

# Configure Windows 10 for WiRES-X



Setting up Windows 10 for remote WiRES-X operation

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**Contributed by Dewey, WB7OEV**

**Managed by Chris, K9EQ**

This document suggests how Windows 10 should be set up to operate unattended. I.e., 24x7x365. There are many “features” in Windows that assume an operator is sitting in front of the monitor. Many of these features can cause you to lose control of the computer.

***The Windows key reference in this document...is the  or  on the keyboard. You can also enter the command in the Search dialog on the task bar.***

The suggested modifications are classified as:

**Critical:** Essential for remote operation - it won't run for long without this change.

**Recommended** - Good luck if you don't make this change.

**Optional** - You could get by without this change, mostly.

Important Note: These instructions assume that you have selected View By: Small Icons in the Control Panel.

Updates to the previous revision are in **RED**.

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## 2. Document Update History

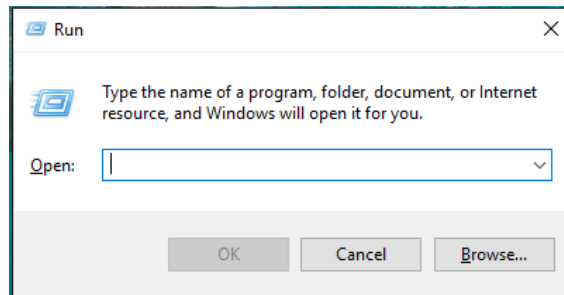
Rev	Date	Change
3	19-Jun-2023	Added additional notification control for setup. Minor grammatic changes. Major changes to Windows Update.
2	18-Apr-2016	- Added info on preventing WinX installation - Edits by K9EQ
1	25-Mar-2016	Initial Release

### 3. Log-in on Power-up (Critical)

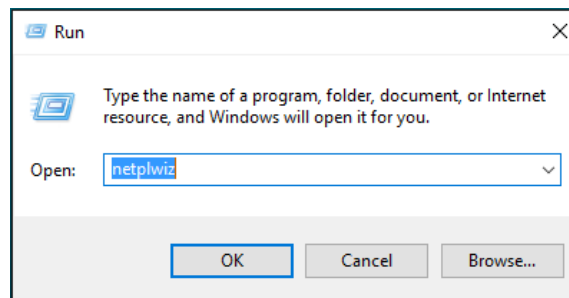
This permits the computer to automatically log in to the user account when it is started - most likely because of a power failure or a Windows Update reboot.

**Note:** This opens a security vulnerability. It is recommended that the WiRES-X node computer only be used for the node.

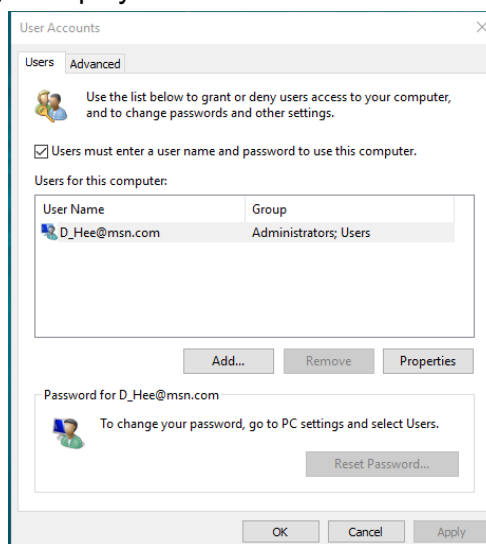
-  (Opens the following)



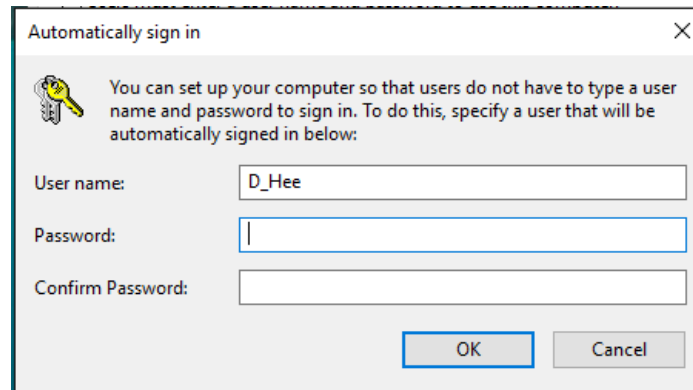
- Enter **netplwiz**.



- Click "OK" and...the following is displayed.



- Highlight the User name - this is typically the account that was generated when Windows was installed.
- Uncheck “Users must enter a username and password to use the computer.”.
- Click on “Apply” and the “Automatically sign in” panel is displayed...



- Enter the Password that you use for this user.
- Click “OK”
- Test the automatic log in by shutting Windows down then starting it again. You should not be required to enter a password to get to the user screen.

## 4. Set BIOS to Boot When Power is Applied (Critical)

This varies from computer to computer, so you're on your own for this one.

Enter the BIOS or computer setup and enable a selection that causes the computer to automatically boot when power is applied.

## 5. Automatically Close and Restart WiRES-X (Recommended)

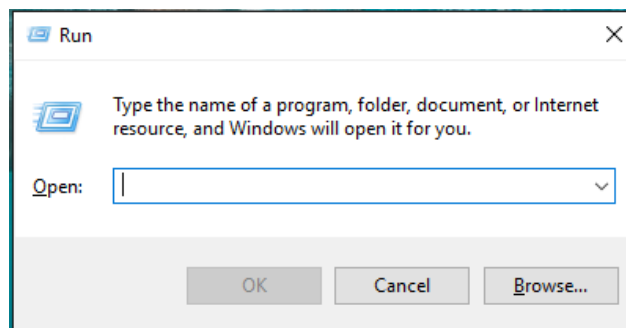
A task is set in the scheduler to periodically shut down WiRES-X. We then depend on YMAN to detect that it was shut down and restart it. Why? Software can slowly collect errors as it runs (and some software more than others). There may be memory leaks, buffer overflows, etc. that slowly corrupt the software until it no longer functions properly. It is recommended to restart WiRES-X periodically before these errors accumulate to a degree that the software no longer functions properly. This is not critical because you can remotely log in to restart WiRES-X if necessary.

Note: Windows 10 Home Edition does not support Remote Desktop directly. There are third-party vendors that do provide some sort of Remote Desktop Support. They are available via the Microsoft Store...or if you want risk it...they're available on the Internet.

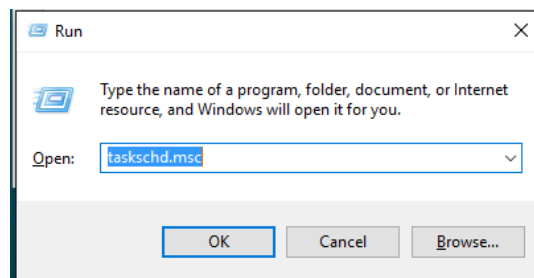
**Note: If the computer is hosting a room, all occupants will need to rejoin the room when the restart occurs.**

The following sequences will set a couple of tasks that can be scheduled to reset the WiRES-X Program.

-  +  -- displays the following;

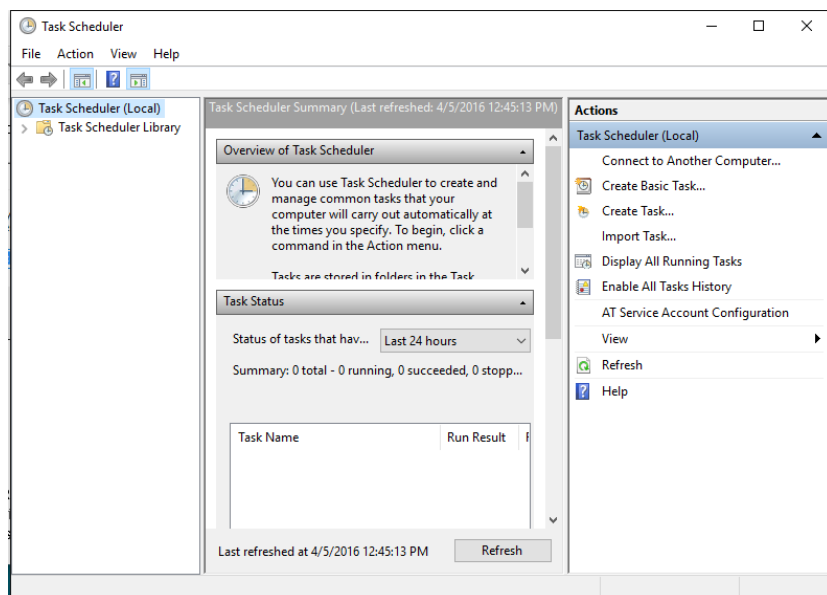


- Type in **“taskschd.msc”** in the Open prompt.  
For example;

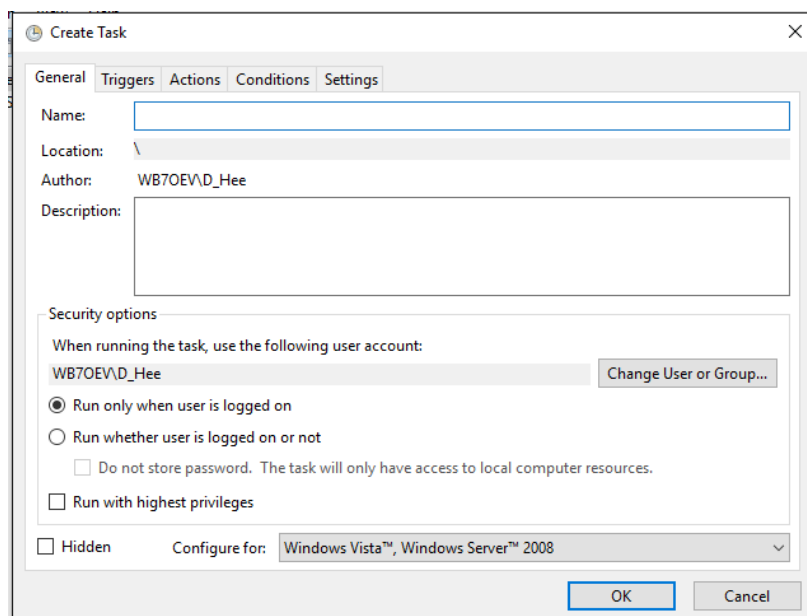


-

- Click OK and the Task Scheduler is displayed.

