

## [Tech Note 882](#)

# Configuring Time Synchronization for Historian Server Using Net Time and Windows Task Scheduler

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## Introduction

Wonderware Historian supports a real-time window, which is defined as any value between -30 seconds and +999 milliseconds. This time window is the time delay between a data source (AKA I/O server) and the Historian time. If a data value is outside of this window when arriving at the Historian, the value might be discarded. Therefore, it is important to synchronize the time between the system clock for the data source and the Historian.

This *Tech Note* provides a step-by-step procedure for synchronizing the system clocks using the Net Time command and the Windows Task Scheduler. You can perform these steps on your data source computer so as to synch the time to that of the Historian Server.

## Application Versions

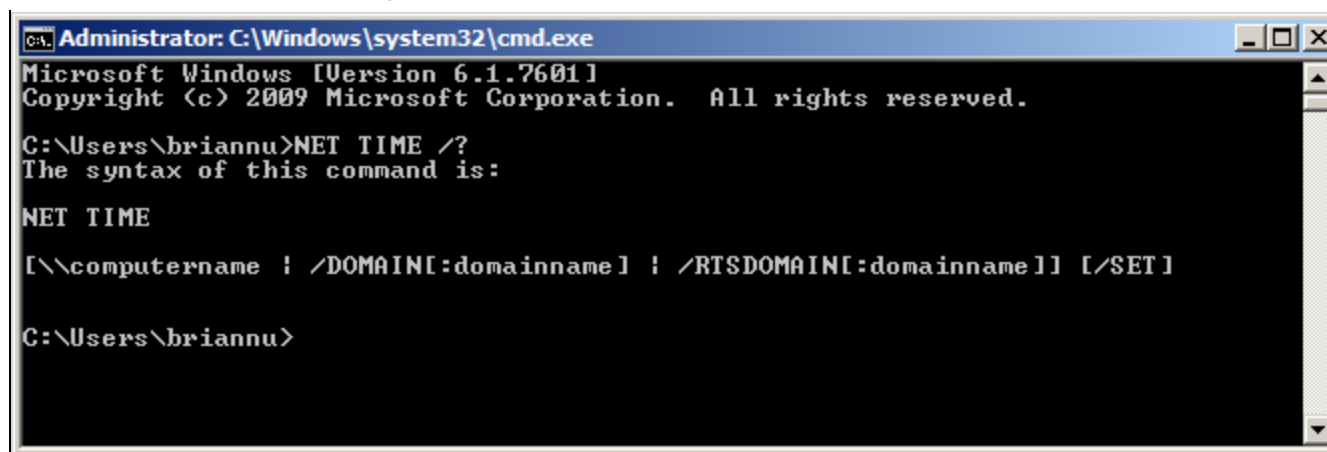
- Historian Server 10.x
- Windows 2008 Operating System
- Microsoft Task Scheduler v1.0 and later

## Procedure

You can use to the Window NET command with the TIME option to synchronize the system clock of one computer with the system clock of another.

1. To display the syntax of this command, open a Command window and type

```
NET TIME /?
```



```

Administrator: C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\briannu>NET TIME /?
The syntax of this command is:

NET TIME

[\\computername] [/DOMAIN[:domainname]] [/RTSDOMAIN[:domainname]] [/SET]

C:\Users\briannu>

