Intel® Watchdog Timer Utility

User Guide

Version 1.2
January 5, 2021

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Revision History

Revision Number	Description	Revision Date
1.0	Initial release – support for NUC8CCH	October 2019
1.1	Support additional platforms – PN, DN, CB	June 2020
1.2	Support additional platforms – TN, EB, QN	January 2021

2 Introduction

2.1 Overview

The Intel® Watchdog Timer Utility allows an Intel® NUC Mini PC, kit or board to leverage the platform's hardware watchdog timer to monitor if an application is still running. If the monitored application stops responding, the Intel® Watchdog Timer Utility can help resolve this problem by automatically restarting a failed instance of an application, logging the activity for troubleshooting.

2.2 Supported NUCs

- Intel® NUC Kit NUC7i3DN / NUC7i5DN / NUC7i7DN
- Intel® NUC 8 Rugged Kit NUC8CCH
- Intel® NUC 8 Pro Kit NUC8i3PN / NUC8v5PN / NUC8v7PN
- Intel® NUC 8 Compute Element CM8CCB / CM8PCB / CM8i3CB / CM8i5CB / CM8v5CB / CM8i7CB / CM8v7CB
- Intel® NUC 9 Pro NUC9v7QN / NUC9vXQN
- Intel® NUC 11 Pro Kit NUC11TN
- Intel® NUC 11 Compute Element CM11EB

2.3 Supported OS

Windows 10 Enterprise/Pro 64-bit

1. Intel® Watchdog Timer Utility App was validated on Windows 10 version 2004, codename 20H1, build 19041

2.4 Supported Browsers

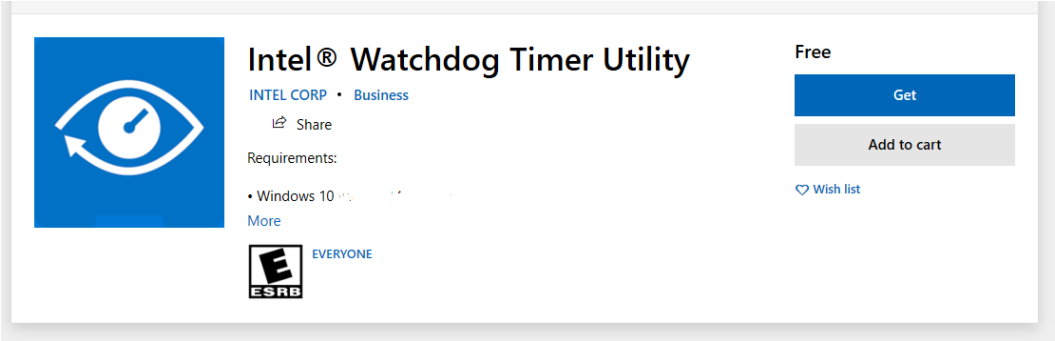
The following browsers are supported for monitoring applications

1. Firefox version 77.01 and later (64-bit)
2. Google Chrome version 83.0.4103.97 and later (64-bit)

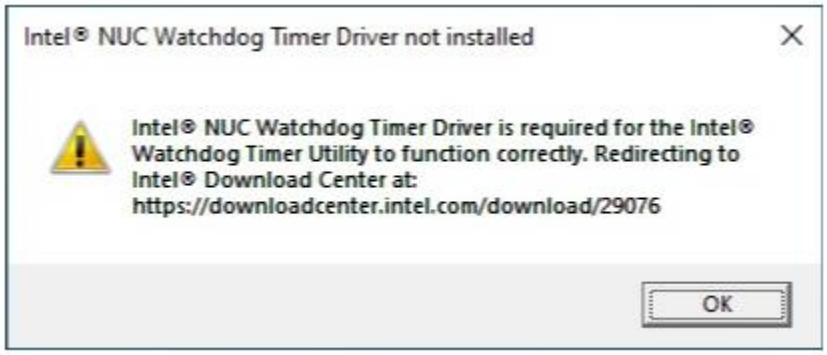
3 Installation

3.1 Application Installation

1. Search for Intel® Watchdog Timer Utility application in the Microsoft Store.
2. Click “Get”



3. After successful installation of the application, you will be prompted to get the Intel® NUC Watchdog Timer Driver from Intel Download Center

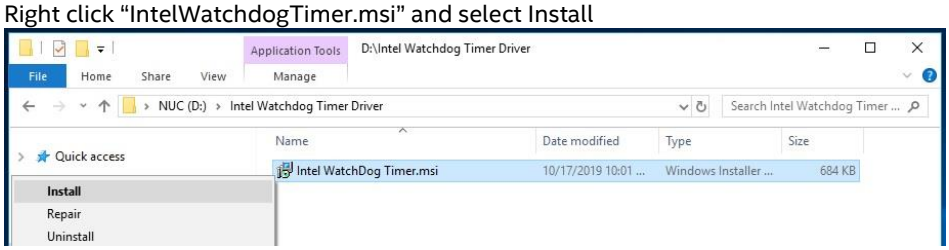


3.2 Driver Installation

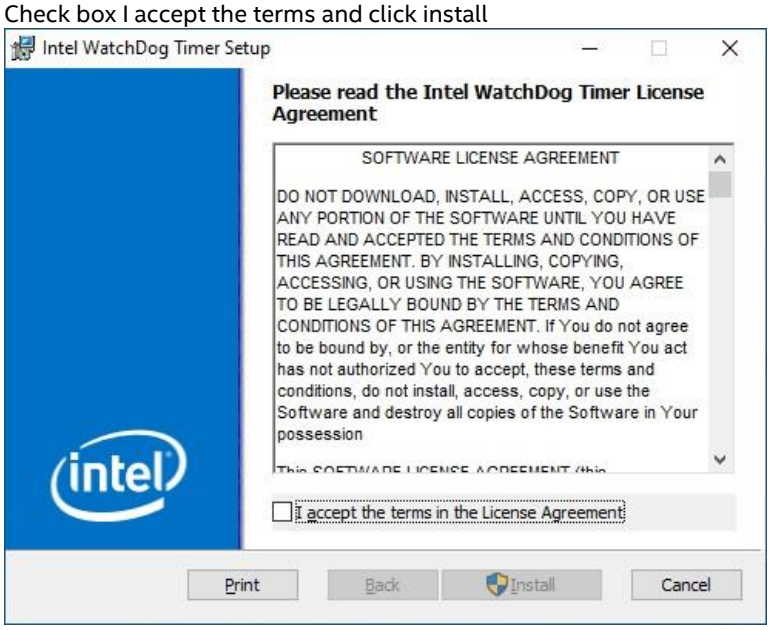
1. Application installation should redirect you to Intel Download Center to get the Intel® NUC Watchdog Timer Driver. If you are not automatically redirected, follow these steps:

   i. Go to https://downloadcenter.intel.com
   ii. Search for 'Intel® NUC Watchdog Timer Driver'
   iii. Click on Download and accept the license agreement