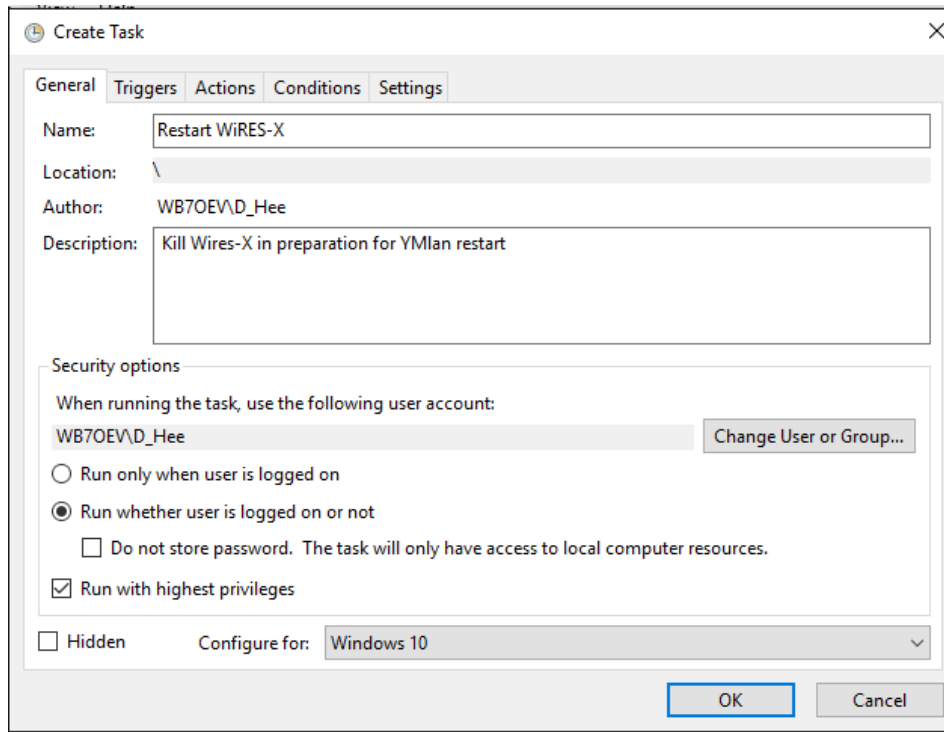


- Select Action -> Create Task...in the right panel .

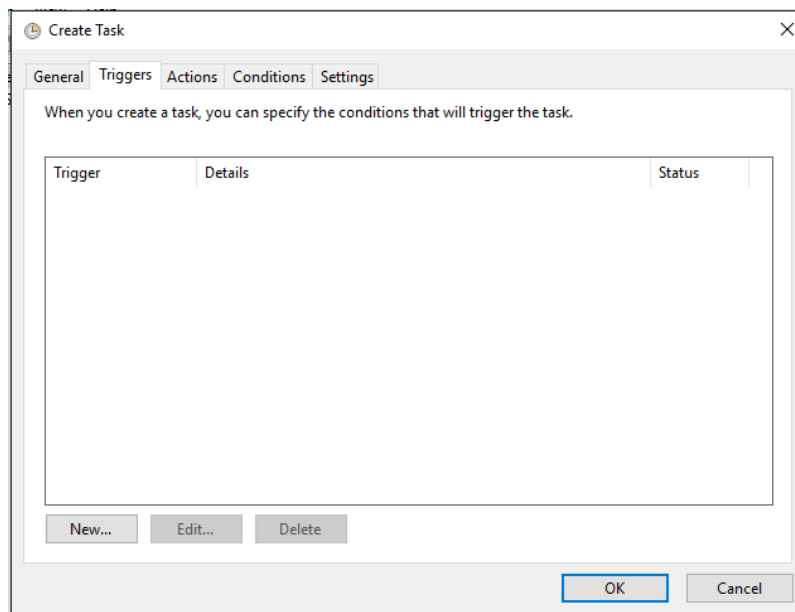


- In the “General” tab
  - Enter Name: **Restart WiRES-X**
  - If desired, add an appropriate description.
  - Click “Run whether user is logged on or not”.
  - Click “Run with highest privileges”.

- Select “Configure for: Windows 10...” See the following;



- Select the “Triggers” tab and...

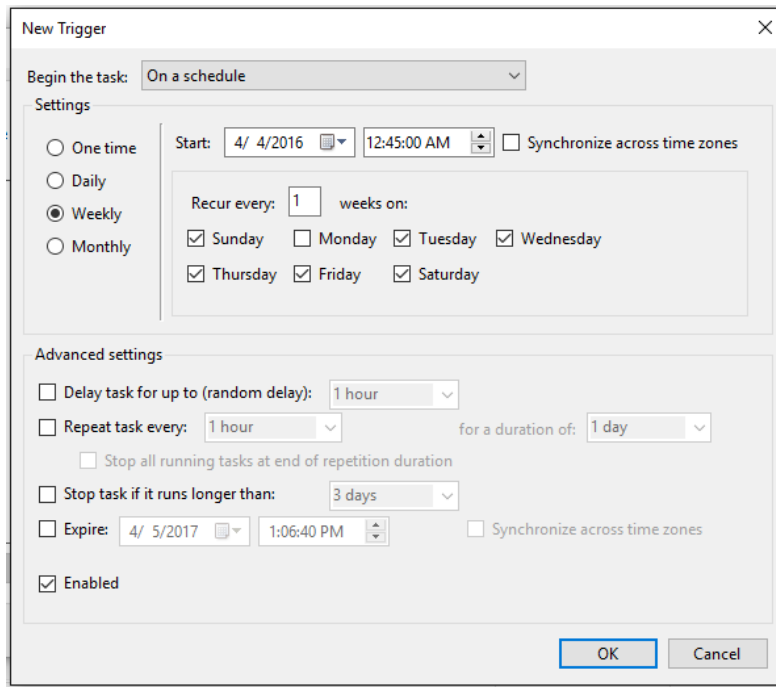


- Click on “New..”.
- Select “Begin the task: On a schedule”.
- Select an interval, i.e., “Weekly”.
- Set “Recur every 1 week”.
- Select sunday, tuesday, wednesday, thursday, friday, saturday.

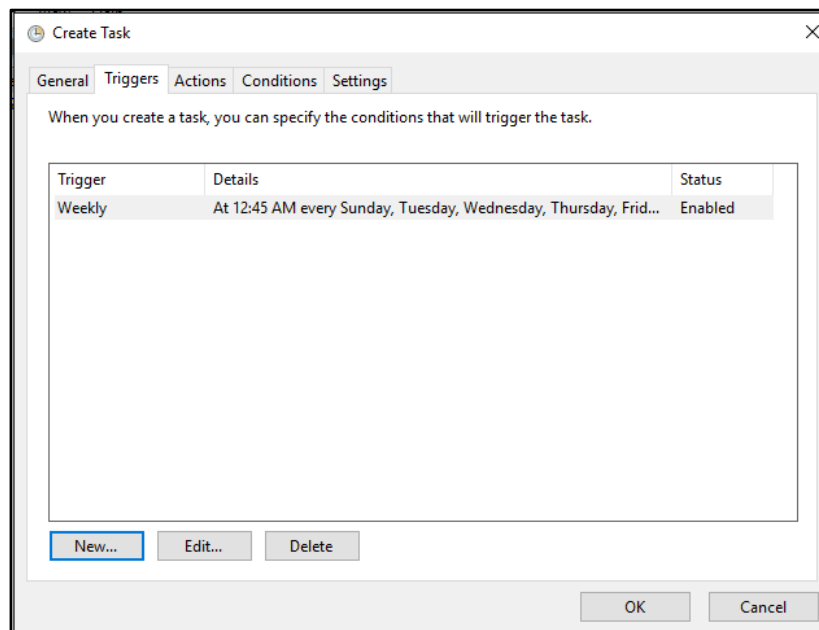


Note: We did not select Monday...this will be covered in the reboot of Windows 10.

