

NemosMiner relies on the 3rd party tool HWiNFO64 to gather power usage information

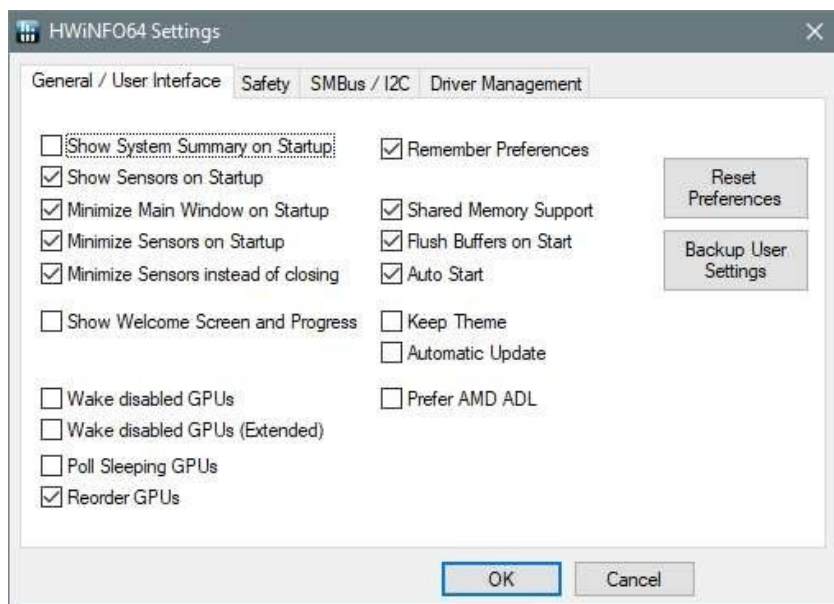
The following document describes the necessary integration steps.

1. Download and install HWiNFO64

<https://www.hwinfo.com/download/>

Both variants (Installer & Portable) will do, just ensure you are using the x64 version. Accept the default installation directory (any other directory will be fine too).

2. Run HWiNFO64 and configure like this



This will autostart HWiNFO64 on each boot and will keep it running in the task bar.

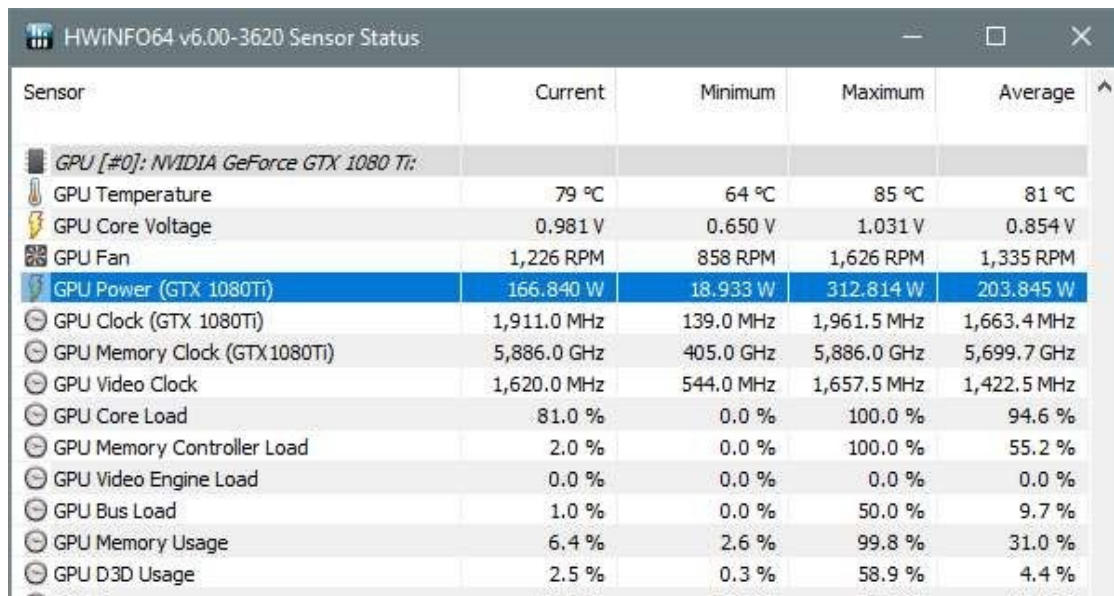
Important: HWiNFO64 needs to be left running while NemosMiner is running, otherwise the power usage readout will fail.