```

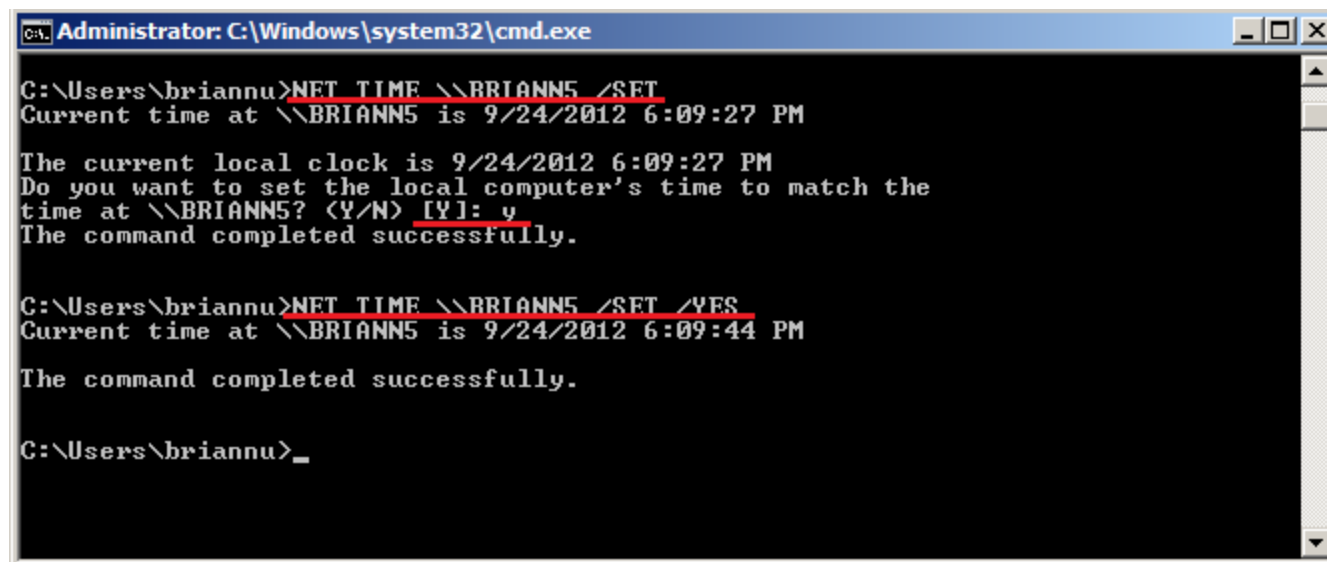
FIGURE 1: NET TIME /? COMMAND

2. Use NET TIME with **/SET** to store the Date and Time information to your local system clock. It will prompt you to confirm the adjustment (Figure 2 below).

Adding **/YES** will allow the time synchronization without the prompt (Figure 2 below).

In this example, the I/O Server computer is synched to the Historian Server **BRIANN5**:

```
NET TIME \\BRIANN5 /SET /YES
```



```

Administrator: C:\Windows\system32\cmd.exe

C:\Users\briannu>NET TIME \\BRIANN5 /SET
Current time at \\BRIANN5 is 9/24/2012 6:09:27 PM

The current local clock is 9/24/2012 6:09:27 PM
Do you want to set the local computer's time to match the
time at \\BRIANN5? (Y/N) [Y]: y
The command completed successfully.

C:\Users\briannu>NET TIME \\BRIANN5 /SET /YES
Current time at \\BRIANN5 is 9/24/2012 6:09:44 PM

The command completed successfully.

C:\Users\briannu>_

```

FIGURE 2: NET TIME \\BRIANN5 /SET /YES COMMAND

3. Right-click on the Windows desk top and click **New/Text Document**.
4. Give the file a meaningful name with the **.bat** extension then save it to a folder. In this example, the batch file is called

### **TimeSynch.bat.**

5. Right-click the file and click **Edit** to edit the file with the NET TIME command similar to the one for NET TIME \\BRIANN5 /SET /YES.

## Windows Task Scheduler

Configure the Windows Task Scheduler so that it will run the batch file **TimeSynch.bat** automatically per the schedule you assign to it in the Scheduler.

1. Click **Start/All Programs/Accessories/System Tools/Task Scheduler**.
2. To create a new task, click **Create Task...**