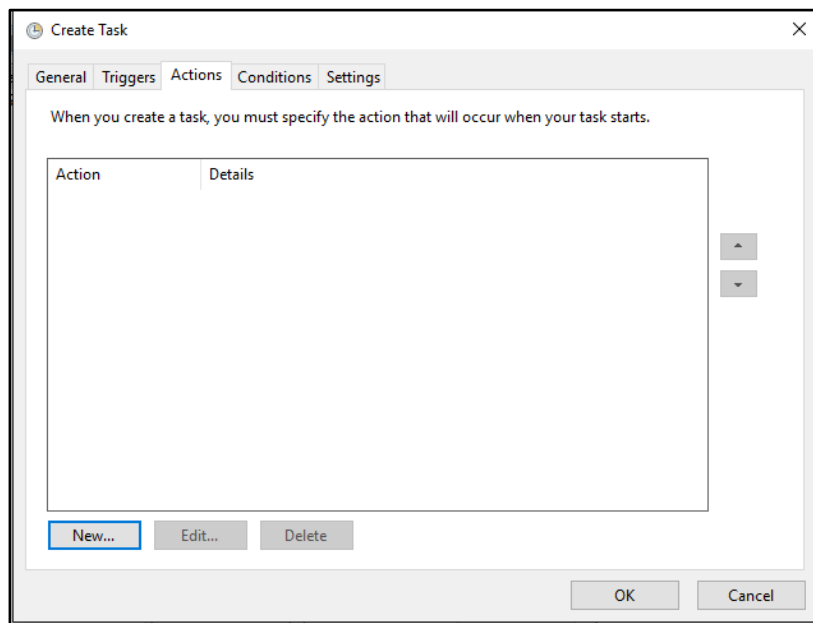
- Select a date and time the computer should reboot, i.e., **Tuesday 12:45 AM**  
This is the task start time.



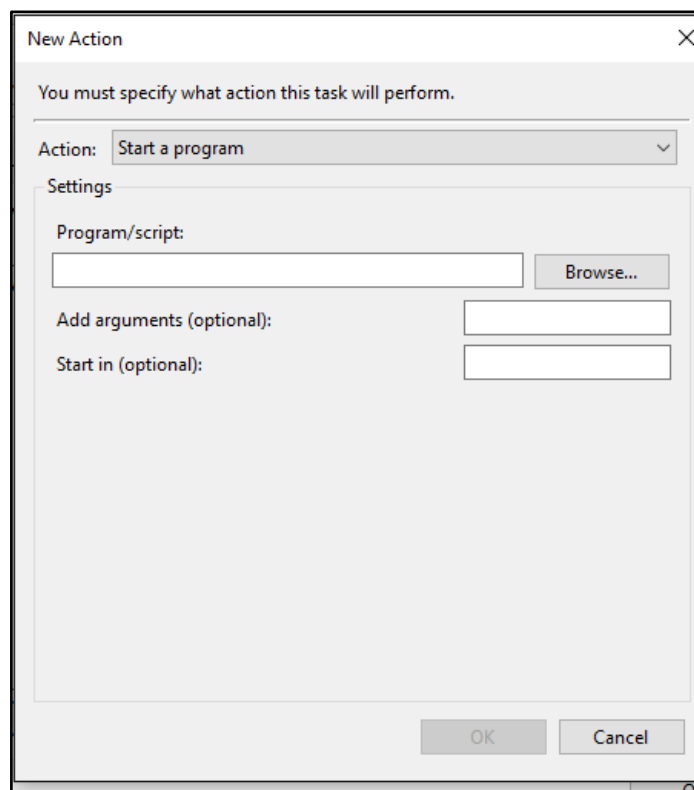
- Click OK and the following is displayed.



- Select the “Actions” tab...

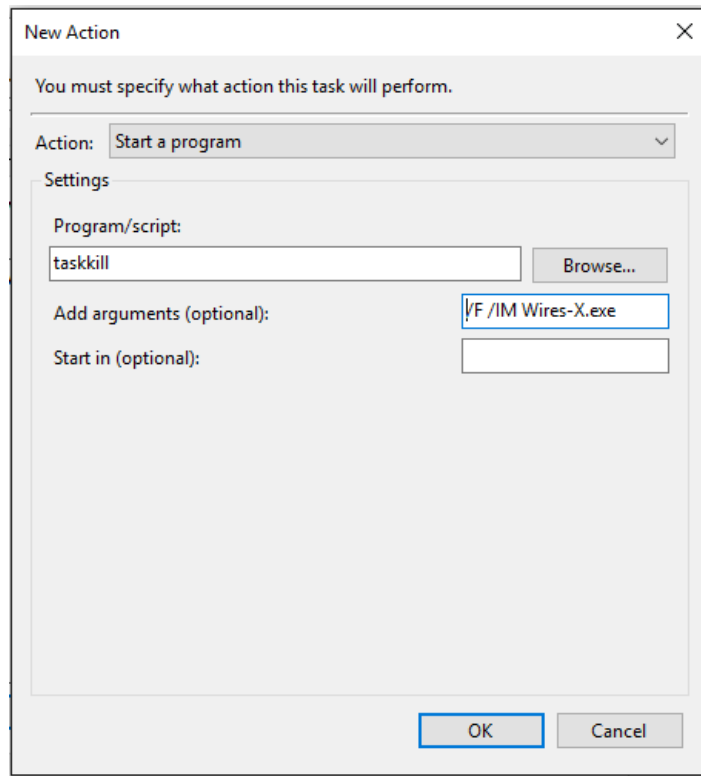


- Click “New..”.

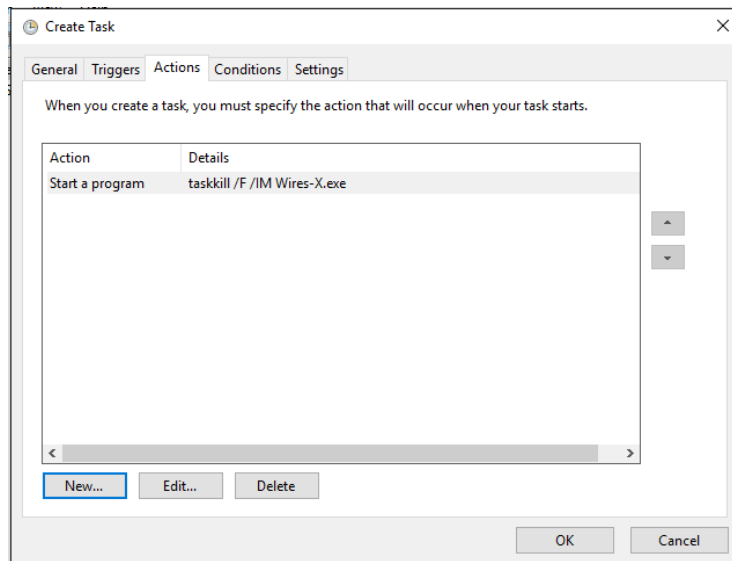


- Action should be set to “Start a program”.

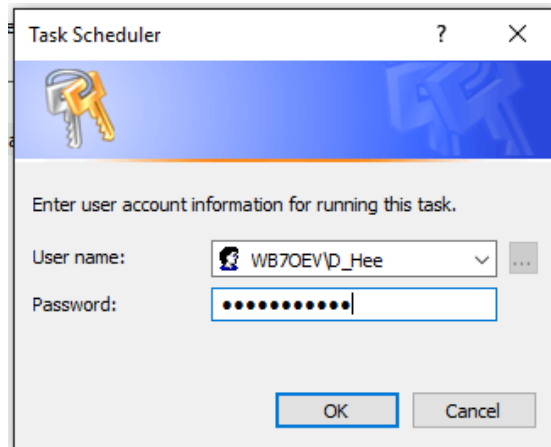
- Enter the following in “Program/script: **taskkill**
- Enter the following in “Add arguments (optional):” **/F /IM Wires-X.exe**
- Click “OK”



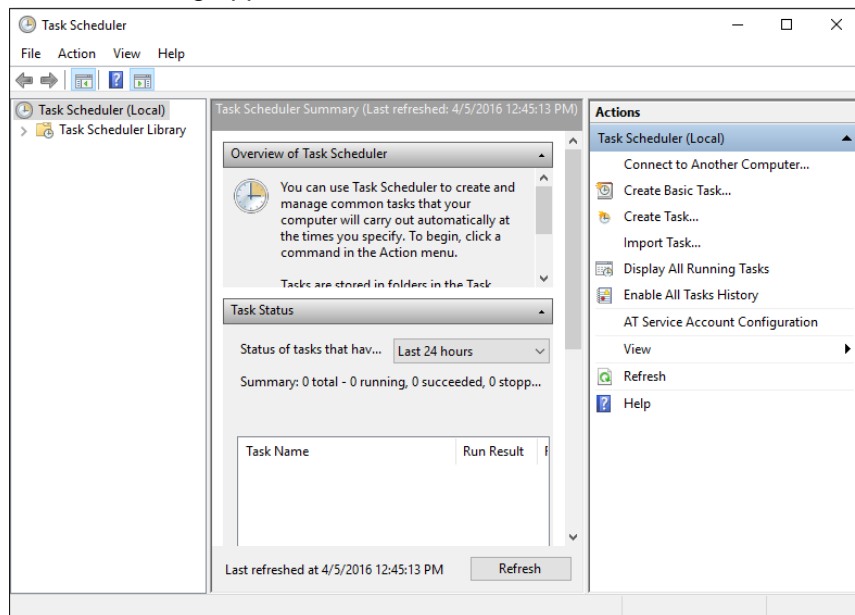
- Click “OK” and now...