2. Right click "IntelWatchdogTimer.msi" and select Install

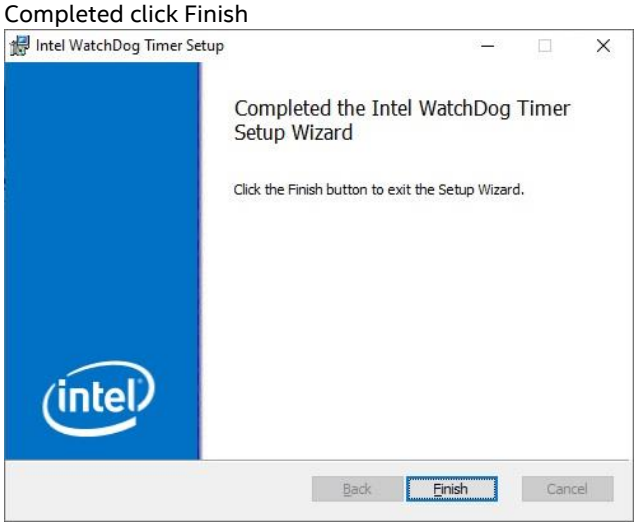


3. Check box I accept the terms and click install

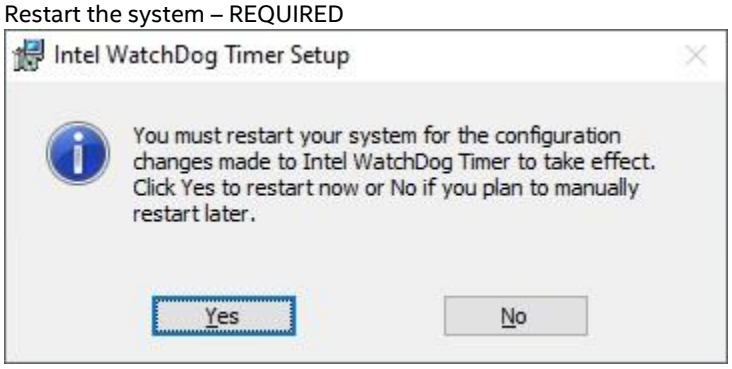


4. User Account Control prompt select YES

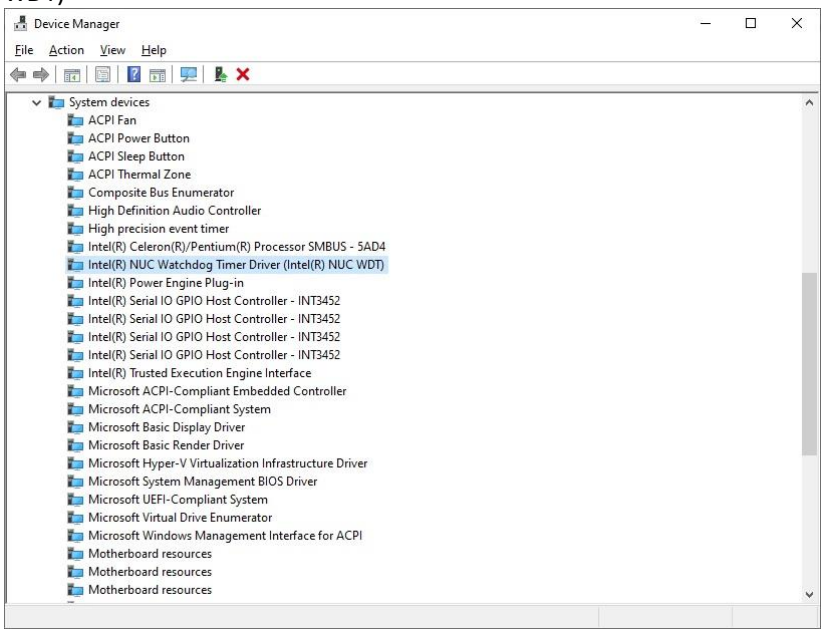
5. Completed click Finish



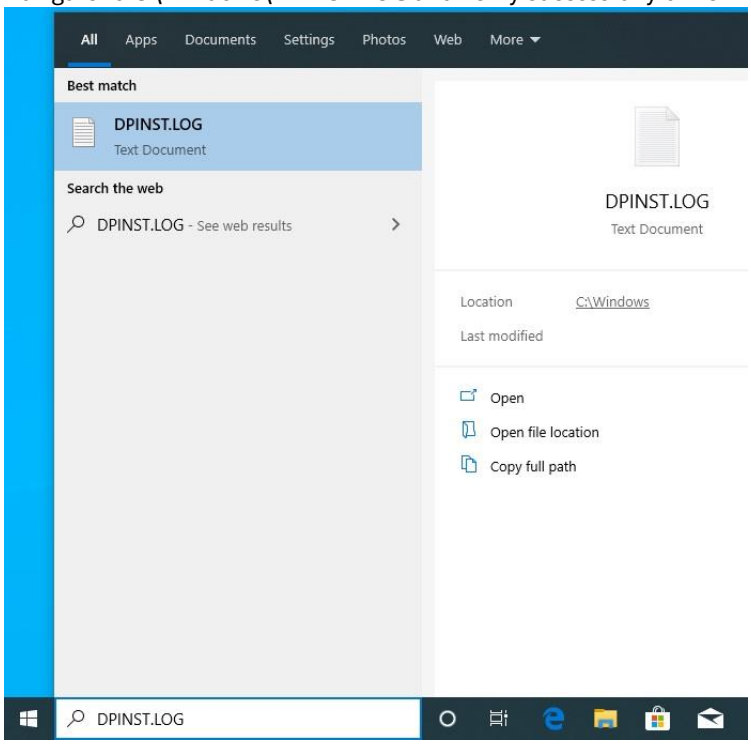
6. Restart the system – REQUIRED



7. How to verify a successful driver install
   i. Go into windows Device Manager > View > select “Show hidden devices”. Select System Devices > Intel(R) NUC Watchdog Timer Driver (Intel(R) NUC WDT)



ii. Navigate to C:\Windows\DPINST.LOG and verify successfully driver installation.