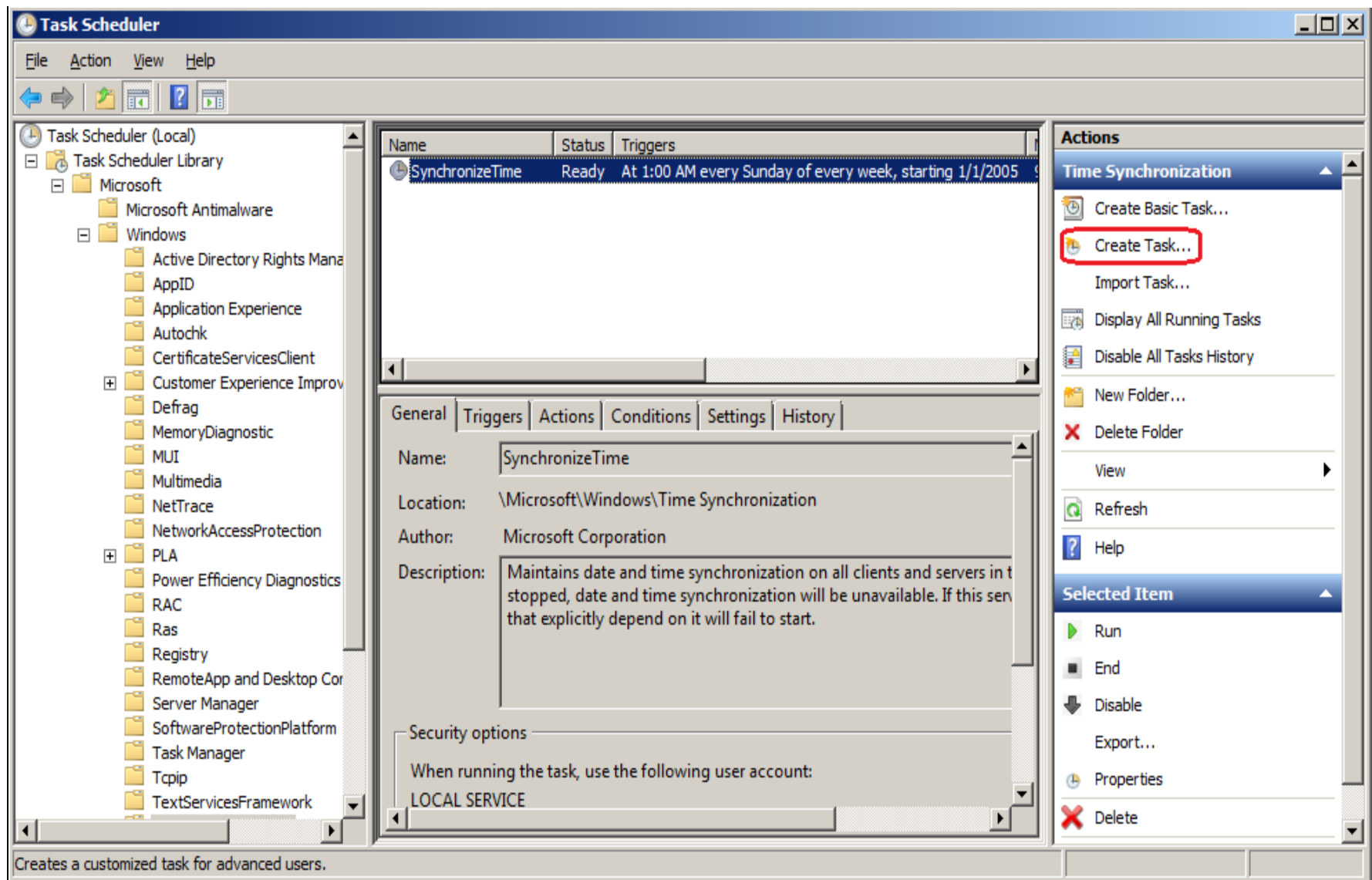


FIGURE 3: NEW TASK

3. In the General tab, type a meaningful name for the new task. In this example, the task is called **TimeSynchronization**.
4. Click on the button **Change User or Group** to open up the **Select User or Group** dialog box.