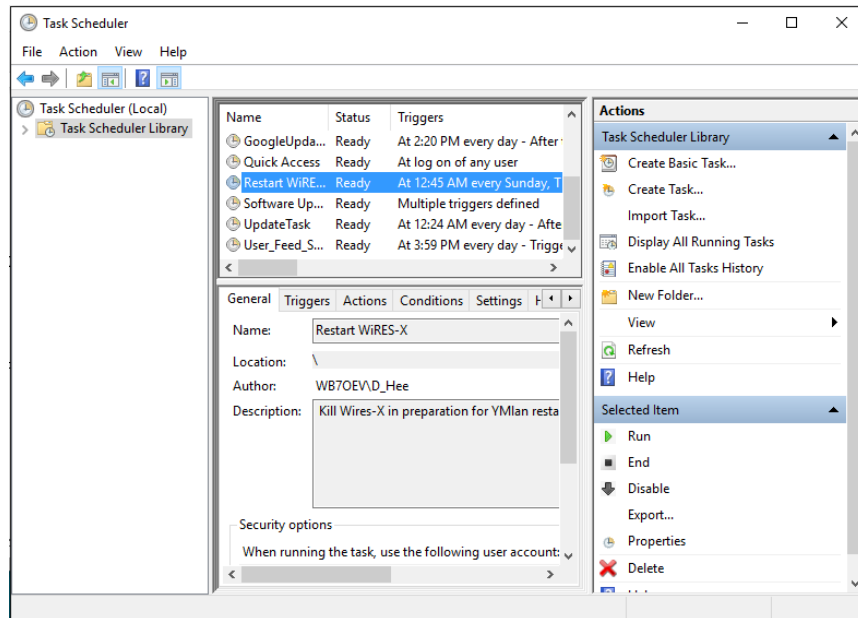
- Click “OK” and the following is displayed:



- Enter the user password (your password used to log in to specified account).
- Click “OK”, the following appears...



- Test the reboot task.
  - Start the WiRES-X program if is not already started.  
Note: The Task Scheduler should still be displayed, and the WiRES-X program will show in the back of the Scheduler.
  - Click on “Task Scheduler Library” to display listed task.



- In the center window scroll down to find the task that you just created “Restart WiRES-X ”
- In the Action Panel on the Right under the selected Items, click on “Run” to test and the WiRES-X program will stop.

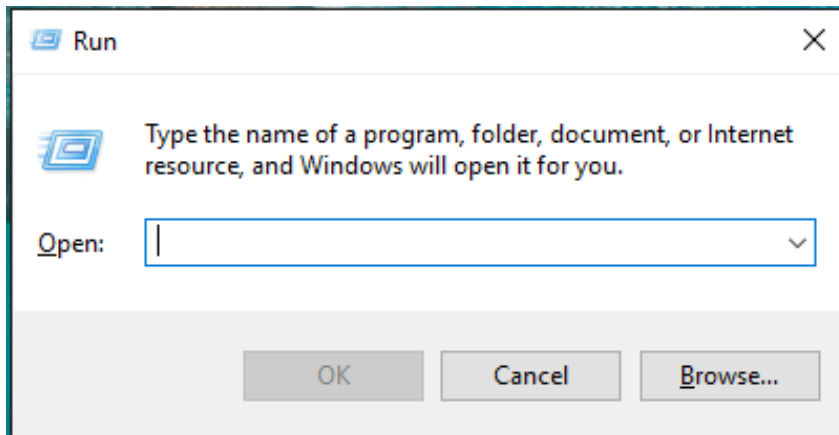
**Note:** You can also edit the task by clicking on “Properties”.

- Click the “X” in the upper right-hand corner to close the Task Scheduler.

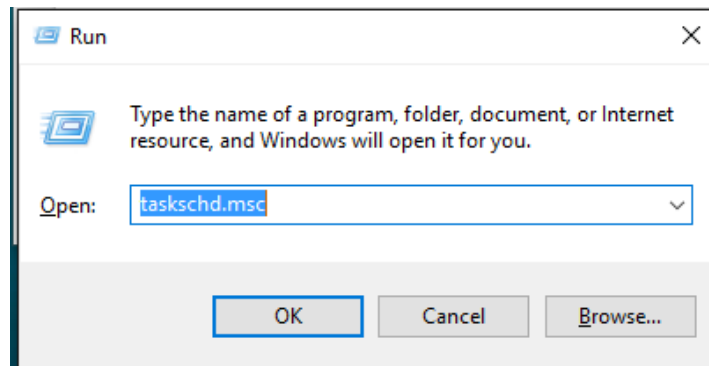
## 6. Automatically Reboot Windows (Recommended)

As with WiRES-X, it may be beneficial to periodically restart Windows. This also provides Windows with an opportunity to install any security updates it has downloaded.

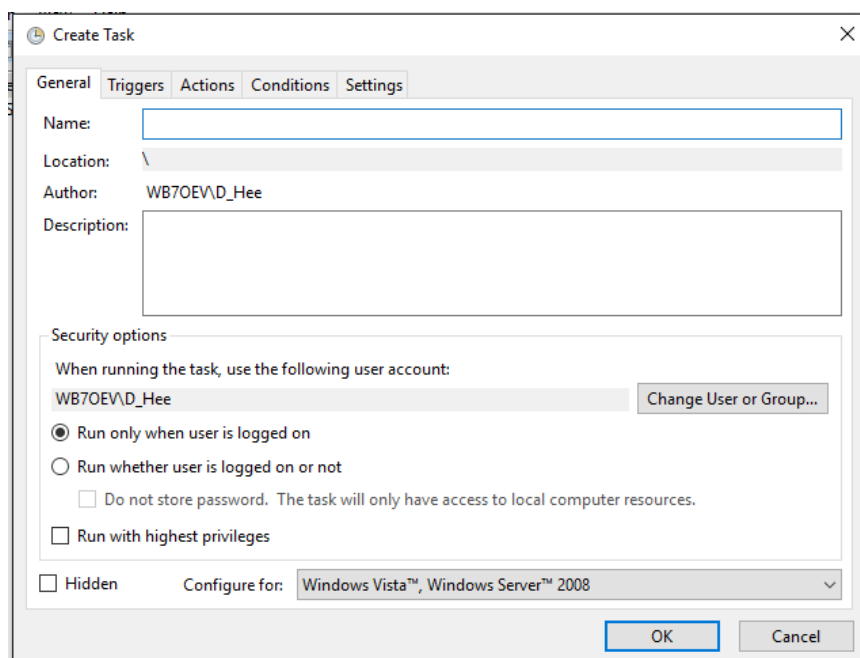
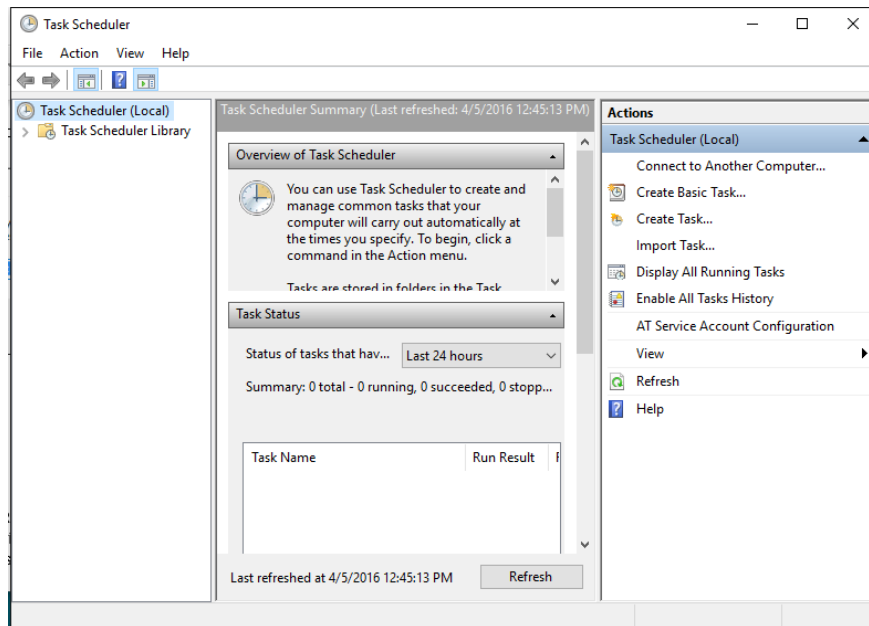
- Type in from keyboard...  +  -- displays the following;



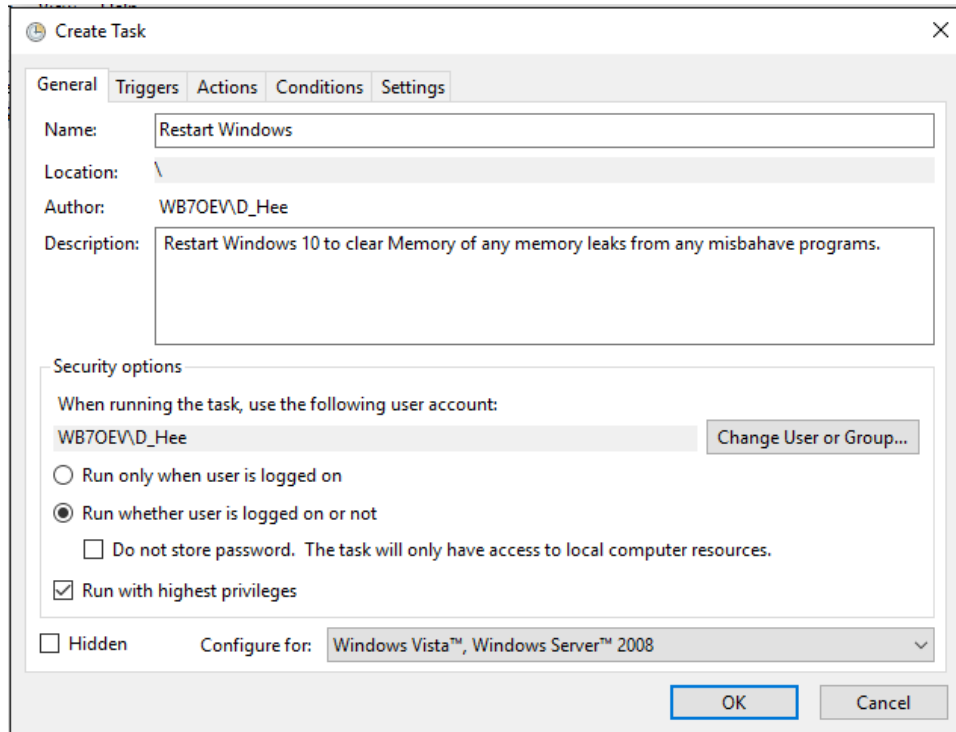
- Type in "taskschd.msc" in the Open prompt;  
For example;