3. Configure the hardware sensors



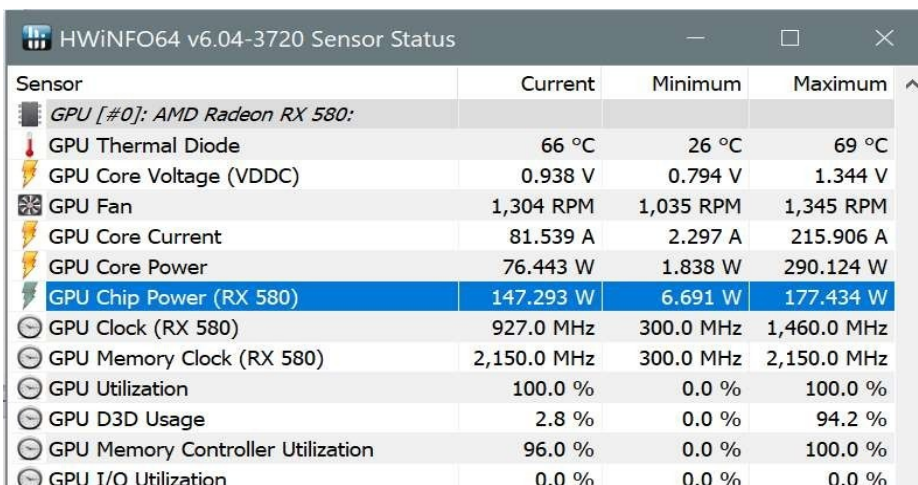
3.1 Identify the power usage relevant sensors

E.g. for a Nvidia GTX 1080ti



Sensor	Current	Minimum	Maximum	Average
GPU [#0]: NVIDIA GeForce GTX 1080 Ti:				
GPU Temperature	79 °C	64 °C	85 °C	81 °C
GPU Core Voltage	0.981 V	0.650 V	1.031 V	0.854 V
GPU Fan	1,226 RPM	858 RPM	1,626 RPM	1,335 RPM
GPU Power (GTX 1080Ti)	166.840 W	18.933 W	312.814 W	203.845 W
GPU Clock (GTX 1080Ti)	1,911.0 MHz	139.0 MHz	1,961.5 MHz	1,663.4 MHz
GPU Memory Clock (GTX1080Ti)	5,886.0 GHz	405.0 GHz	5,886.0 GHz	5,699.7 GHz
GPU Video Clock	1,620.0 MHz	544.0 MHz	1,657.5 MHz	1,422.5 MHz
GPU Core Load	81.0 %	0.0 %	100.0 %	94.6 %
GPU Memory Controller Load	2.0 %	0.0 %	100.0 %	55.2 %
GPU Video Engine Load	0.0 %	0.0 %	0.0 %	0.0 %
GPU Bus Load	1.0 %	0.0 %	50.0 %	9.7 %
GPU Memory Usage	6.4 %	2.6 %	99.8 %	31.0 %
GPU D3D Usage	2.5 %	0.3 %	58.9 %	4.4 %

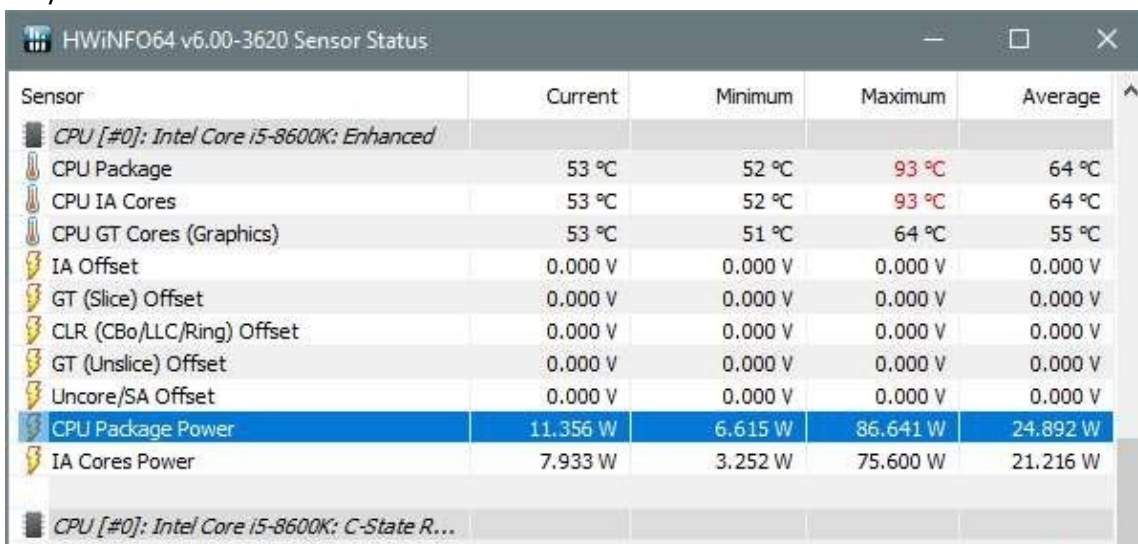
or for a AMD RX 580:



Sensor	Current	Minimum	Maximum
GPU [#0]: AMD Radeon RX 580:			
GPU Thermal Diode	66 °C	26 °C	69 °C
GPU Core Voltage (VDDC)	0.938 V	0.794 V	1.344 V
GPU Fan	1,304 RPM	1,035 RPM	1,345 RPM
GPU Core Current	81.539 A	2.297 A	215.906 A
GPU Core Power	76.443 W	1.838 W	290.124 W
GPU Chip Power (RX 580)	147.293 W	6.691 W	177.434 W
GPU Clock (RX 580)	927.0 MHz	300.0 MHz	1,460.0 MHz
GPU Memory Clock (RX 580)	2,150.0 MHz	300.0 MHz	2,150.0 MHz
GPU Utilization	100.0 %	0.0 %	100.0 %
GPU D3D Usage	2.8 %	0.0 %	94.2 %
GPU Memory Controller Utilization	96.0 %	0.0 %	100.0 %
GPU I/O Utilization	0.0 %	0.0 %	0.0 %

Important: for AMD make sure you select 'GPU Chip Power' and NOT 'GPU Core Power'!

for your CPU:



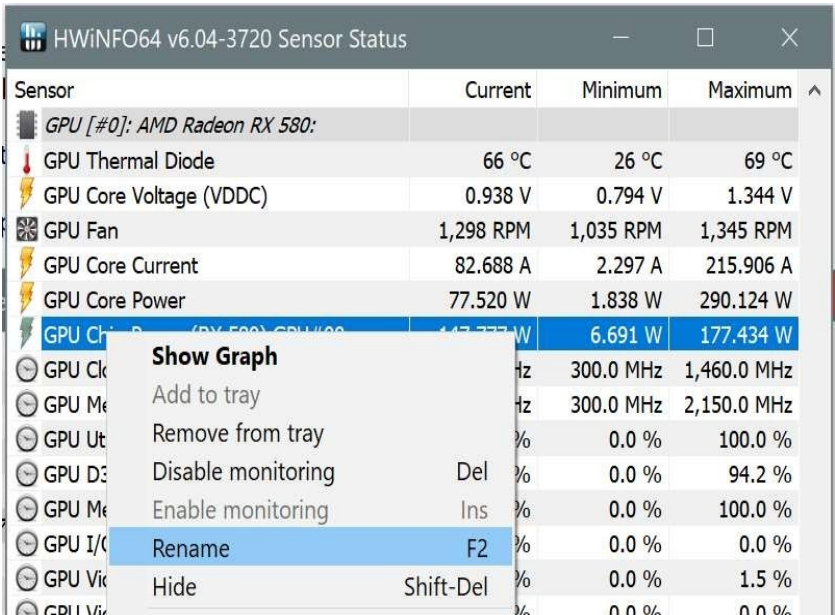
Sensor	Current	Minimum	Maximum	Average
CPU [#0]: Intel Core i5-8600K: Enhanced				
CPU Package	53 °C	52 °C	93 °C	64 °C
CPU IA Cores	53 °C	52 °C	93 °C	64 °C
CPU GT Cores (Graphics)	53 °C	51 °C	64 °C	55 °C
IA Offset	0.000 V	0.000 V	0.000 V	0.000 V
GT (Slice) Offset	0.000 V	0.000 V	0.000 V	0.000 V
CLR (CBo/LLC/Ring) Offset	0.000 V	0.000 V	0.000 V	0.000 V
GT (Unslice) Offset	0.000 V	0.000 V	0.000 V	0.000 V
Uncore/SA Offset	0.000 V	0.000 V	0.000 V	0.000 V
CPU Package Power	11.356 W	6.615 W	86.641 W	24.892 W
IA Cores Power	7.933 W	3.252 W	75.600 W	21.216 W
CPU [#0]: Intel Core i5-8600K: C-State R...				