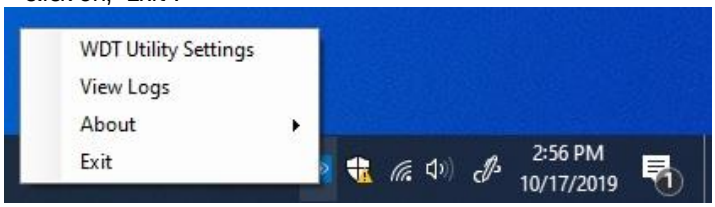


3.3 Application Uninstallation

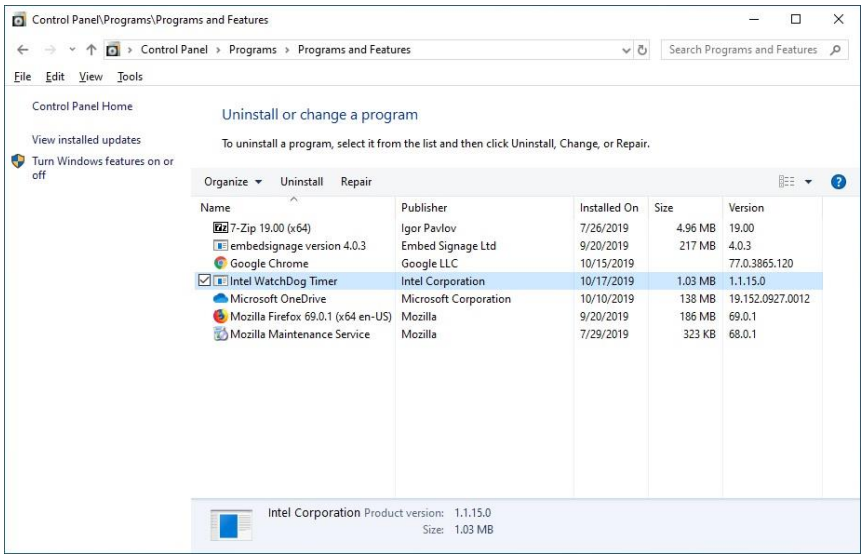
1. Open the Windows Start Menu
2. Right Click on the Intel® Watchdog Timer Utility icon
3. Choose Uninstall

3.4 Driver Uninstallation

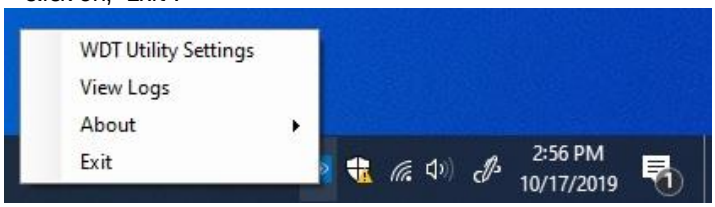
1. Method 1: Control Panel
   i. Right click on the Intel® Watchdog Timer Utility icon in taskbar > click on, "Exit".



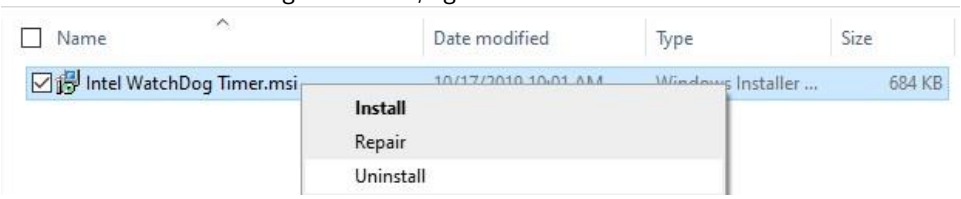
ii. Open Control Panel > Programs > Uninstall a program > select “Intel Watchdog Timer”



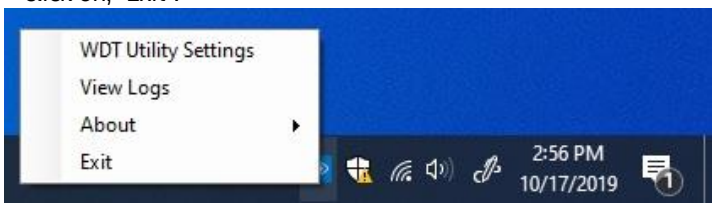
2. Method 2: MSI Uninstall
   i. Right click on the Intel® Watchdog Timer Utility icon in taskbar > click on, "Exit".



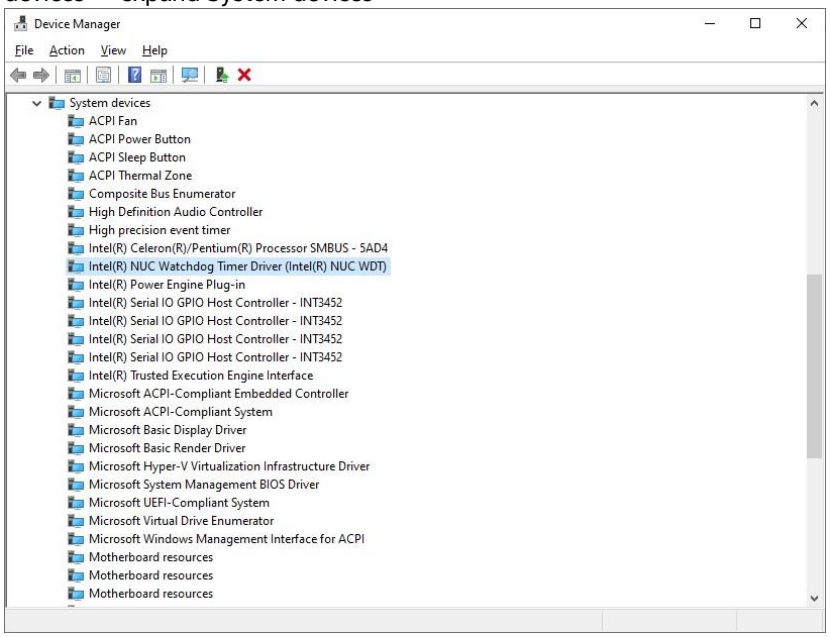
   ii. Locate the “Intel Watchdog Timer.msi”, right click and select “Uninstall”



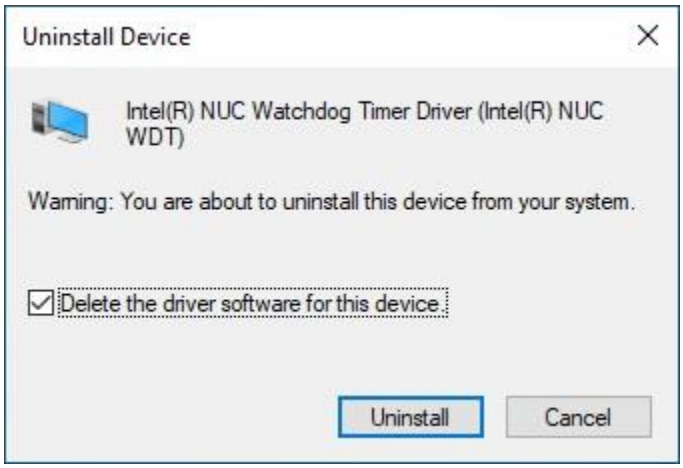
3. Method 3: Manual Uninstall
   i. Right click on the Intel® Watchdog Timer Utility icon in taskbar > click on, "Exit".



   ii. Open Device Manager > Select “View” drop down menu > select “Show hidden devices” > expand System devices

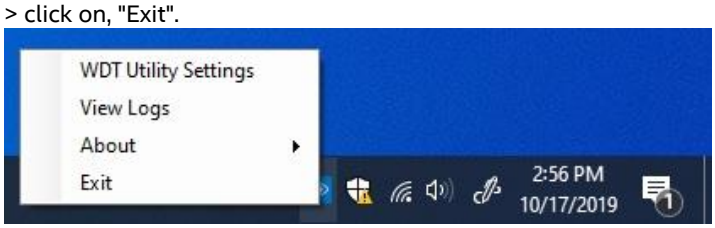


iii. Right click on the “Intel(R) NUC Watchdog Timer Driver” > select “Uninstall”



iv. Reboot prompted by Windows

4. MSI Reinstall-Repair, and MSI Upgrade Uninstall Notes:
   i. Right click on the Intel® Watchdog Timer Utility icon in taskbar > click on, "Exit".