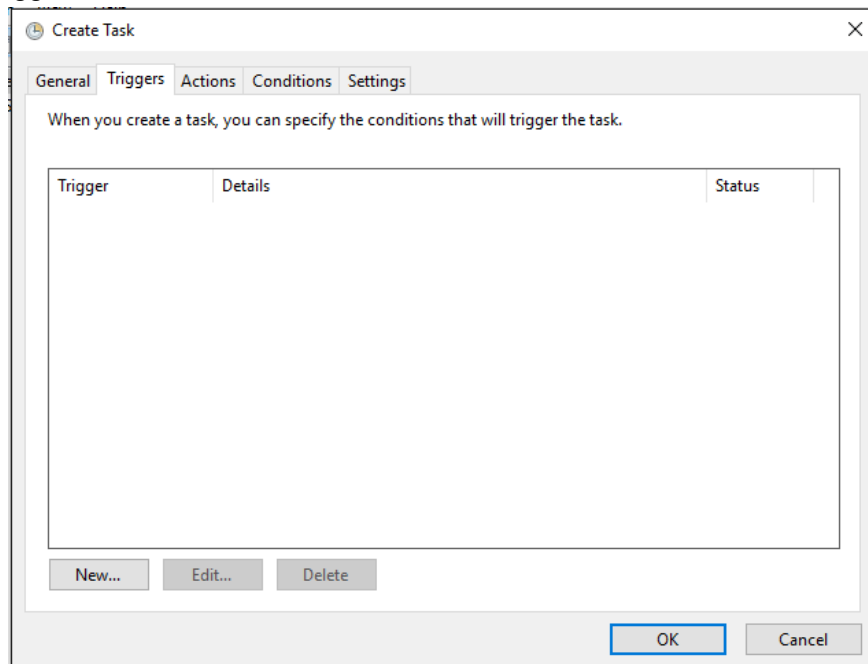
- Click OK and the Task Scheduler is displayed.
- Select Action -> Create Task...in the right panel.



- Click on the “General” tab.
  - Enter Name: **Restart Windows**
  - If desired, add an appropriate description.
  - Click “Run whether user is logged on or not”.
  - Click “Run with highest privileges”.
  - Select “Configure for: Windows 10....” For example

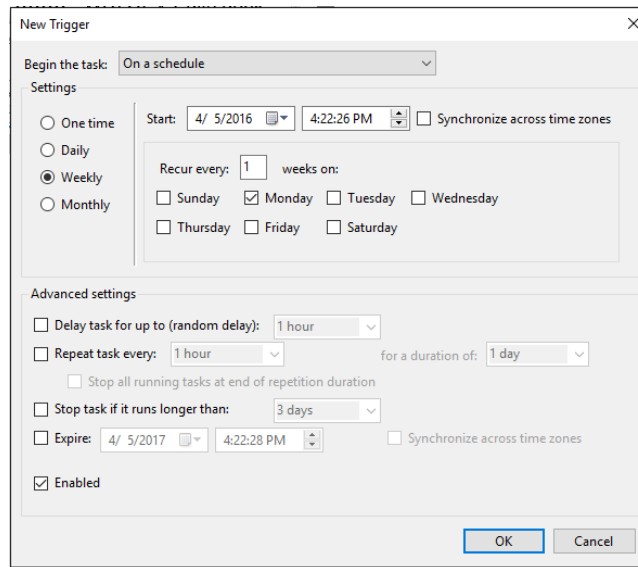


- Click on the “Triggers” tab.

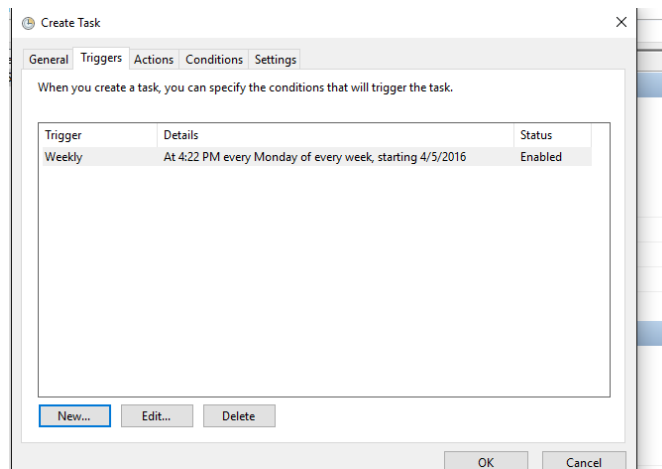




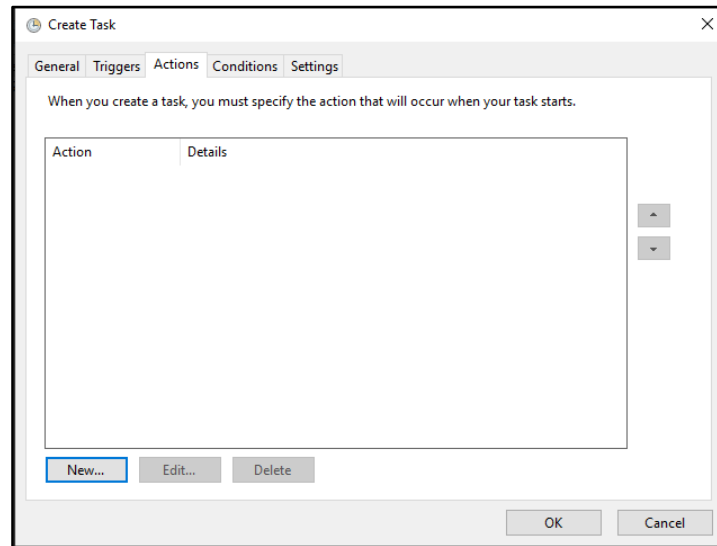
- Click on “New..”.
  - Select “**Begin the task: On a schedule**”.
  - Select an interval, i.e., “**weekly**”.
  - Select today’s date and time the computer should reboot, i.e., “**12:45 AM**”
  - Enter the number of weeks between reboot, i.e., “**1**”.
  - Select the day of the week, i.e., “**Monday**”.
  - Click “OK”



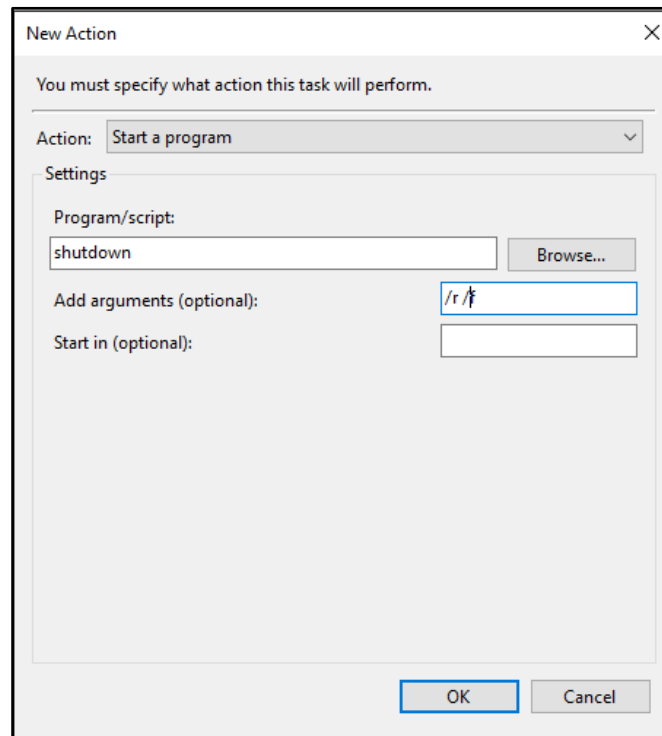
- Click “OK”



- Click on the “Actions” tab.

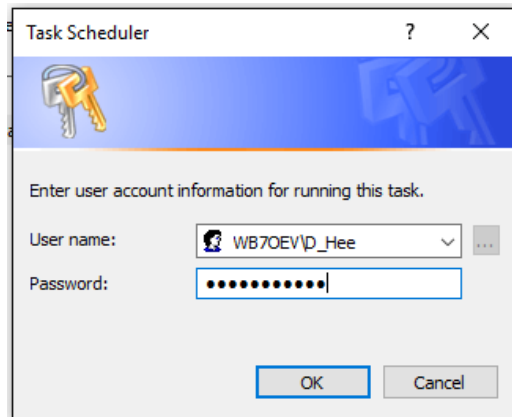


- Click “New..”.