3.2. Rename the power sensor

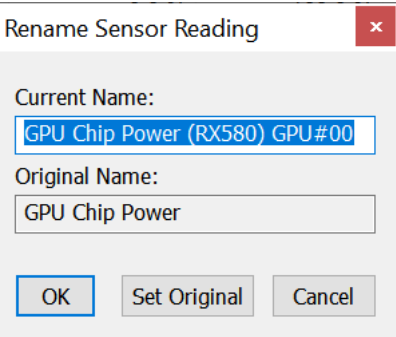
Important: Steps 3.2 and 3.3 must be done for each enabled mining device.

Select the sensor, then right-click and select 'Rename F2':

Then rename the sensor name so it ends with the device name (as found in the web GUI), separated by a space character, e.g. 'GPU Chip Power (RX580) GPU#00'



Sensor	Current	Minimum	Maximum
GPU [#0]: AMD Radeon RX 580:			
GPU Thermal Diode	66 °C	26 °C	69 °C
GPU Core Voltage (VDDC)	0.938 V	0.794 V	1.344 V
GPU Fan	1,298 RPM	1,035 RPM	1,345 RPM
GPU Core Current	82.688 A	2.297 A	215.906 A
GPU Core Power	77.520 W	1.838 W	290.124 W
GPU Chip Power (RX580) GPU#00	147.777 W	6.691 W	177.434 W
GPU Clock	300.0 MHz	300.0 MHz	1,460.0 MHz
GPU Memory	300.0 MHz	300.0 MHz	2,150.0 MHz
GPU Utilization	0.0 %	0.0 %	100.0 %
GPU Display	0.0 %	0.0 %	94.2 %
GPU Memory	0.0 %	0.0 %	100.0 %
GPU I/O	0.0 %	0.0 %	0.0 %
GPU Video	0.0 %	0.0 %	1.5 %
GPU Video	0.0 %	0.0 %	0.0 %



Rename Sensor Reading

Current Name:
GPU Chip Power (RX580) GPU#00

Original Name:
GPU Chip Power

OK Set Original Cancel

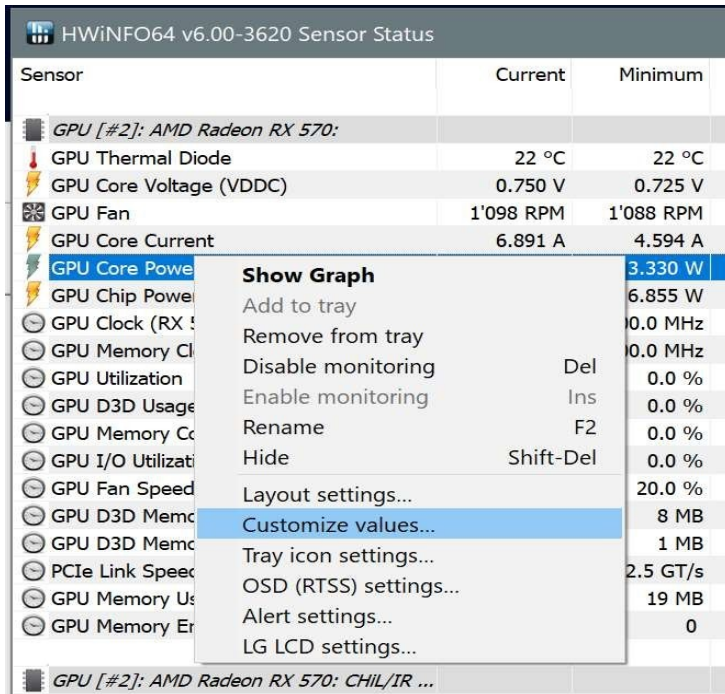
Note: You can also add other information, e.g. (RX580) to the sensor name. However **it is essential that the sensor name ends in GPU#nn / CPU#nn as shown above.**

Important: Only ONE sensor name per device can contain the device name. This is the sensor Nemominer will use to read the power usage from.