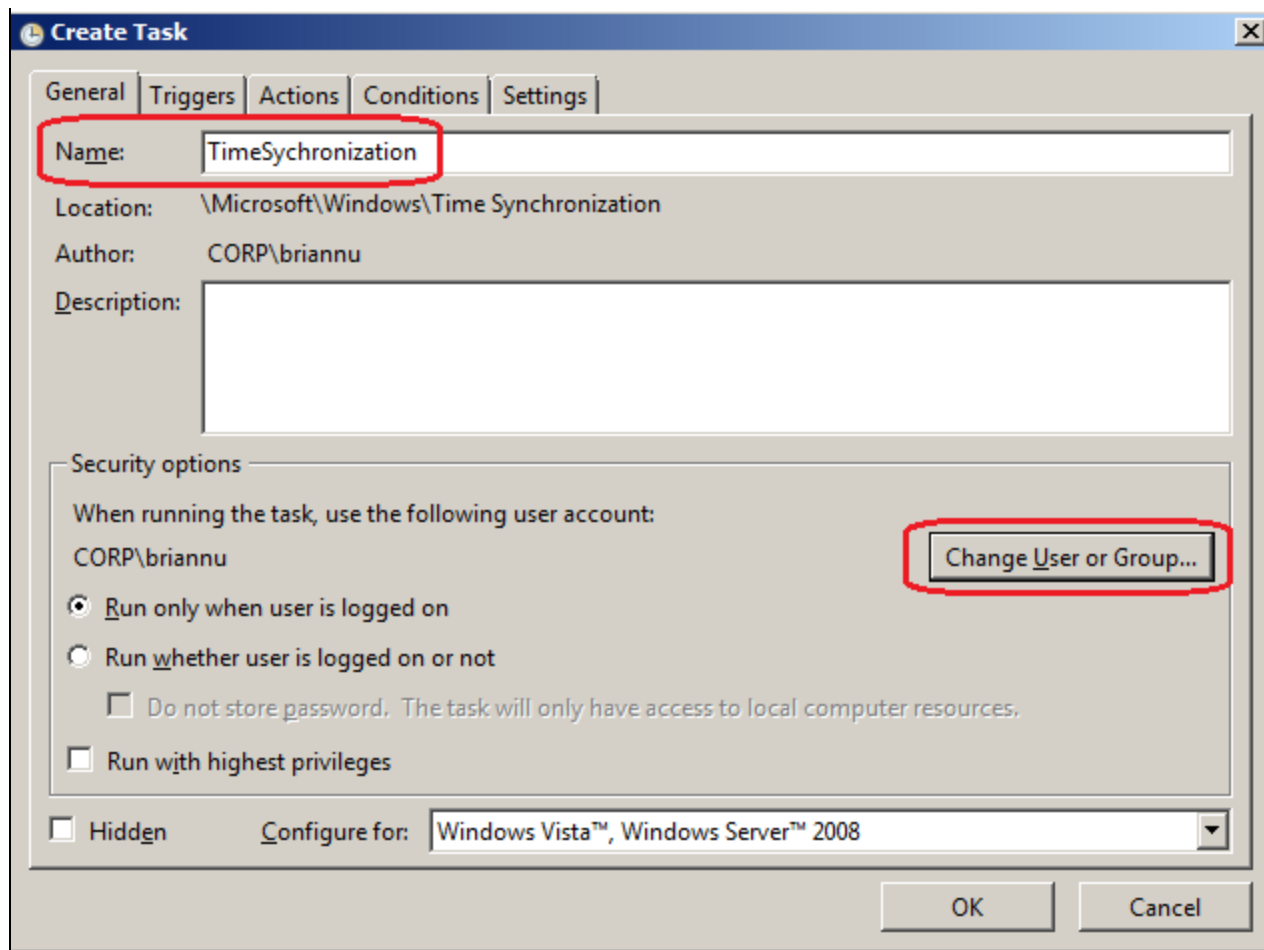


FIGURE 4: TIME SYNCHRONIZATION > CHANGE USER OR GROUP

5. Type the user name **LOCAL SERVICE** then click on the button **Check Names** to make sure the name entered is correct. It should look like Figure 5 (below).