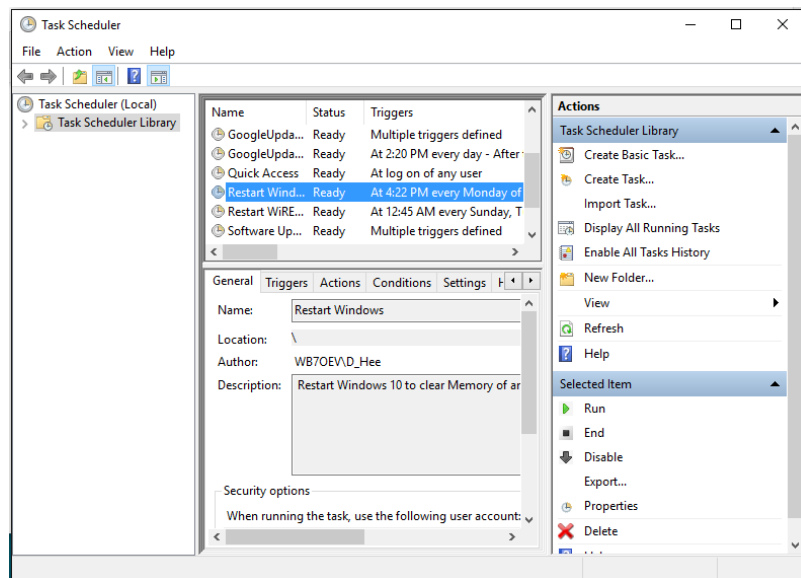


- Action should be set to “**Start a program**”.
- Enter the following in “Program/script:” **shutdown**.
- Enter the following in “Add arguments (optional):” **/r /f**.
  - *Note: The “/r” causes a reboot*
  - *The “/f” forces a reboot, otherwise a program that hangs could prevent the reboot.*
- Click “OK”.

- Use the password for the specified User...Click “OK”.



- Test the reboot task.



- Click on “Task Scheduler Library” to display listed task.
- In the center window scroll down to find the task that you just created “**Restart Windows**”
- In the Action Panel on the Right under the selected Items, click on “**Run**” to test and the WiRES-X program will stop.

Note: You can also edit the task by clicking on “Properties”.



- Click the “X” in the upper right-hand corner to close the Task Scheduler.

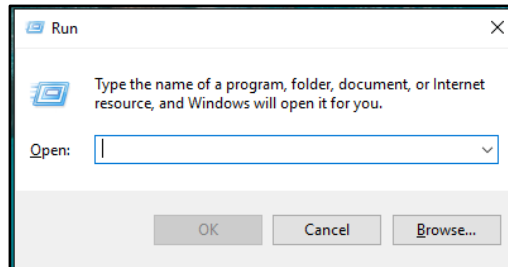
## 7. Install Security Updates (Critical)

Windows 7 is recommended for nodes since it no longer receives automatic updates. Managing automatic updates can be one of the biggest hassles with running a full-time node. If possible, it's best to manually install them BEFORE it's done automatically. Most updates are published on the 2<sup>nd</sup> Tuesday of the month so that would be a good time to log onto the computer to check for and install any updates.

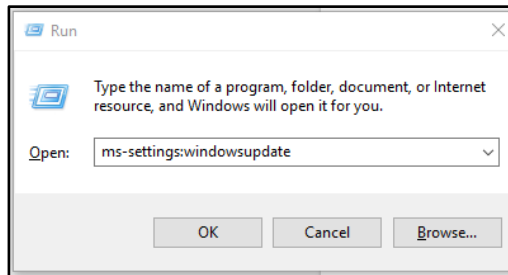
Note: Windows has changed this option since this document was first published.

Window 10 Home, updates are mandatory. Use the following procedure:

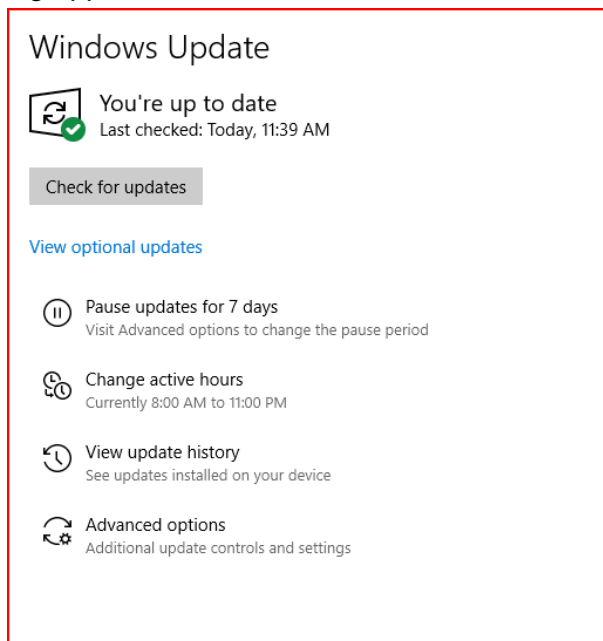
 +  to get the following:



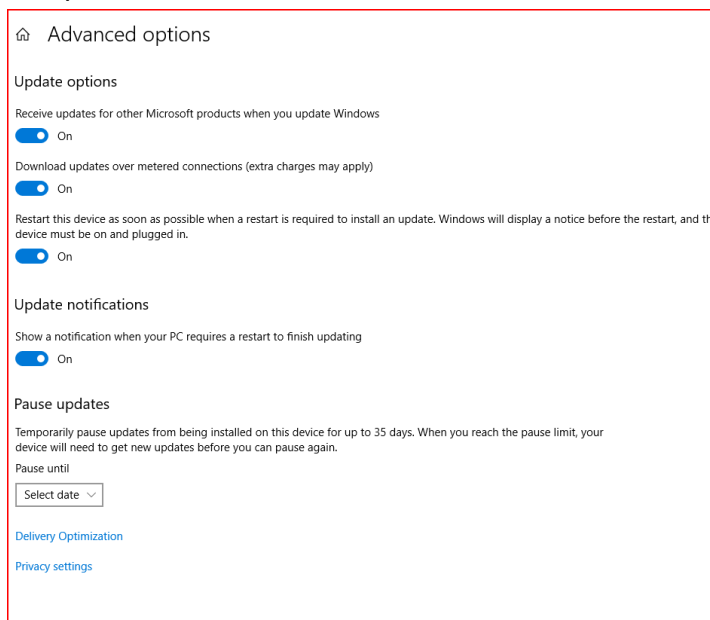
- Type in “ms-settings:windowsupdate” in the Open dialog Window, e.g.;



- Click “OK” and the following appears;



- Click on the “Advanced options”



- Make sure “Restart this device as soon as possible” is checked.
- Select other items as desired.
- Close the “ADVANCED OPTIONS” windows.

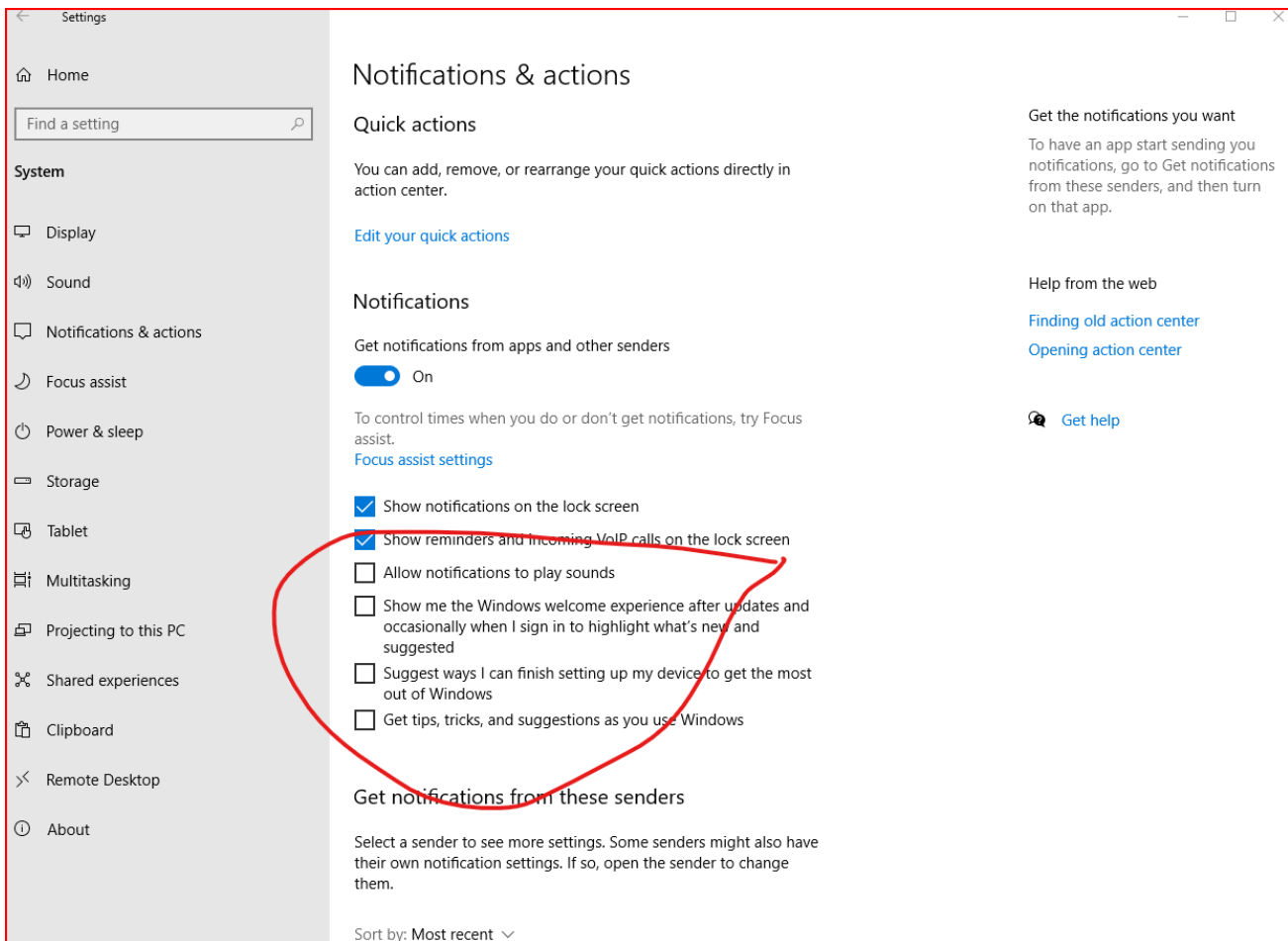
## 8. Disable Unwanted Notifications and Actions (Critical)

This is a new Windows “feature” that was added. When an update is performed, Windows may “helpfully” state “Let’s finish setting up your device” and stop there with a modal dialog box. This stops the update and prevents your computer from running WiRES-X.