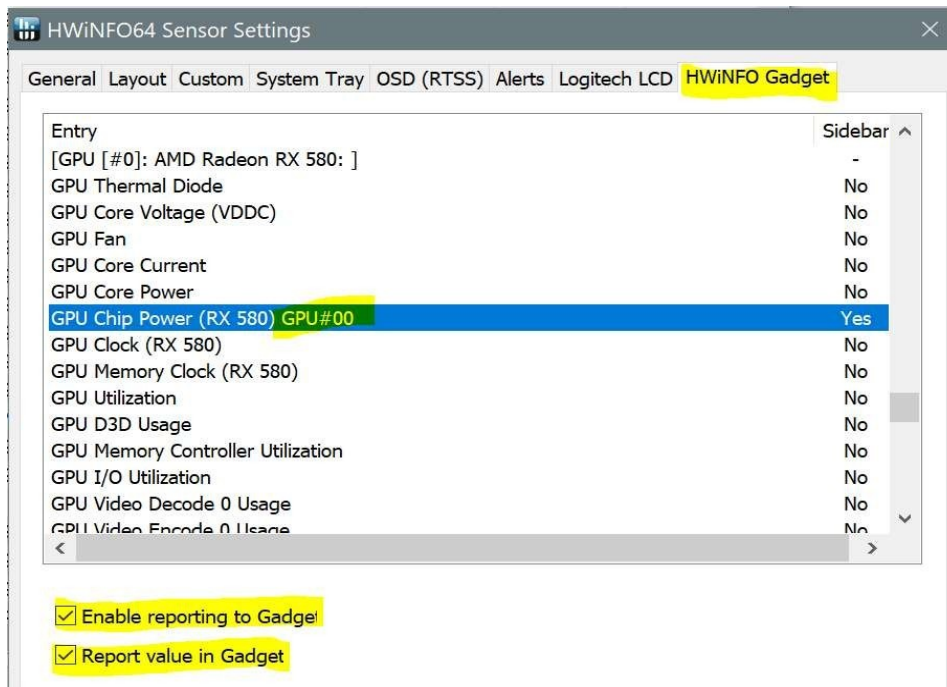
3.3. Configure each relevant power usage sensor

Important: Steps 3.2 and 3.3 must be done for each enabled mining device.

Select the sensor, then right-click and select 'Customize values...':



then select the tab 'HWiNFO Gadget':



and **tick both checkboxes:**

- Enable reporting to Gadget
- Report value in Gadget

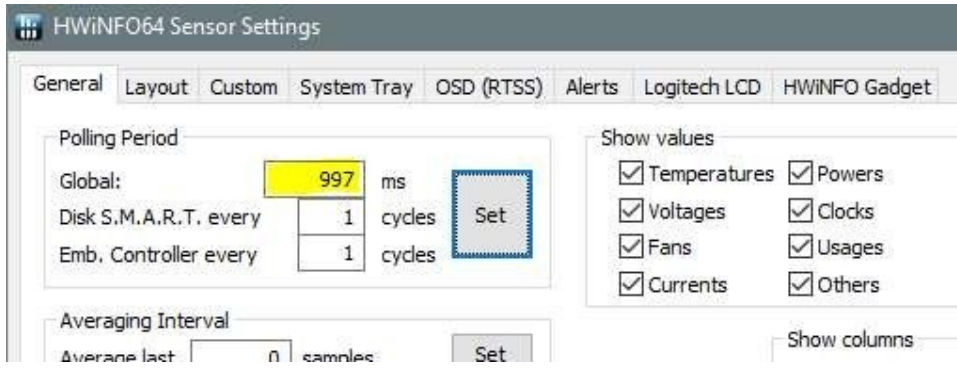
This will tell HWiNFO64 to constantly update the sensor values to the following registry key
`Computer\HKEY_CURRENT_USER\Software\HWiNFO64\VSB`