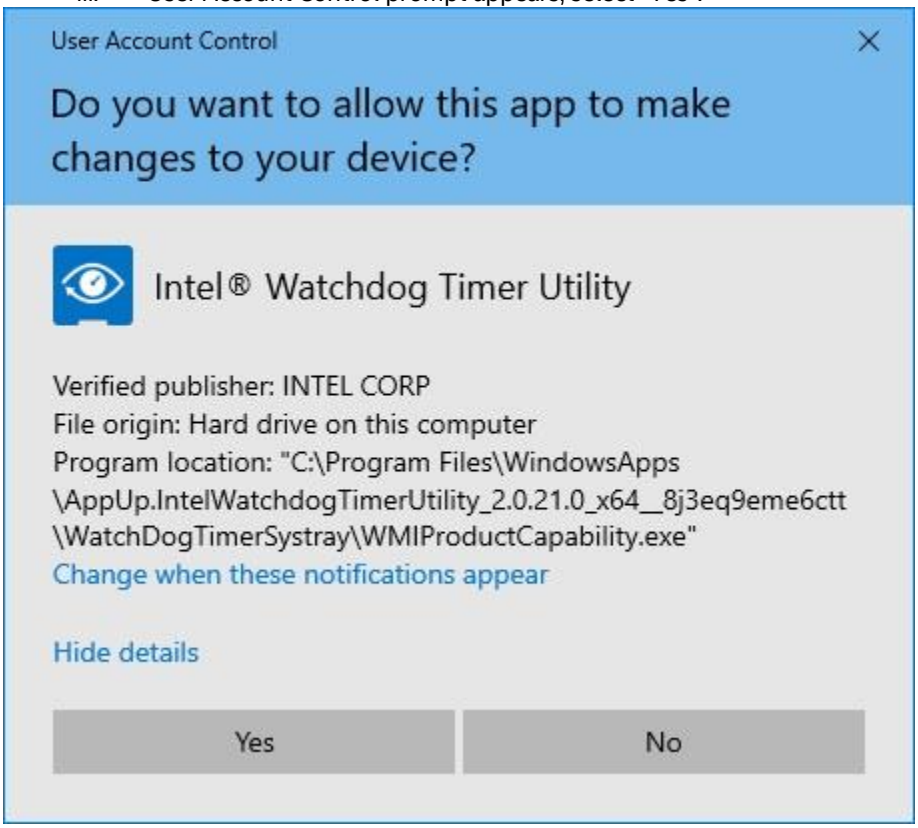
   ii. Reinstalling the driver is supported using the same MSI version without uninstalling, just run the “Intel® Watchdog Driver.msi” and select “Repair” and the driver will reinstall.
   iii. Before upgrading to a new version of the Intel® NUC Watchdog Driver MSI, the currently installed Intel® NUC Watchdog Driver MSI must first be uninstalled through Driver Uninstall Method 1 or 2.

4 Intel® Watchdog Timer Utility Interface

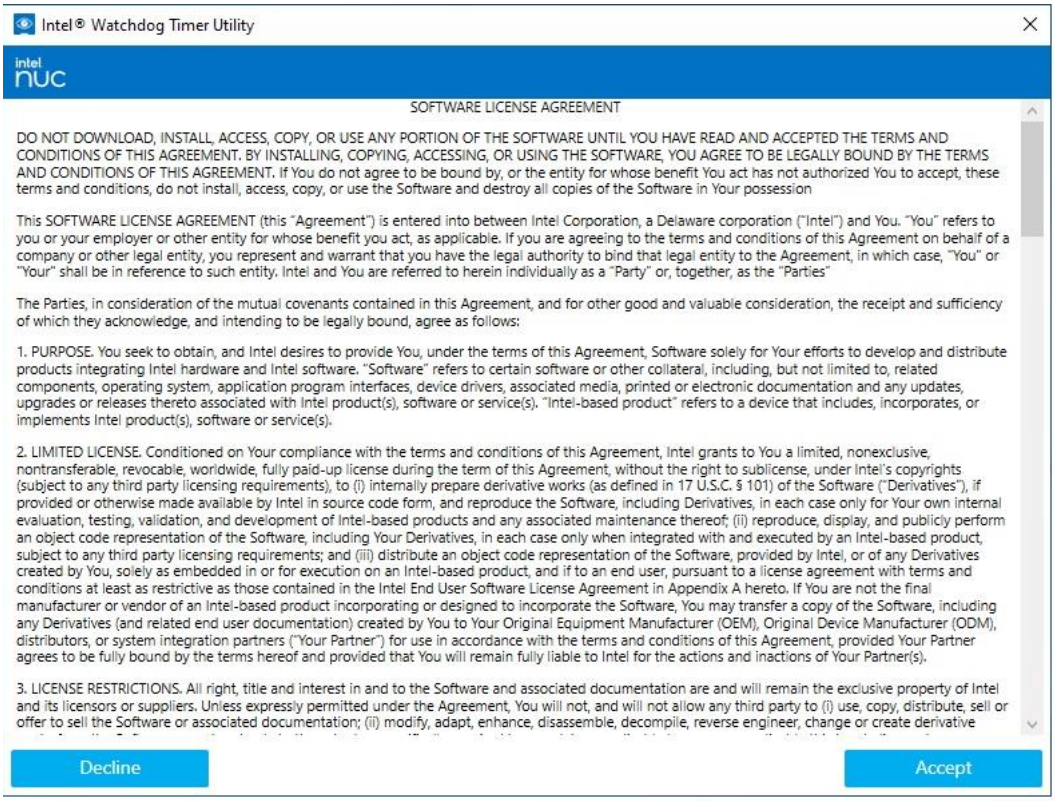
4.1 Opening the Intel® Watchdog Timer Utility