Since Windows may add new “helpful” features any time, it is probably a good idea to turn them all off, not just this one.

Go to Settings->System->Notifications and Actions. Under Notifications, uncheck “Suggest ways I can finish setting my device to get the most out of Windows”. Uncheck any other notifications that could be problematic such as “Show me the Windows welcome experience after updates.....”.

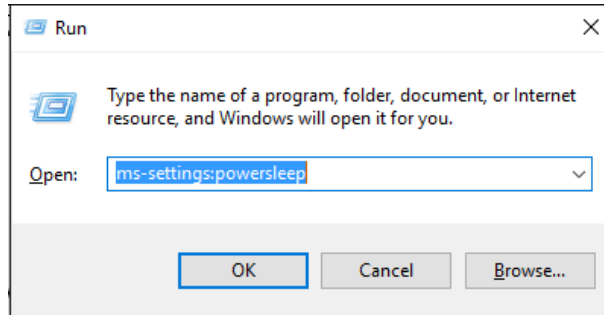
Thanks to Brian, K2AS for discovering this!



## 9. Disable Timed Computer Shut Down (Critical)

Normal settings may cause the computer to sleep after a given period of keyboard inactivity. If this is done, the computer will be off and will have to be restarted manually or it will restart after a power failure.

1. Press **Win + R** to open the Run dialog.
2. Type or copy-paste “ms-settings:powersleep” into the Run dialog. E.g.



3. This opens the following window;
  - Screen “When plugged in, turn off after”; Set to “Never”.
  - Sleep “When plugged in, PC goes to sleep after”; Set to “Never”.
  - Click on “X” to close windows.

## 10. Using Remote Desktop

Windows 10 Home Edition does not support Remote Desktop without an upgrade to Windows 10 Pro Edition. Most new PCs and Laptops come with Windows 10 Home Edition. There are Third Party Remote Desktop applications available, such as TeamViewer or Chrome Remote Desktop. Both of these applications are free to use in a limited fashion. Generally, these applications require an offsite server to handle the terminal traffic.

There is one application available that does not require any external server. This application is freeware that's been developed by Stas'M Corp. I checked the license and my interpretation; it is free to use in noncommercial operation. Please check the license for your own interpretation of use.

This application is available at the following links...

<https://github.com/stascorp/rdpwrap/releases>

Download the file; RDPWrap-v1.6.zip.

The install instruction is at this web site:

<http://www.softwareok.com/?seite=faq-Windows-10&faq=129>

This can be used on a local Network using the targeted PC local IP.

This can be used from the Wide Area Network by mapping the port used by RDP via the Router to the local PC IP.

Use this at your own risk...have fun.



## 11. Disable Hibernation (Optional)

Hibernation is not needed and simply creates a big file for your disk to store.

To make hibernation unavailable, follow these steps:

- Click Start, and then type cmd in the Start Search box.
- In the search results list, right-click Command Prompt, and then click Run as Administrator.
- When you are prompted by User Account Control, click Continue.
- At the command prompt, type "powercfg -h off" and then press Enter.
- Type exit, and then press Enter to close the Command Prompt window.

## 12. Network Management - Open Ports to the Right Machine (Critical)

It is critical that your network router open incoming ports to this computer. I suggest setting up your router to assign a fixed IP address to this computer based on its own ethernet or Wi-Fi MAC address.

- Determine the computer's MAC addresses by typing **ipconfig /all** in a shell window.
- Look for the "Physical Address" under the appropriate adapter. This is the MAC address of that adapter.
- Follow your router's instructions to assign a fixed IP address to a computer based on the determined MAC address.
- Follow your router's instructions to forward the following ports to the IP address chosen above:
  - 46,100
  - 46,110
  - 46,112
  - 46,114
  - 46,120
  - 46,122
  - 46,191 (or whatever port # you chose for the WiRES-X embedded web server)

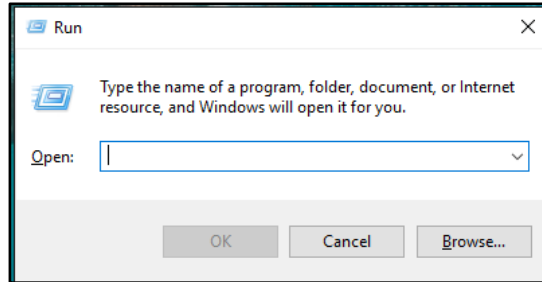
**Note:** If you are going to use Remote Desktop from the WAN...this where the Remote Port is mapped to the IP address.

- Follow your router's instructions to forward UDP and TCP for the port you chose for the Windows Remote Desktop (See "Safe" Remote Desktop Access above).

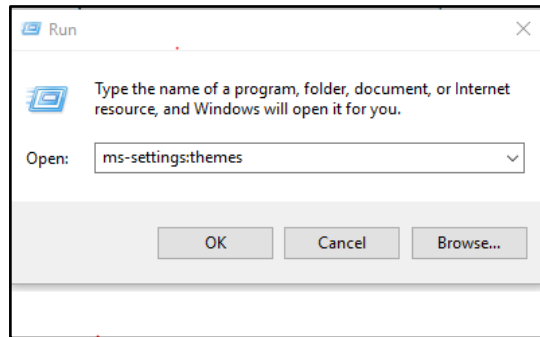
# 13. Personalization (Optional)

Disable all Windows-generated sounds.

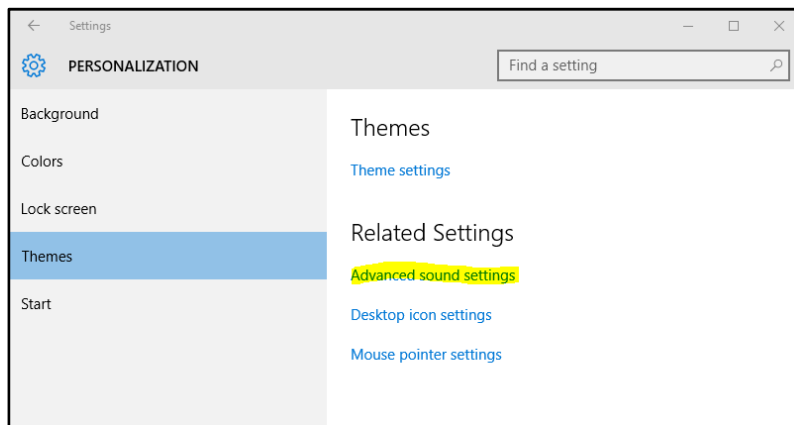
Type  +  to display the Run window....



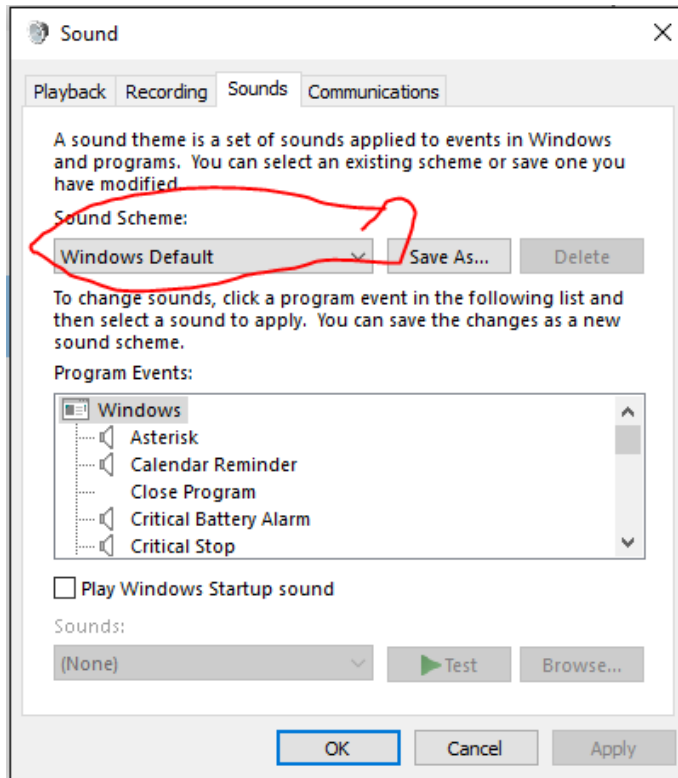
Type "ms-settings:themes"...