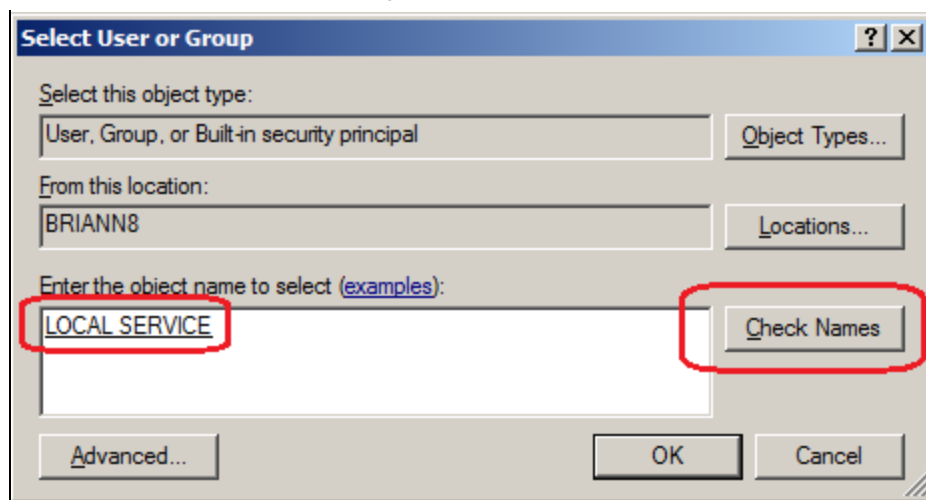


FIGURE 5: CHECK NAMES > LOCAL SERVICE

6. Click **OK**. Check **Run with highest privileges** and Configure for the <Operating System you are using> (Figure 6 below).