1. First Launch:
   i. Click on the Windows Start menu icon
   ii. Select Intel® Watchdog Timer Utility

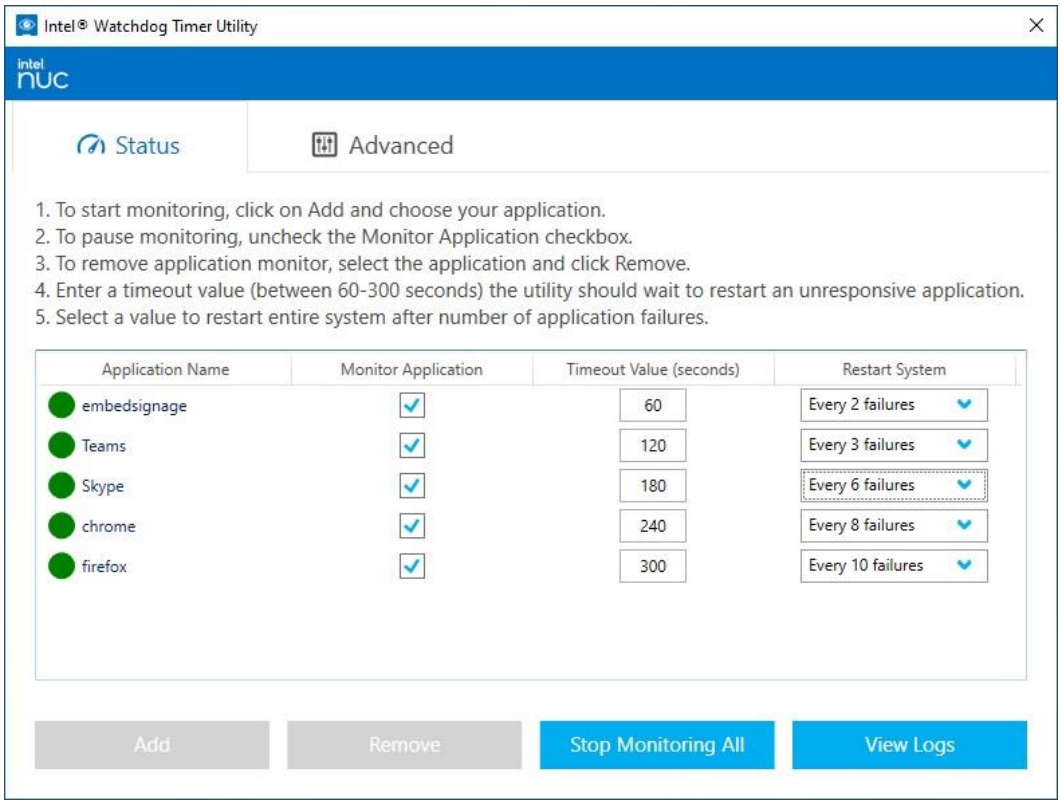
   iii. User Account Control prompt appears, select “Yes”.



iv. EULA Notification > Accept

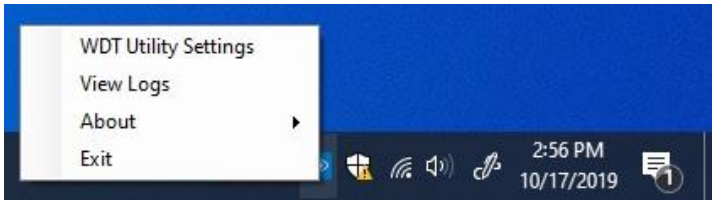


v. The Intel® Watchdog Timer Utility Settings Status tab opens



2. After Intel® Watchdog Timer Utility application is launched for the first time, the minimized app is accessible only from the taskbar and not from the Start menu.

   i. Right click on the Intel® Watchdog Timer Utility icon in taskbar > click on, "WDT Utility Settings".



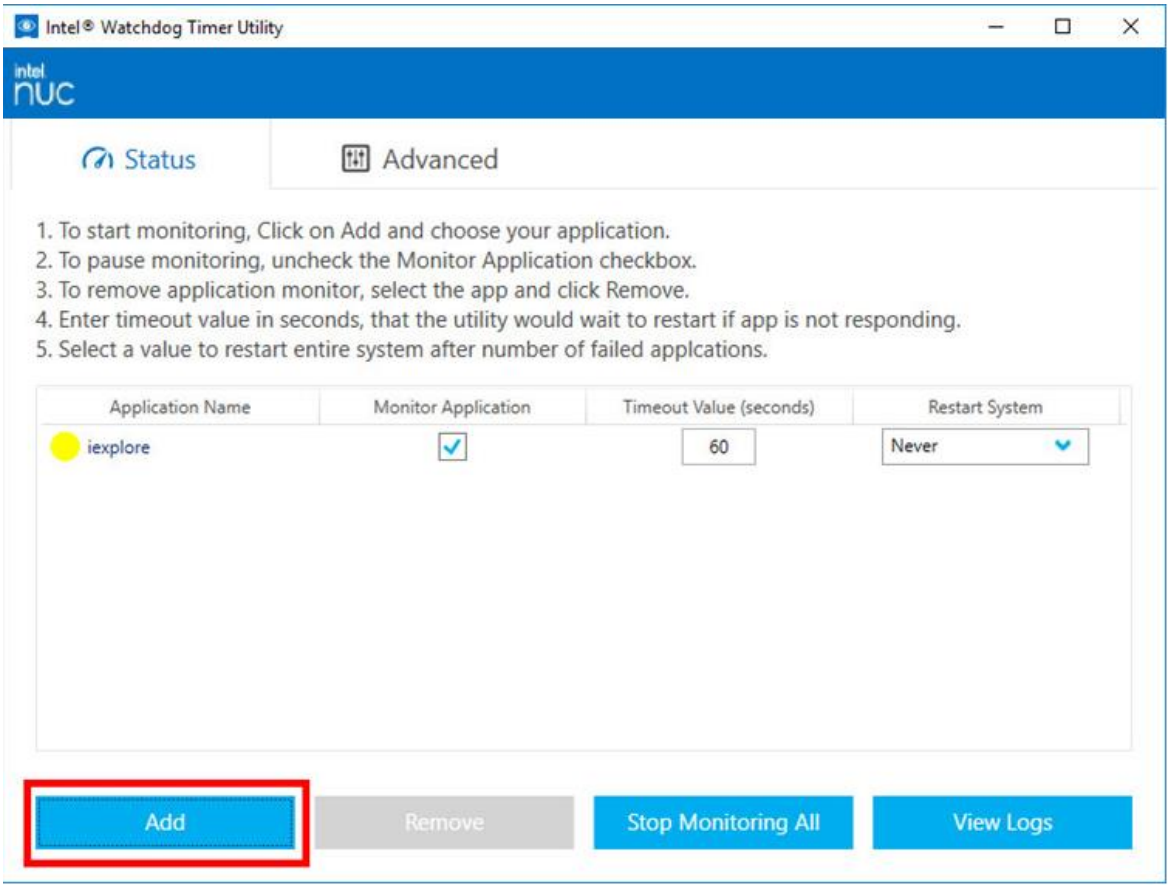
4.2 Application Interface Terminology Definitions

Application Name	Once an application is added, the application name will be displayed in this column.
Monitor Application	A checkbox will appear once an application is added. When the checkbox is checked, it will enable the software to monitor the application selected. When it is unchecked, the software will not monitor the application selected.
Timeout Value (seconds)	The Timeout Value (seconds) is used for when an application stops working properly. **For example:** The application that is selected stops working or crashes Timeout Value (seconds) set to 60 Restart System is set to restart System will restart after 60 seconds of the selected application that has stopped working or crashed
Restart System	This is used to define what happens after the Timeout Value (seconds) is triggered on a specific Application.
Add (Button)	Add an application to the tool to monitor
Remove (Button)	Removes an application that was added to the tool
Start Monitoring (Button)	Starts monitoring all the applications that are checked (under Monitor Application) in the tool
Stop Monitoring All (Button)	Stops monitoring all applications in the tool
View Logs (Button)	View the log of the application selected