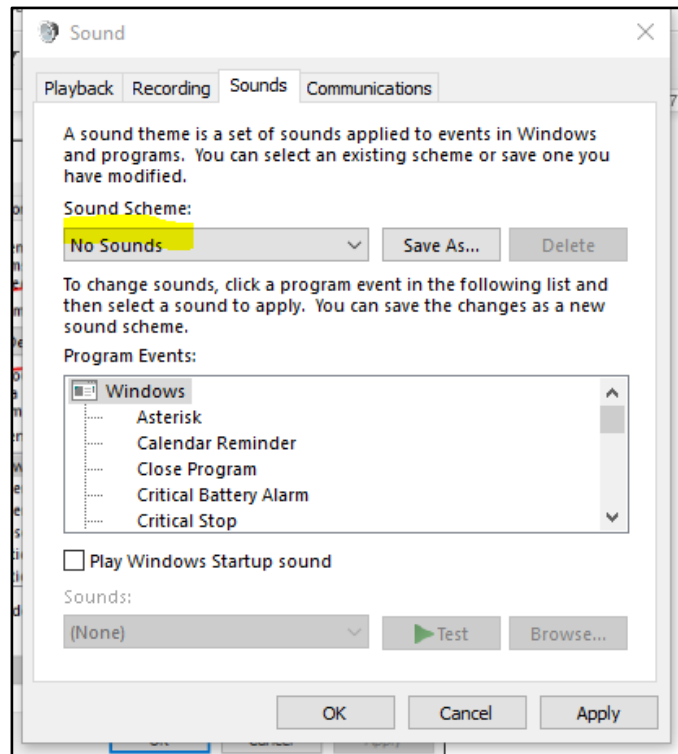
Then "Enter" or click "OK" and



Click on "Advanced sound settings".

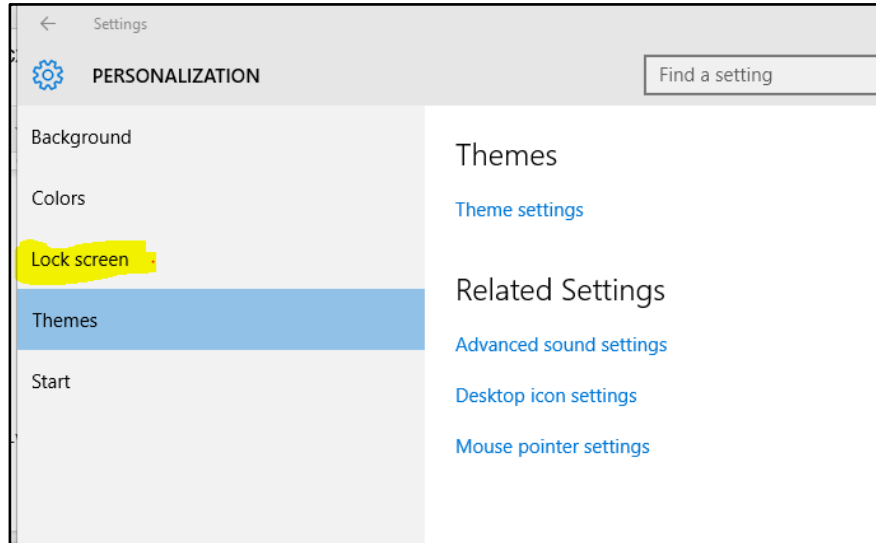


Click on the “v” in the “Sound Scheme” and select “No sounds”.

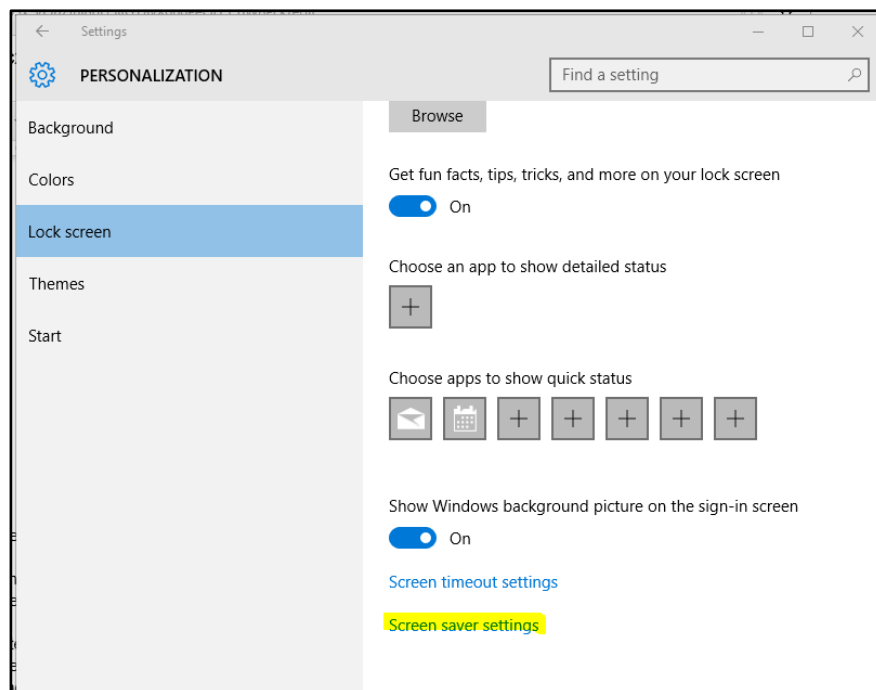


Click “OK”

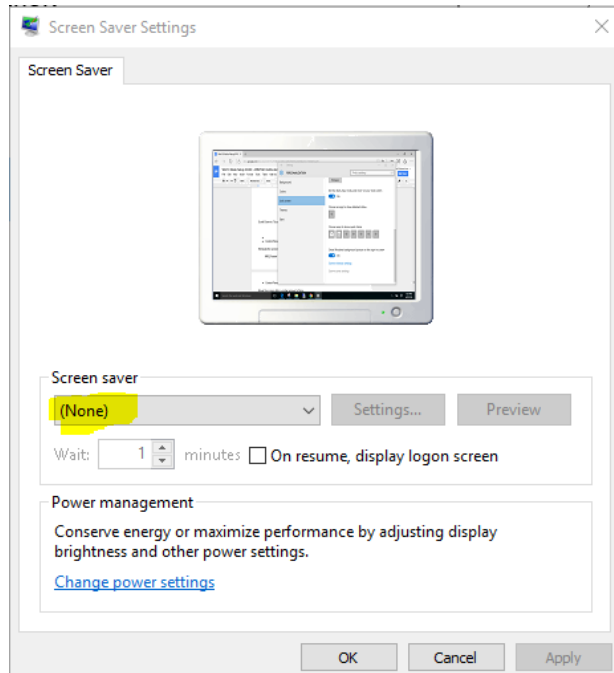
On the previous screen...



And....



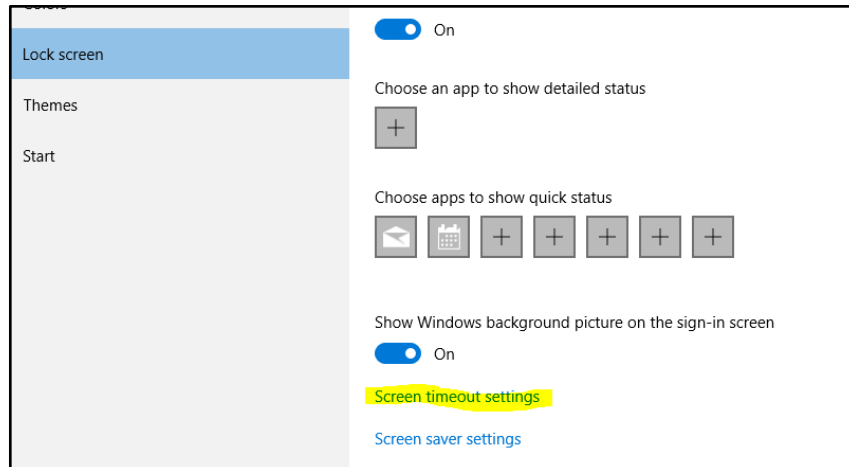
Scroll Down to "Screen saver settings" and click on it.



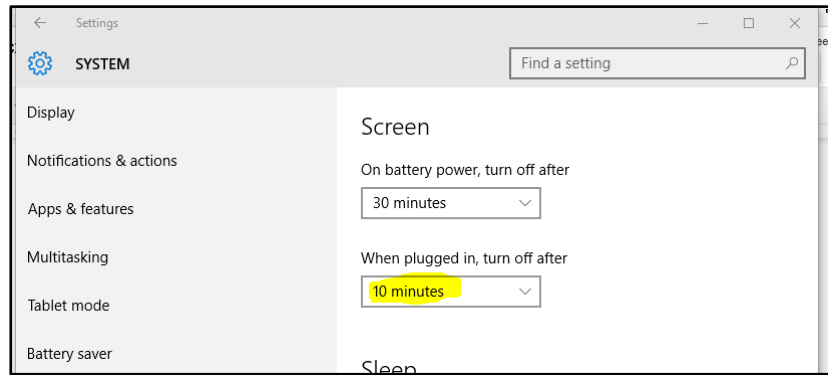
The “Screen saver” should be set to “(None)”, if not, click on “v” and select “None”, Click “OK” to save the selection.

Not set to Blank the screen after a certain amount of time.

From the previous window...



Select the “Screen timeout settings” and...



Set the “When plugged in, the off after” to 10 minutes...and make sure “Put the computer to sleep:” is set to Never, click on the “X” in the upper-right to save changes.

## 14. Disclaimer

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