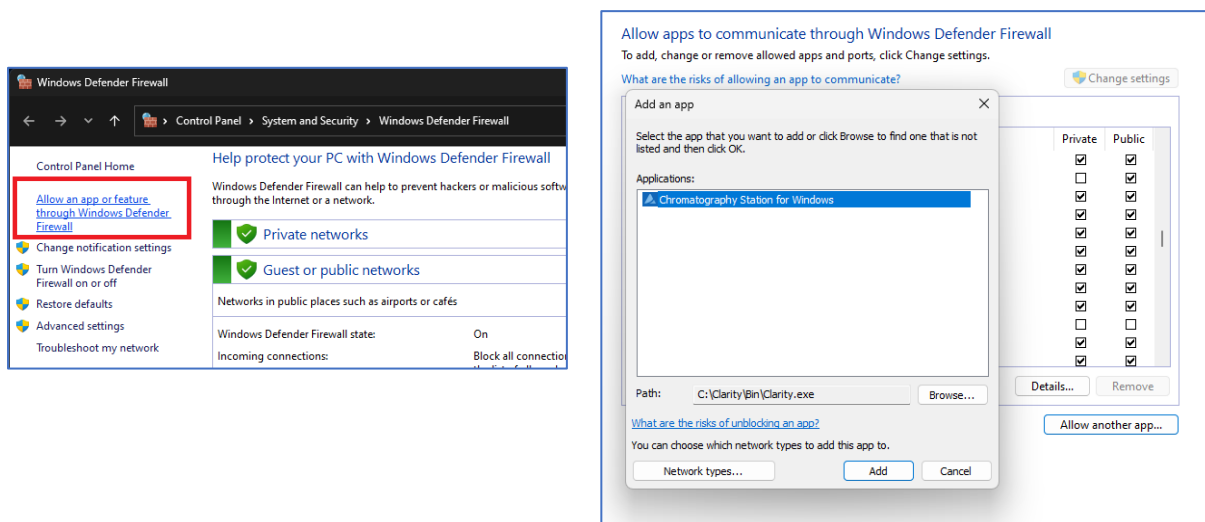
To let the Clarity CDS program executable through the Window firewall, open the Control Panel (use the search bar to find it):



1. Select 'System and Security'
2. Click on 'Allow an app or through Windows Firewall'.



3. Click on 'Allow an app or feature through Windows Defender Firewall' and add the Clarity CDS executable (Browse for C:\Clarity\Bin\Clarity.exe) to the list of apps. Click OK when done.