5 Monitor Applications

5.1 Steps to monitor an application

1. In the Intel® Watchdog Timer Utility Status window, click Add

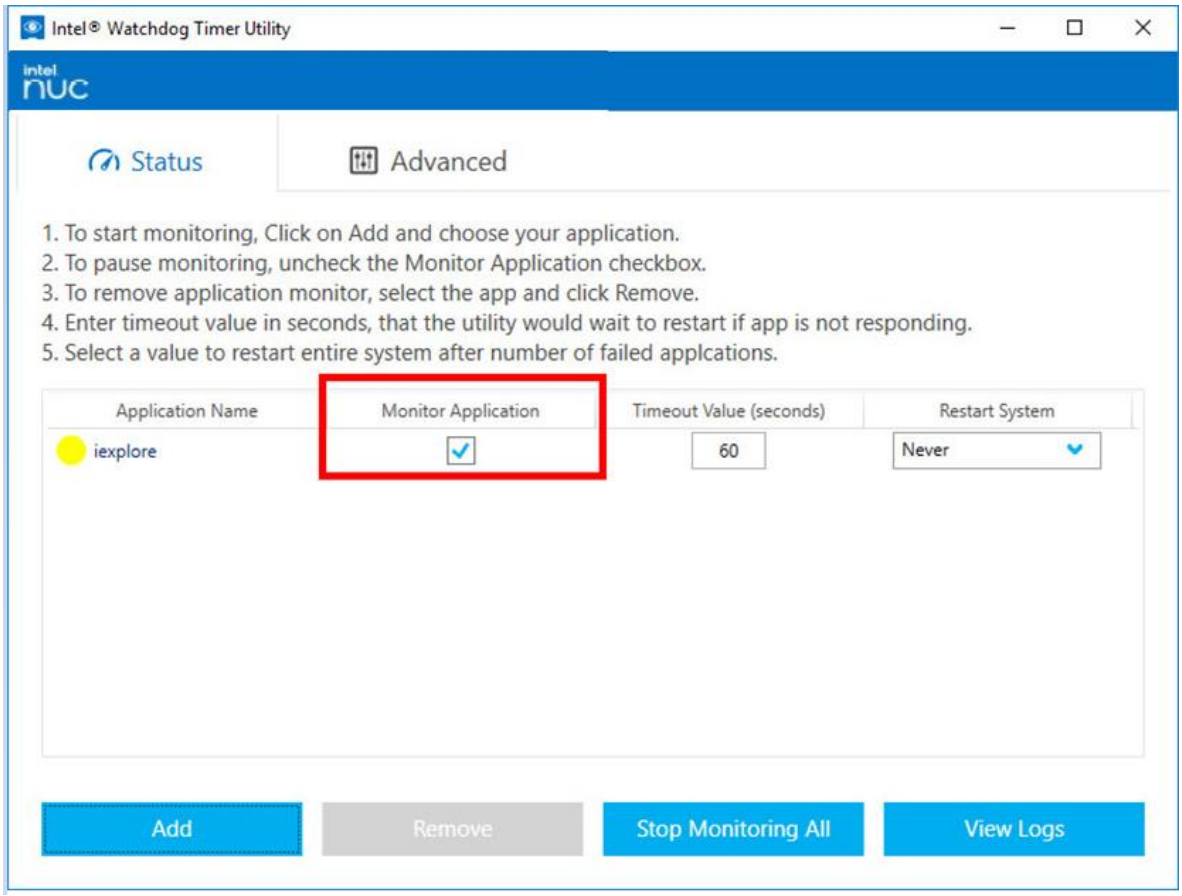


2. Locate the application of the software you'd like to monitor
3. Select the application .EXE > Click Open
4. Monitoring will begin automatically

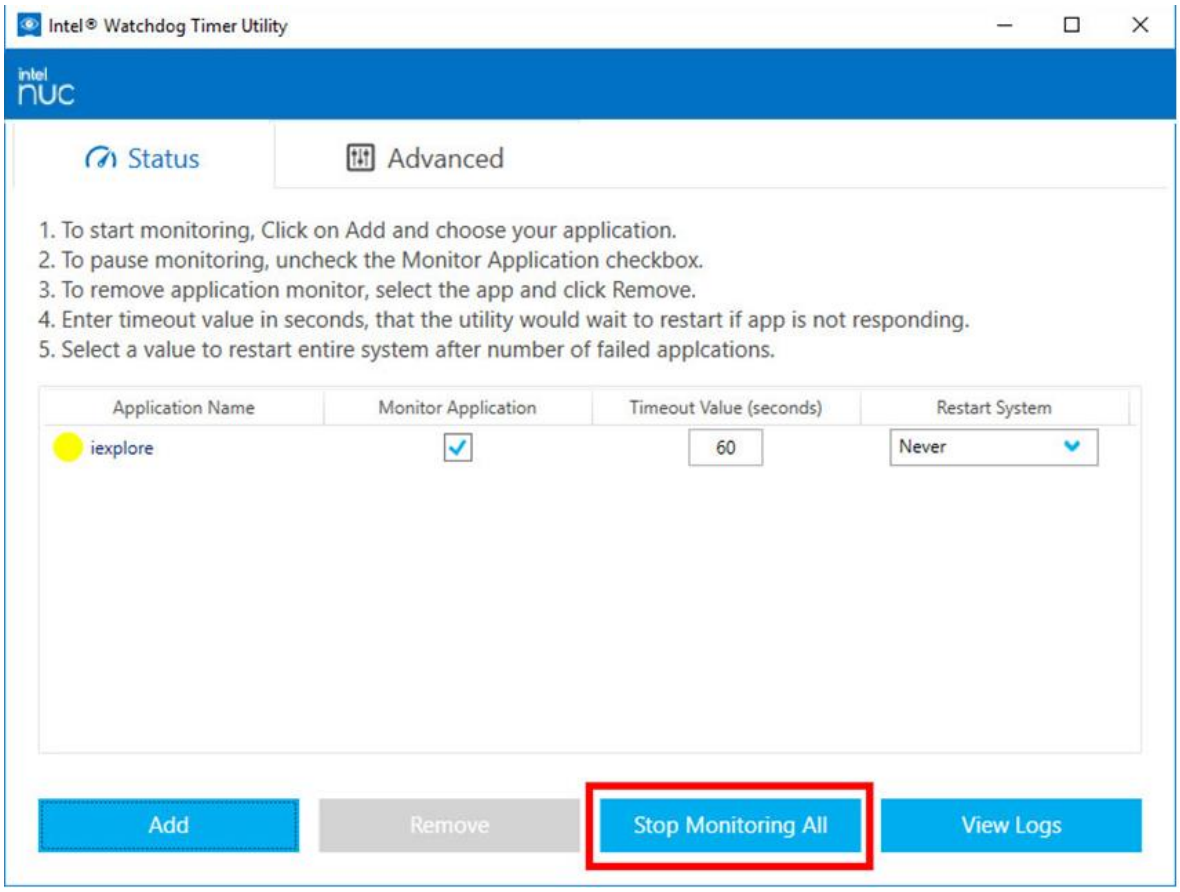
5.2 Steps to stop monitoring an application

In the Intel® Watchdog Timer Utility Status window, you can choose to stop monitoring individual applications or stop monitoring all applications.