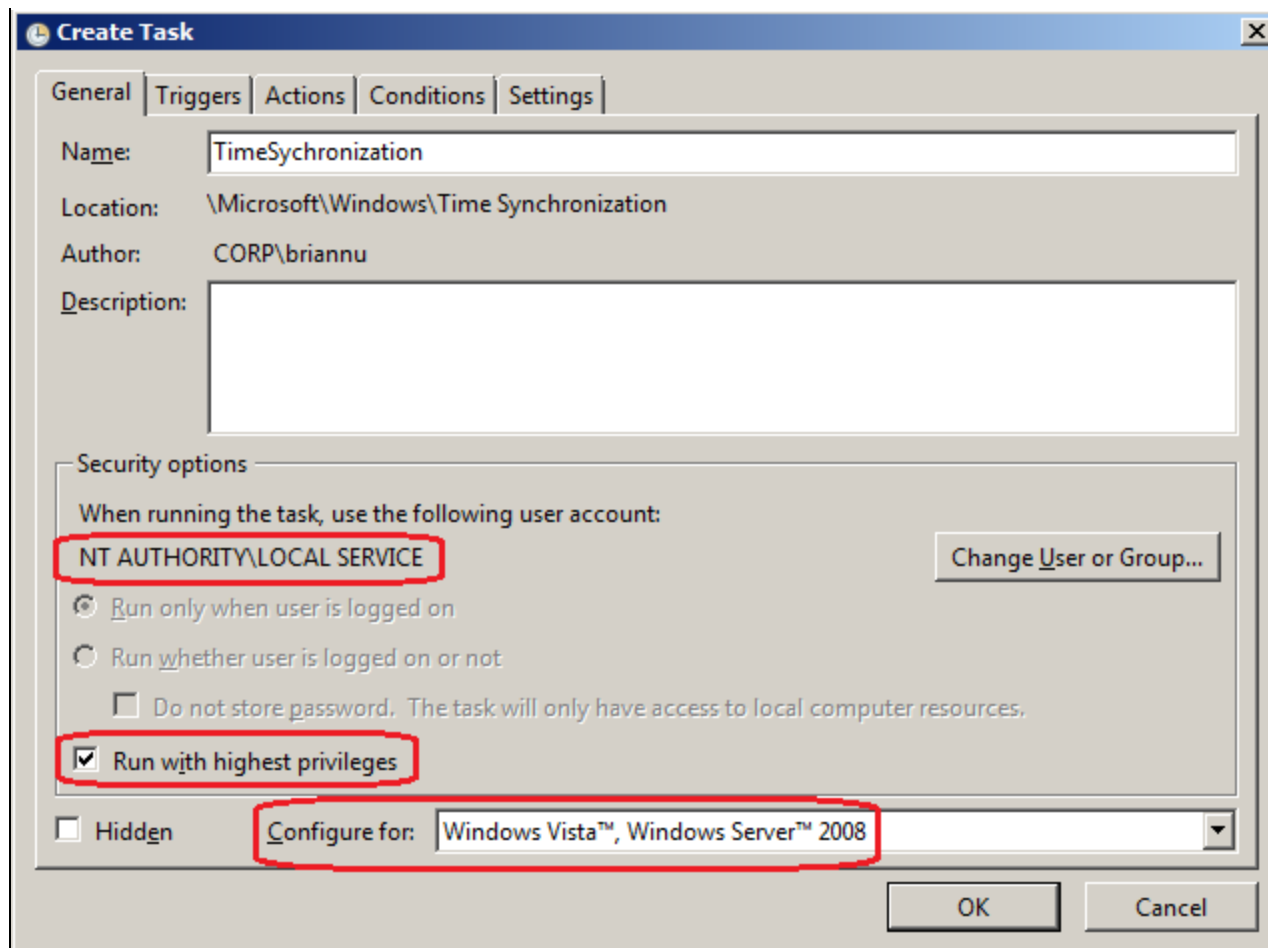
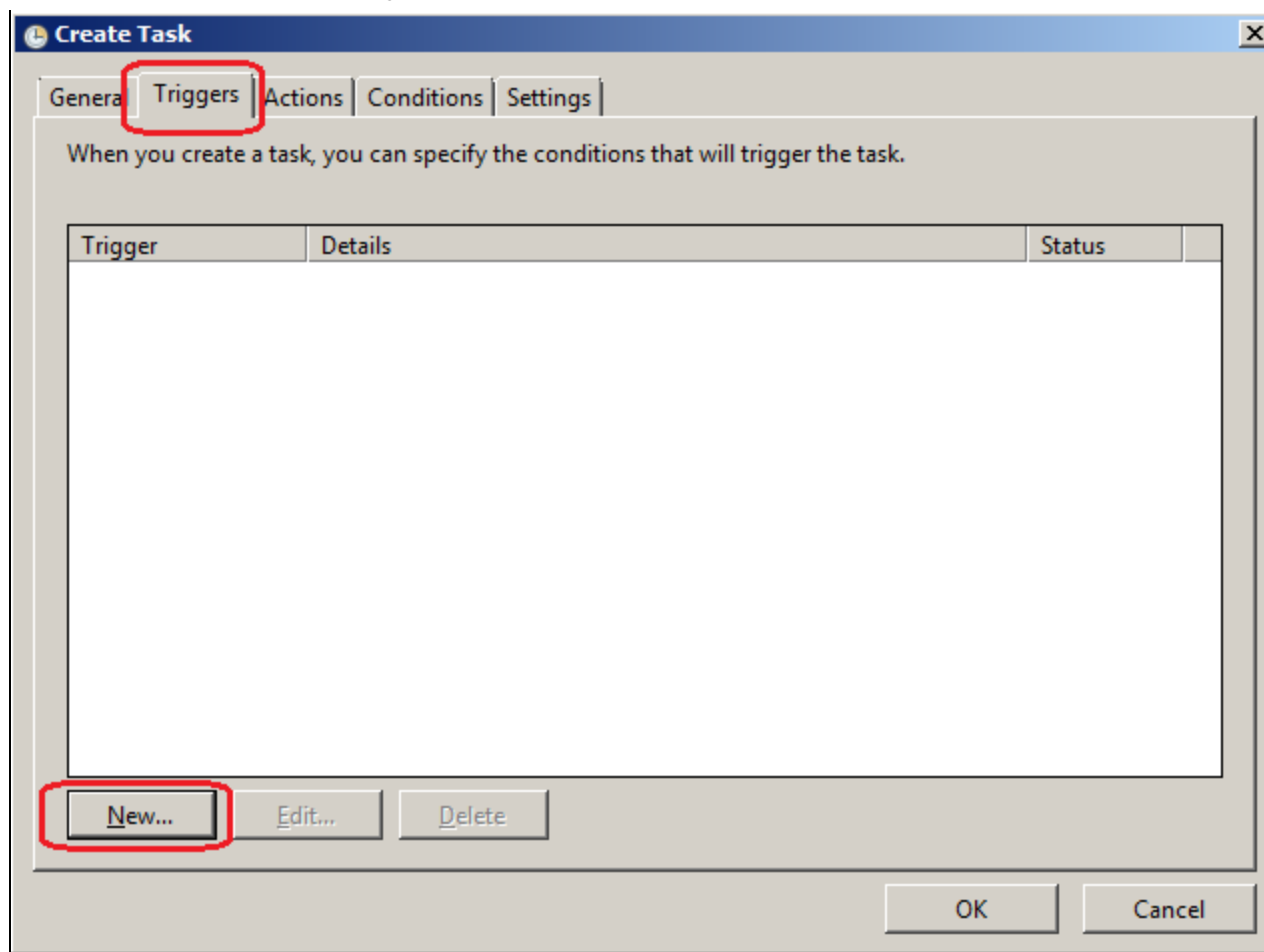