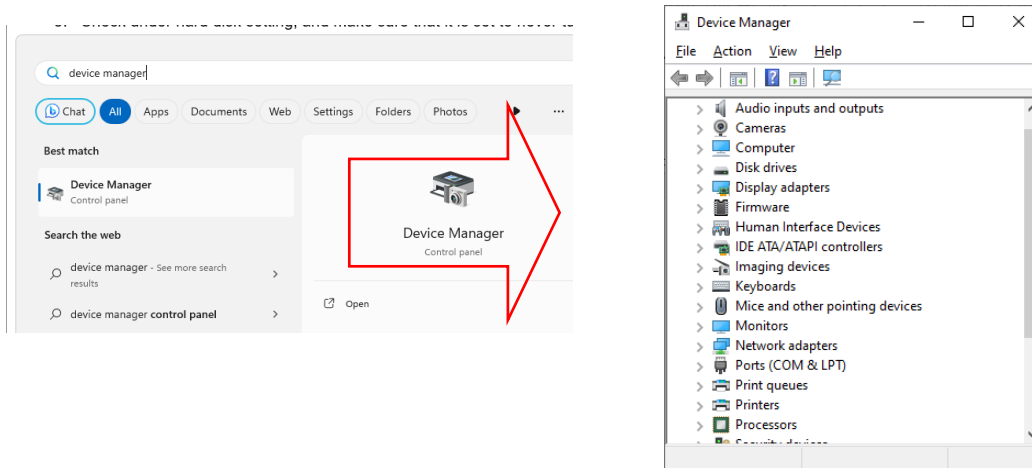


4. Energy saving and power management settings

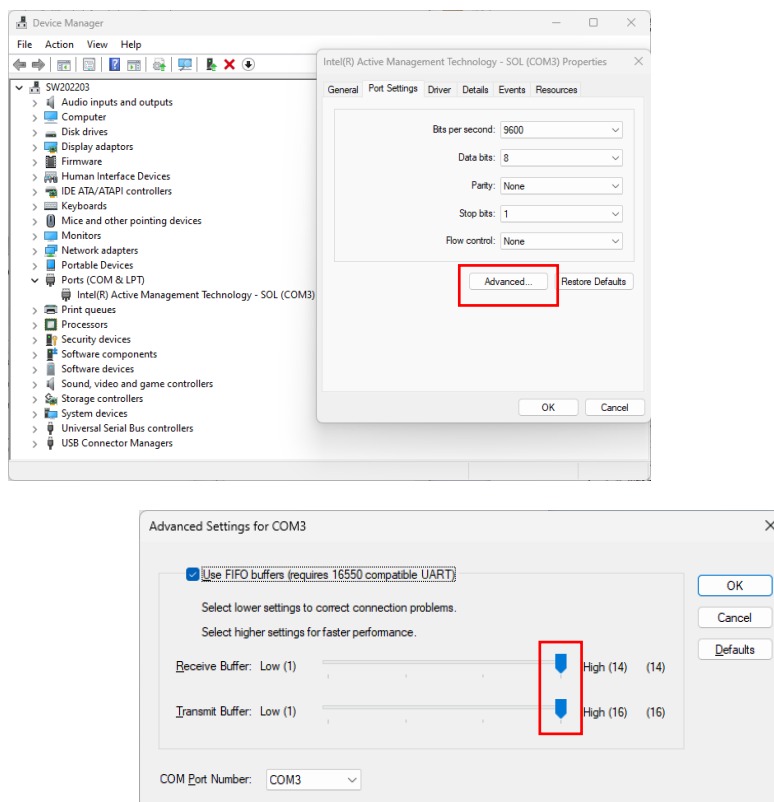
There are two locations at which the power and energy management needs to be adjusted: in the Device Manager and in the Power Options windows.

4a. Energy saving and power management settings in the Device manager

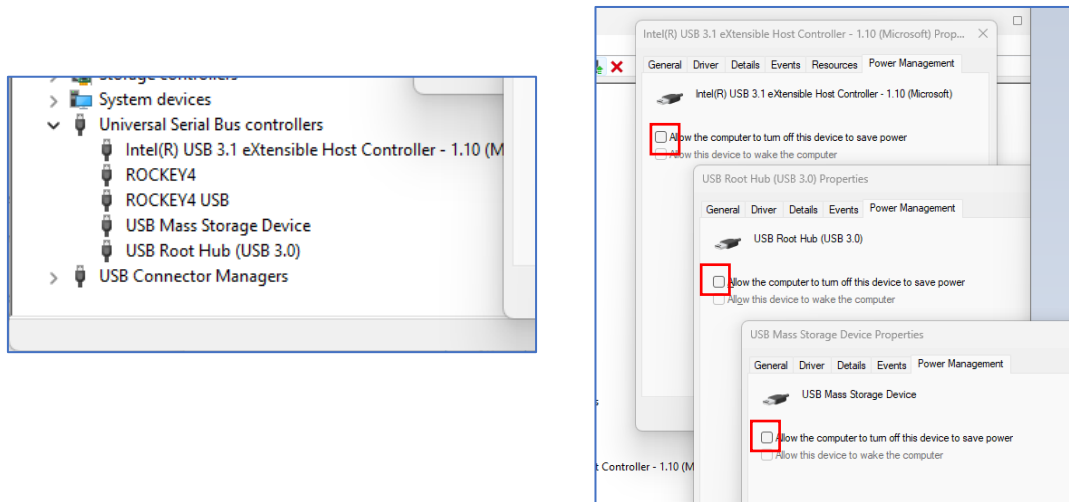
1. Open the Device Manager (use the search bar to find it):