4. Configure the sensor polling interval

In the sensors dialog click on

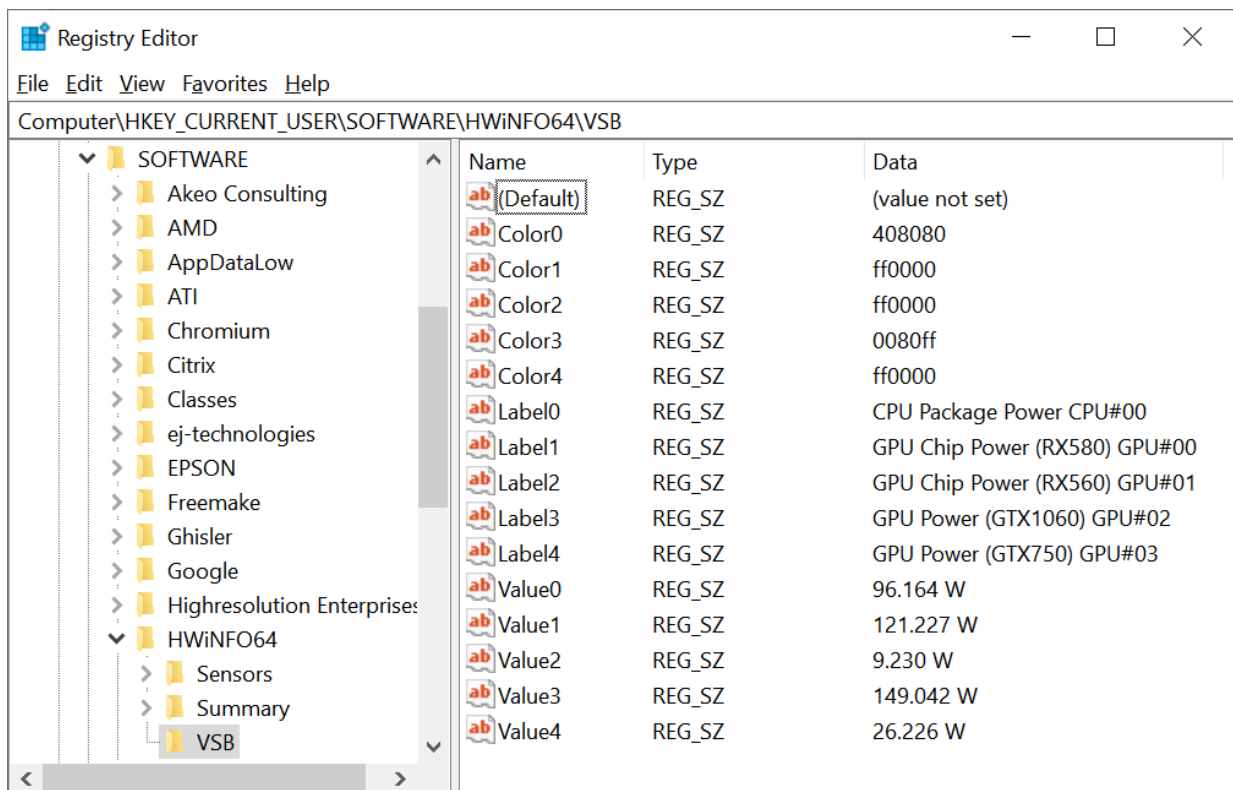


Then configure the polling period to something small like 997ms



Important: The polling period should be less than 2 seconds to ensure that MPM will have access to current data

5. Run Regedit.exe and verify that the sensor mapping information is available



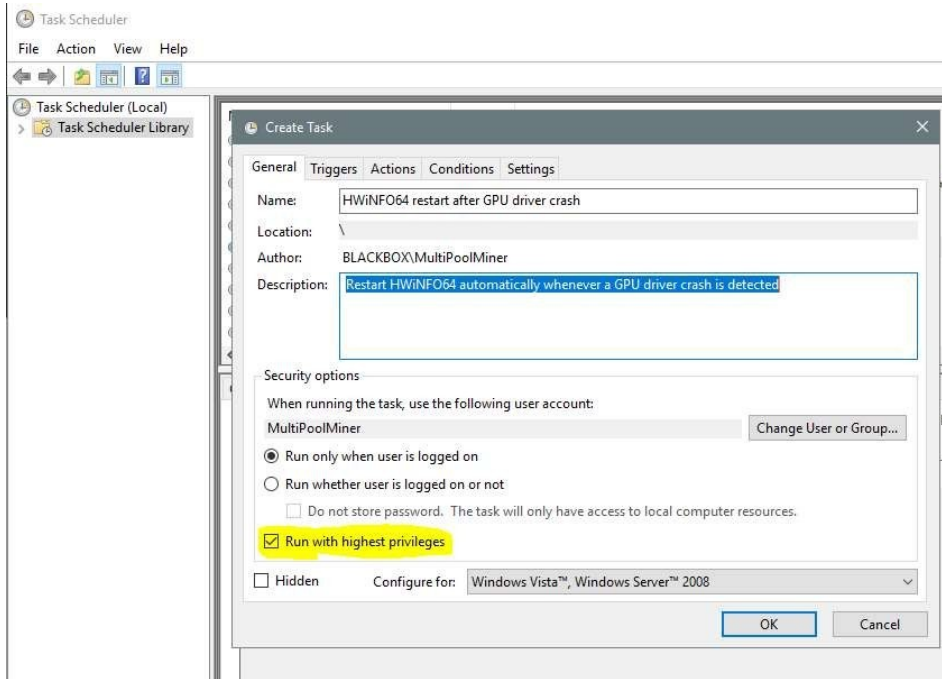
(press F5 repeatedly to verify that the values will get updated periodically)