1. To stop monitoring an individual application that has already been added in the software, uncheck the “Monitor Application” checkbox associated with the Application Name.



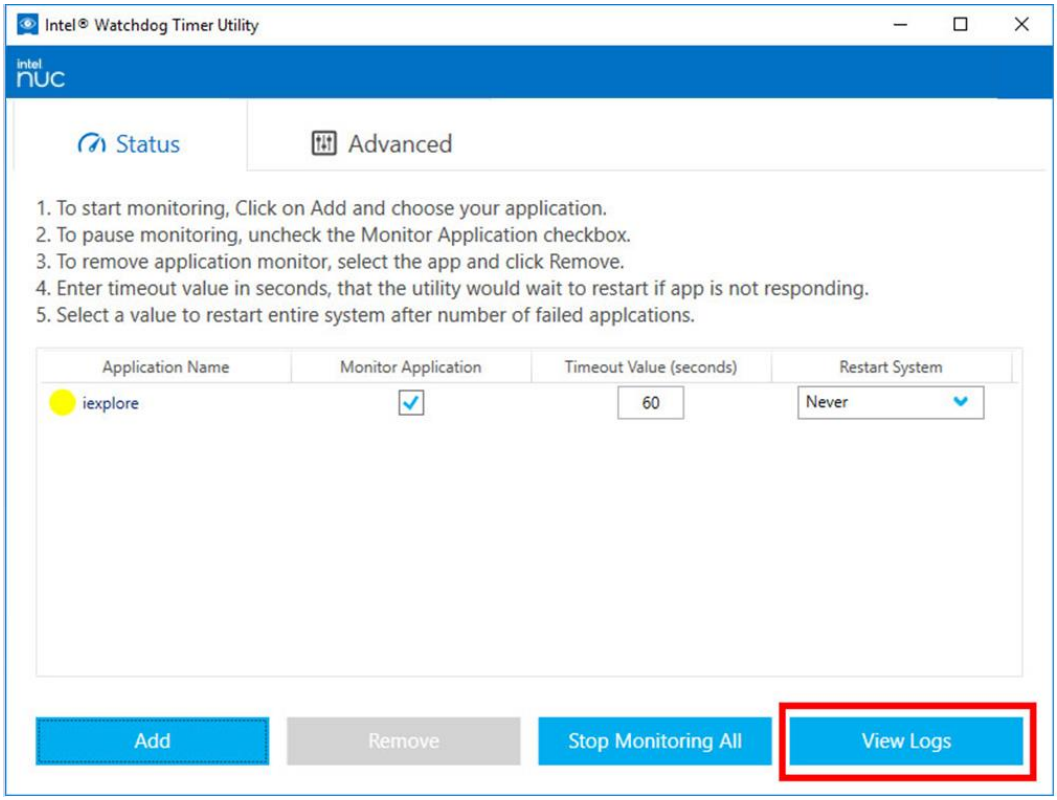
2. To stop monitoring all applications, click the Stop Monitoring All button



5.3 Monitoring options after adding an application

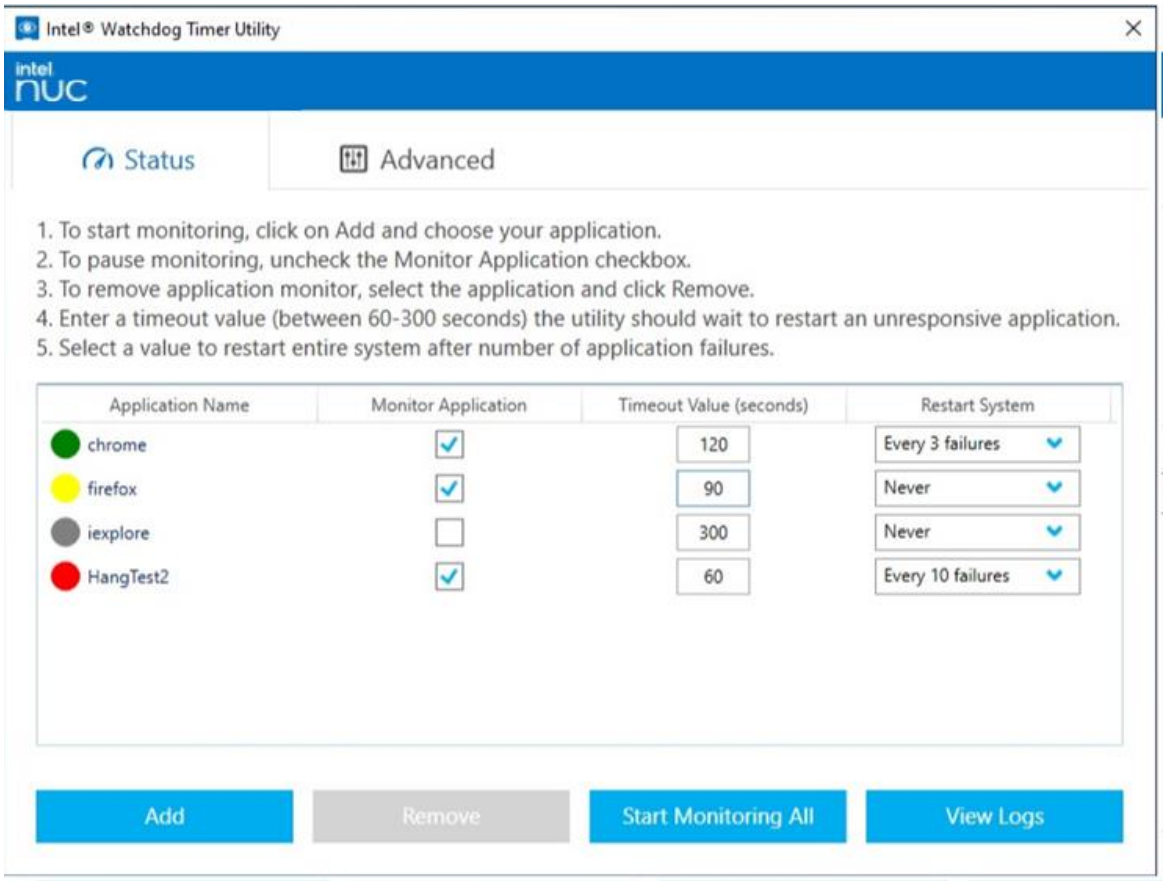
Once you add an application you can also modify the settings. Please note, it is best to stop monitoring an application before changing timeout values and restart system settings.