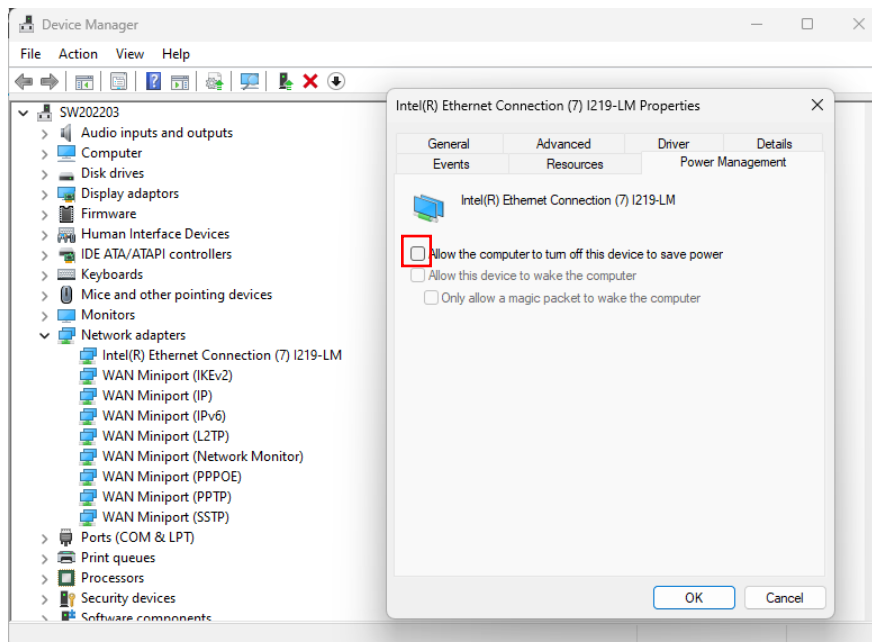
2. Open the 'Ports (COM & LPT)' list
3. Right-click and open properties boxes for each COM-port that is used by the CDS.
4. Open the 'Advanced' option for the active COM ports and set the transmit and receive buffers both to High.



5. Open the 'Universal Serial Bus controllers' list
6. For each listed item, right-click and select properties.
7. In all tabs 'Power management' uncheck the option "Allow the computer to turn off this device to save power".

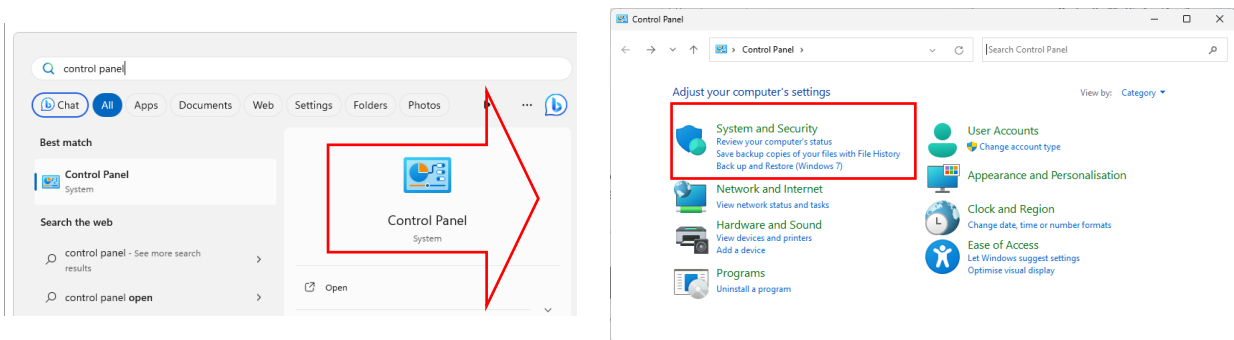


8. Open the "Network adapters" and find the Ethernet adapter that is used for communication with the instruments.
9. Right-click on the Ethernet adapter and click properties.
10. Go to tab "Power Management" and uncheck "Allow the computer to turn off this device to save power". Click OK when done.

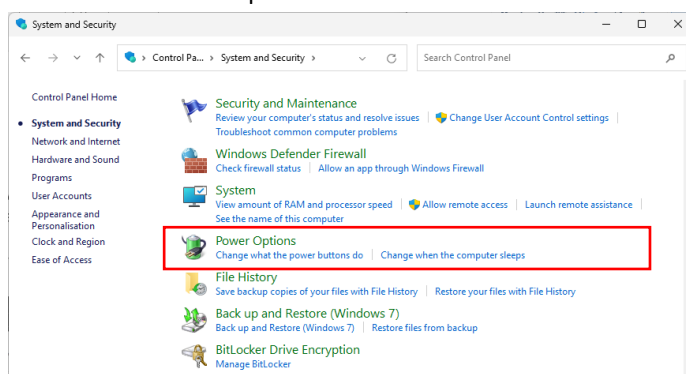


4b. Detailed Power Options settings

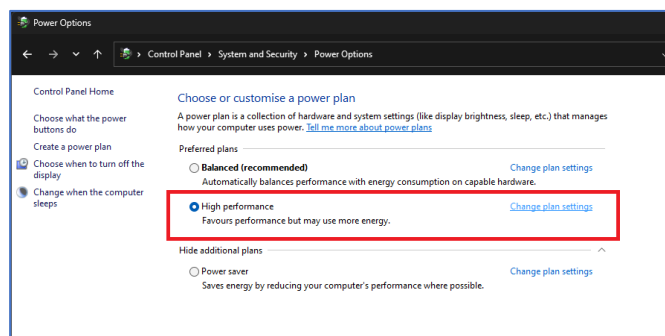
Open the Control Panel (use the search bar to find it), and select the 'System and Security' settings:



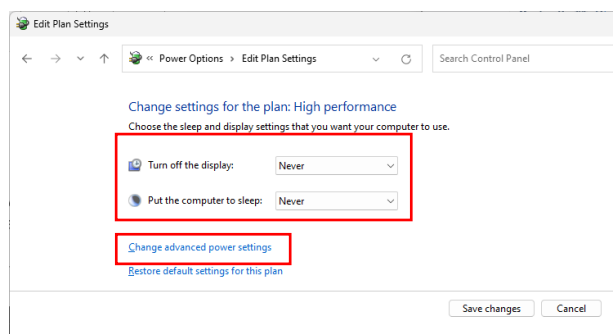
1. Click on 'Power Options'.



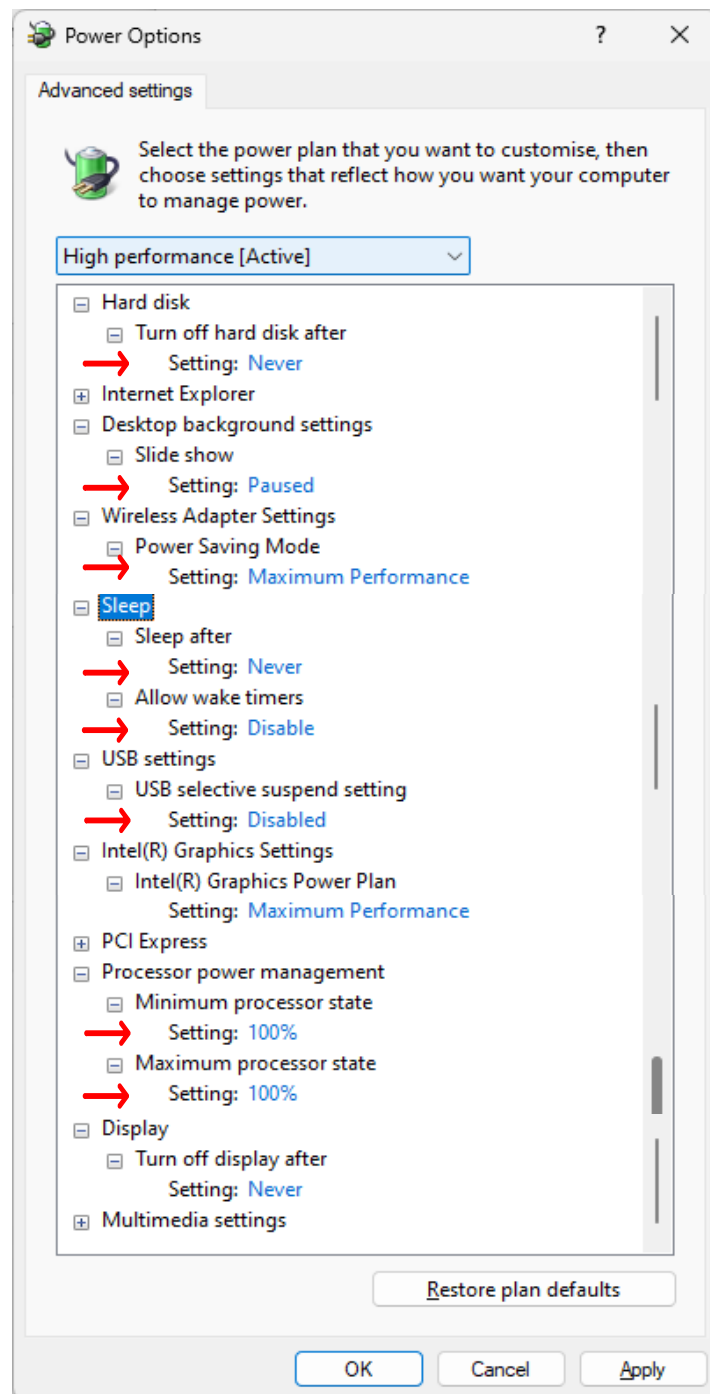
2. Choose 'High Performance' and then open the 'Change plan settings' menu.



3. A new window will appear. Change the sleep settings to 'Never' for both the display and the computer. Then click on Change advanced power settings.



4. A dialog box will appear.
 - a. Hard disk settings: make sure that it is set to never turn off the hard disk.
 - b. Desktop Background settings: set the slide show to pause.
 - c. USB settings: disable the USB selective suspend setting.
 - d. Processor power management: set min and max processor state to 100%



5. Click OK when done and save changes.