6. Create scheduled task to restart HWiNFO64 after a driver crash (optional)

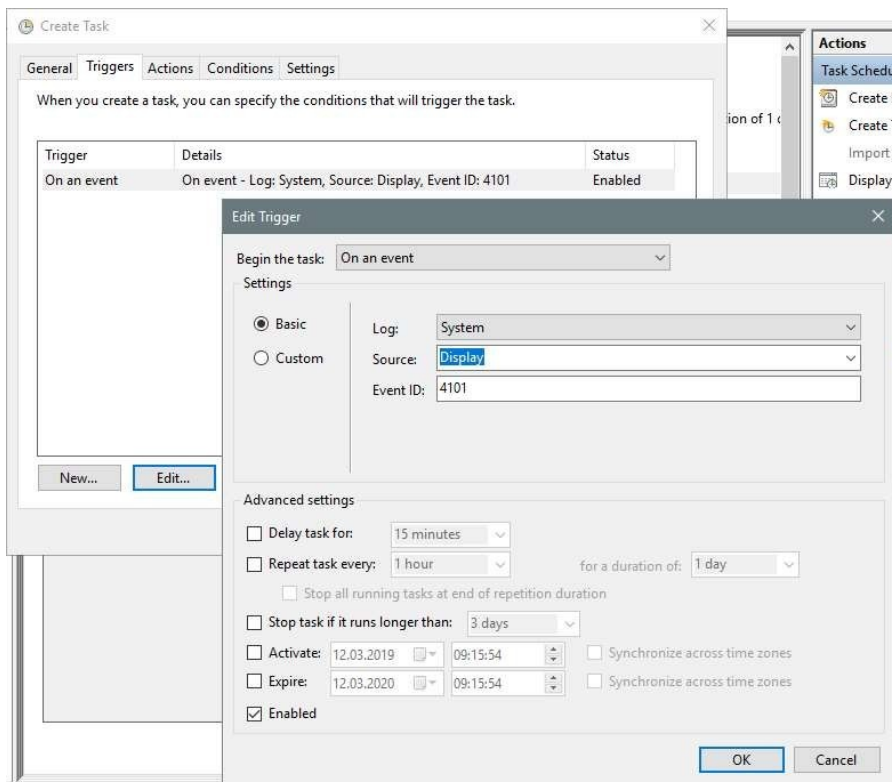
Under some circumstances HWiNFO64 needs to be restarted after a GPU driver crash. The following scheduled task takes care of this.