- Uncheck Monitor Application box to stop monitoring specific application.
- Set Timeout Value (60-300 seconds).
- Set Restart System option (Restart system after 2-10 app failure restarts, or Never)
- To remove a monitored application, stop monitoring, click on the application, and click the Remove button.
- To Open the Intel® Watchdog Timer Utility Logs, click the “View Logs” Button.



Monitored app status: The below screenshot indicates the status and color coding of applications being monitored.

i. Green – Running
ii. Yellow – Not running
iii. Gray – Not monitoring
iv. Red – Not responding

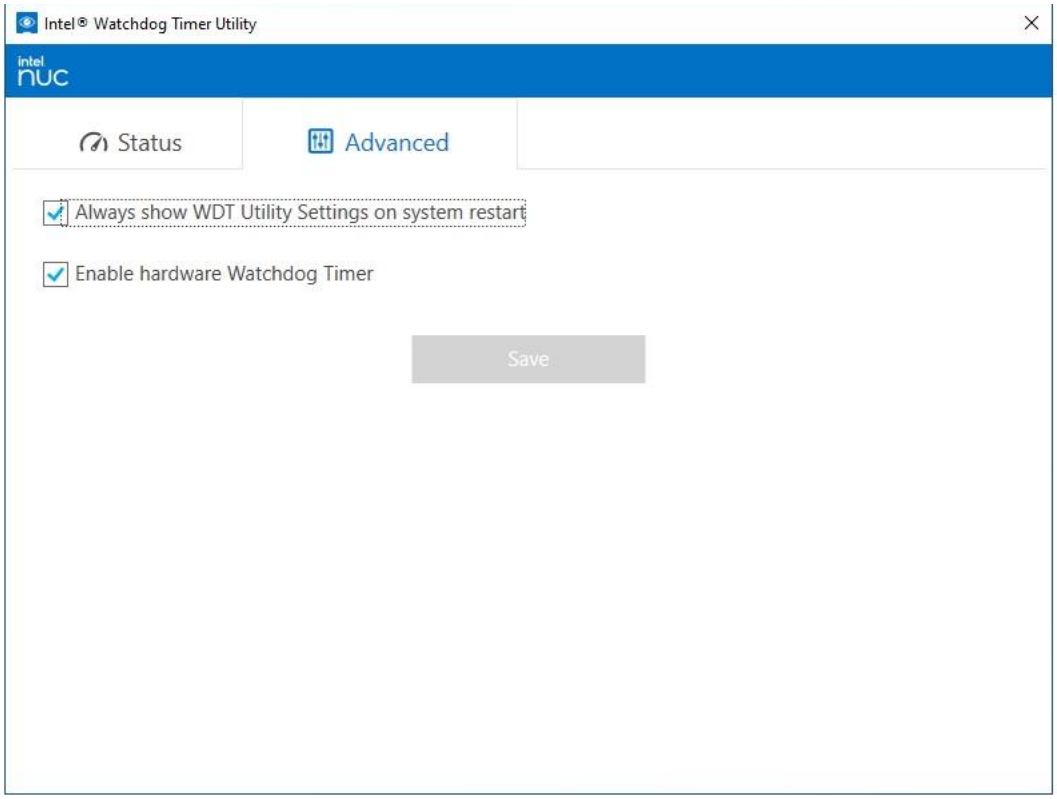


6 Advanced Settings

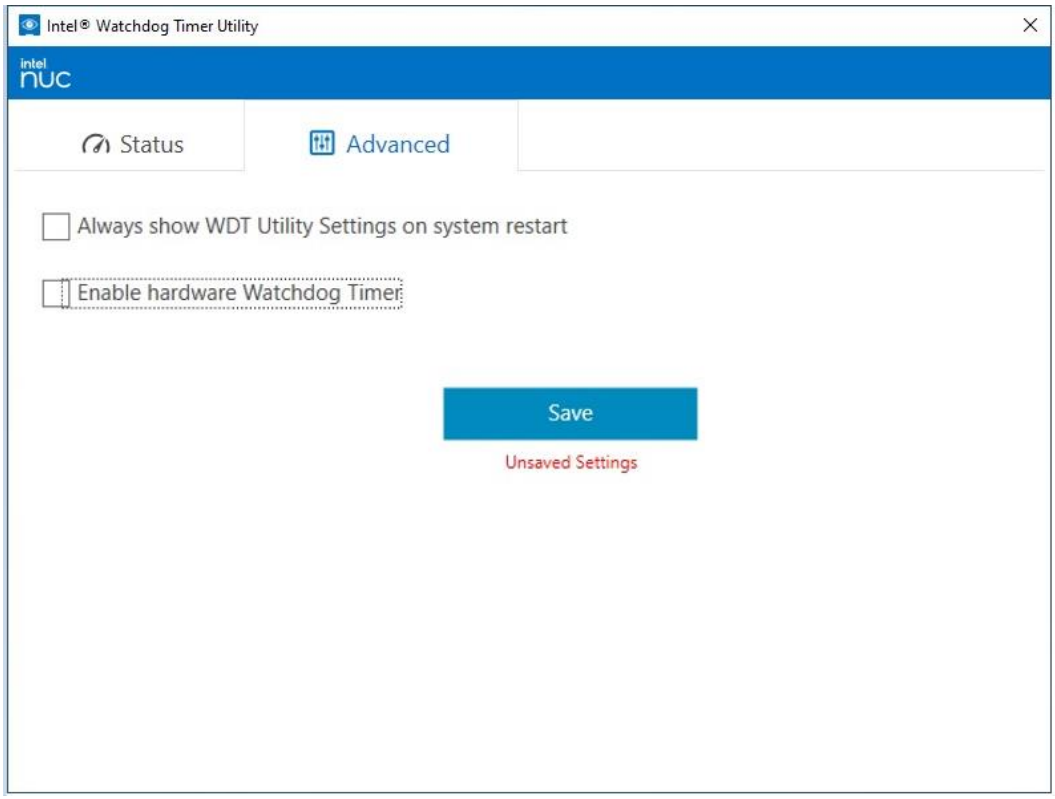
6.1 Intel® Watchdog Timer Utility Advanced Settings

In the Intel® Watchdog Timer Utility App, click the Advanced Settings tab

1. Check box 1: Always show WDT Utility Settings on System Restart
   i. This will enable Intel® Watchdog Timer Utility Settings window to appear after Windows boots or restarts.
2. Check box 2: Enable hardware Watchdog Timer



3. Make sure to click Save if any changes are made on the Advanced Settings tab



7 Errata

7.1 Known Errata

1. Due to Windows 10 UWP app security restrictions on UWP app folders, the Intel® Watchdog Timer Utility is unable to monitor UWP apps after Windows 10 reboots.
    i. Some UWP apps such as Microsoft Edge can be monitored after Windows is booted and logged in.
    ii. If Windows is rebooted, the Intel® Watchdog Timer Utility cannot automatically restart UWP apps for monitoring due to security restrictions. Such apps will have a “Not monitoring” (red) indicator.