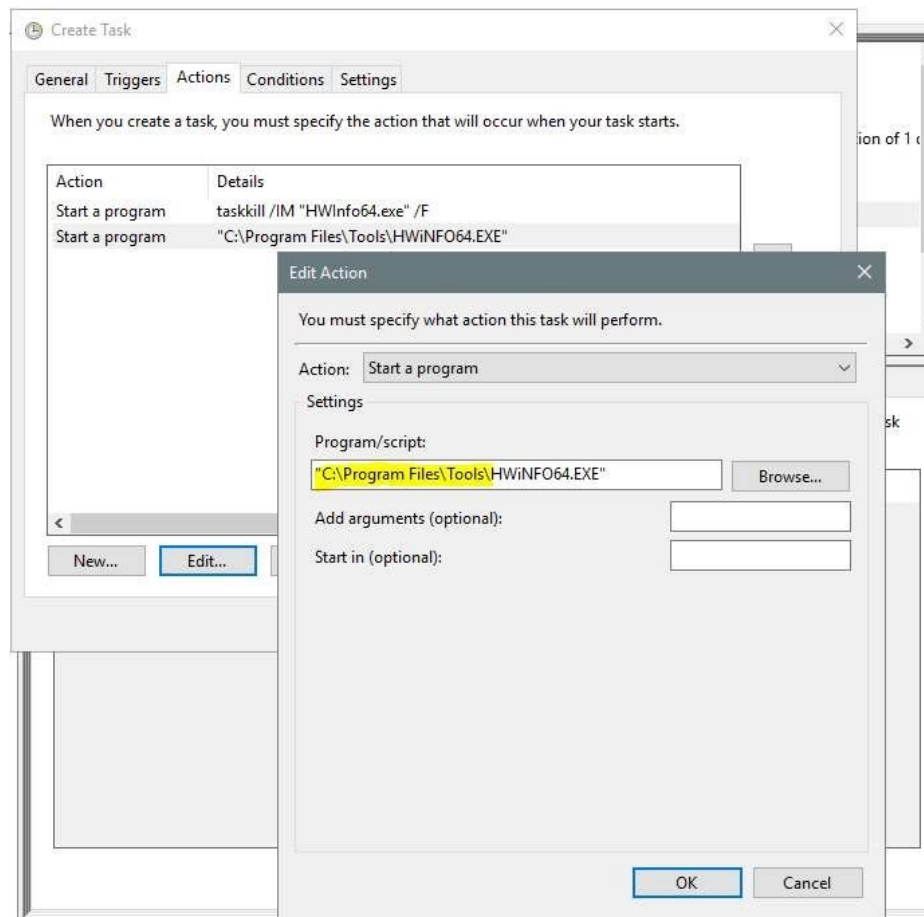
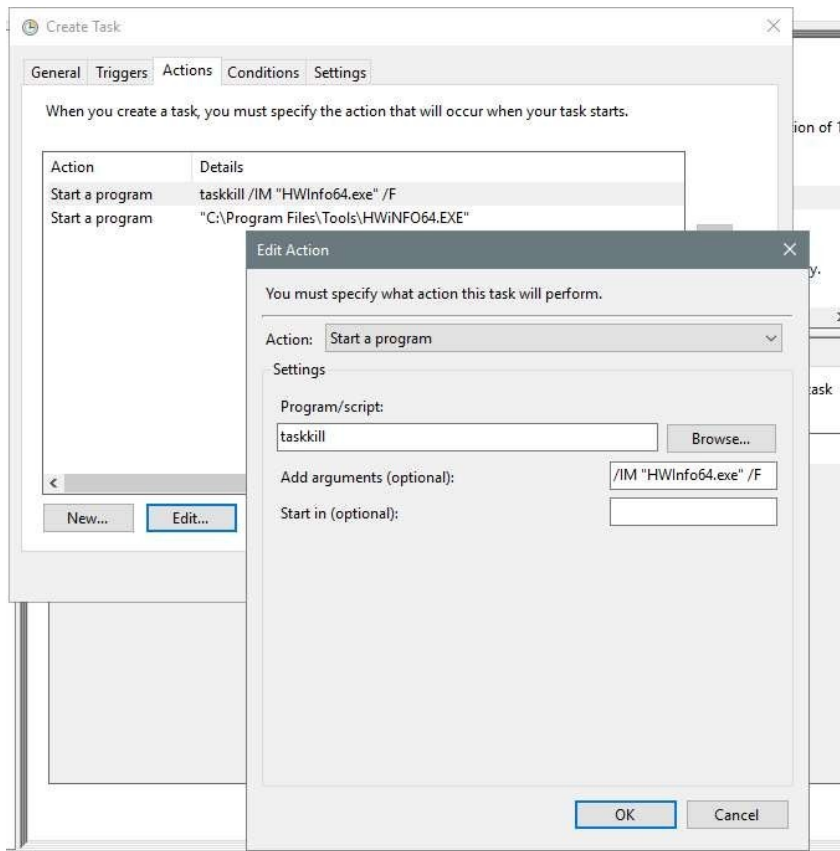
6.1. Open the scheduled task editor: CMD -> Schtasks.exe

6.2. Create a new scheduled task as shown



Make sure you tick 'Run with highest privileges'





Create Task

General Triggers Actions Conditions Settings

Specify the conditions that, along with the trigger, determine whether the task should run. The task will not run if any condition specified here is not true.

Idle

☐ Start the task only if the computer is idle for: 10 minutes

Wait for idle for: 1 hour

☐ Stop if the computer ceases to be idle

☐ Restart if the idle state resumes

Power

☐ Start the task only if the computer is on AC power

☐ Stop if the computer switches to battery power

☐ Wake the computer to run this task

Network

☐ Start only if the following network connection is available:

Any connection

OK Cancel

Create Task

General Triggers Actions Conditions Settings

Specify additional settings that affect the behavior of the task.

☒ Allow task to be run on demand

☒ Run task as soon as possible after a scheduled start is missed

☐ If the task fails, restart every: 1 minute

Attempt to restart up to: 3 times

☐ Stop the task if it runs longer than: 3 days

☒ If the running task does not end when requested, force it to stop

☐ If the task is not scheduled to run again, delete it after: 30 days

If the task is already running, then the following rule applies:

Stop the existing instance

OK Cancel