FIGURE 6: CONFIGURE TASK

7. Click the **Triggers** tab and click **New** to add a new trigger.

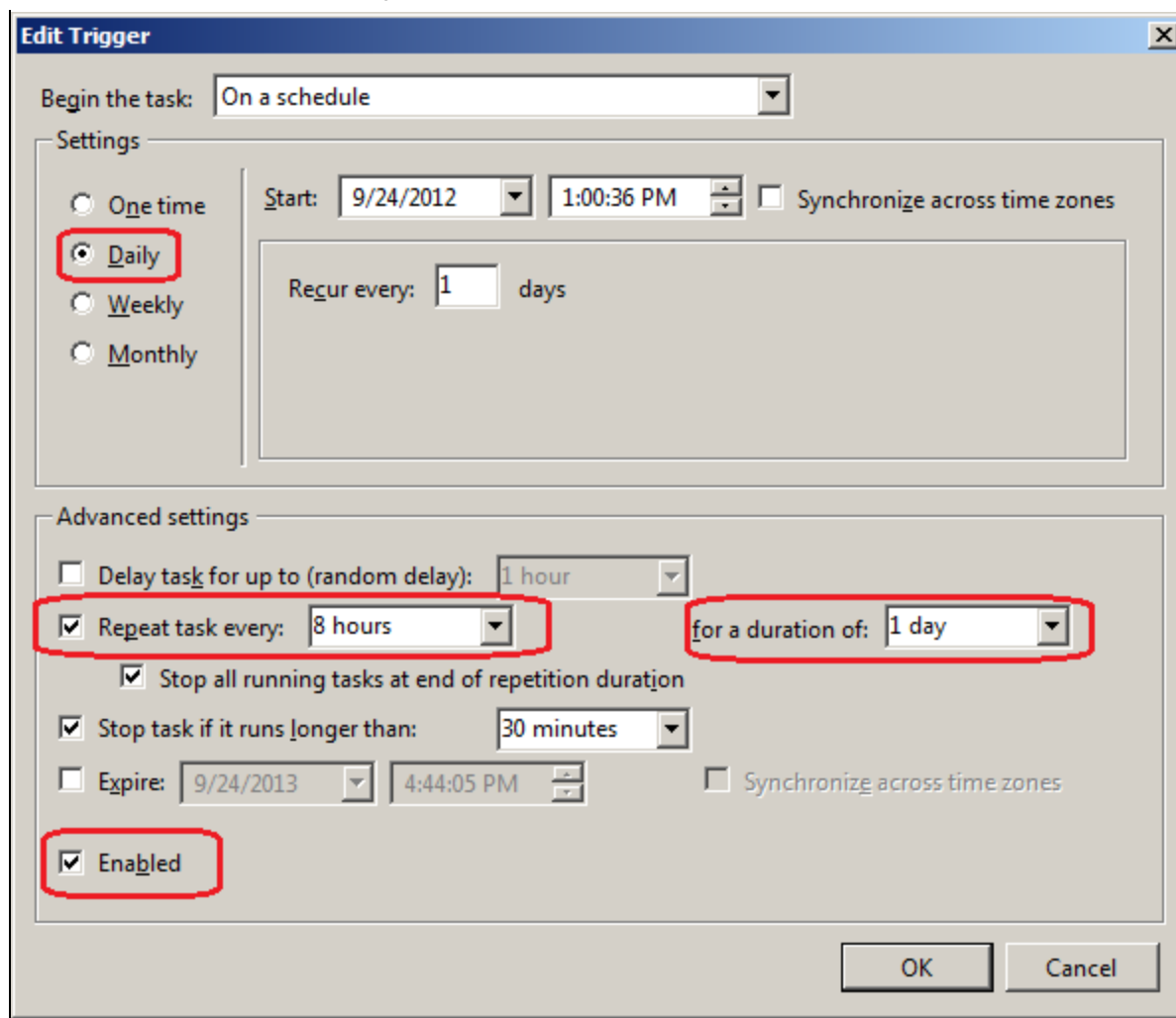


**FIGURE 7: ADD NEW TRIGGER**

8. Click the **Begin the task** drop-down arrow and click **On a schedule**.

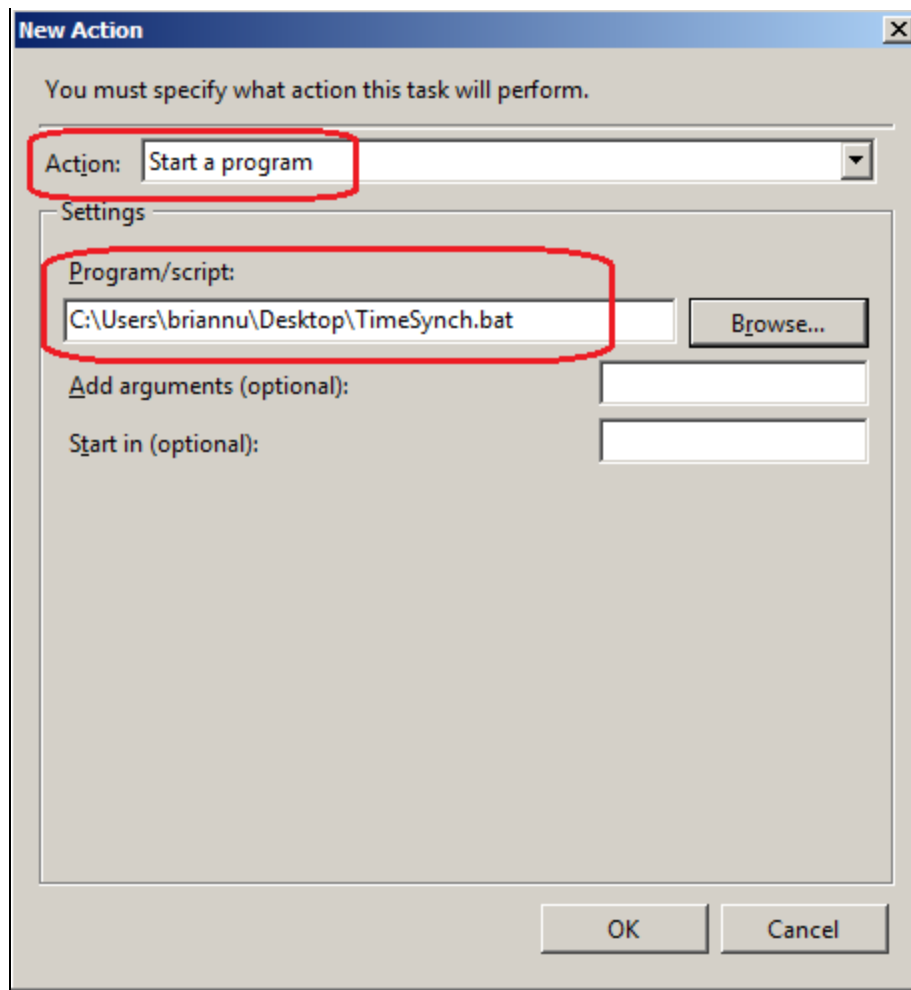
Figure 8 (below) shows configuring the task to run daily at the time specified. The task will repeat every 8 hours.





**FIGURE 8: RUN TASK**

9. Click **OK**. It will go back to the **Create Task** dialog window.
10. Click the **Actions** tab then **New** to create a new action.
11. Click on the arrow and select **Start a program** for the **Action** (Figure 9 below).
12. In the **Program/script** field, click the **Browse** button to go to the folder you saved the batch file **TimeSynch.bat** created in [Step 3](#) (above).



**FIGURE 9: NEW ACTION AND SCRIPT**

13. Click **OK** to close the **New Action** dialog box.
14. Next, click the **Conditions** tab and set the task to **Start only if a network connection is available** (Figure 10 below).

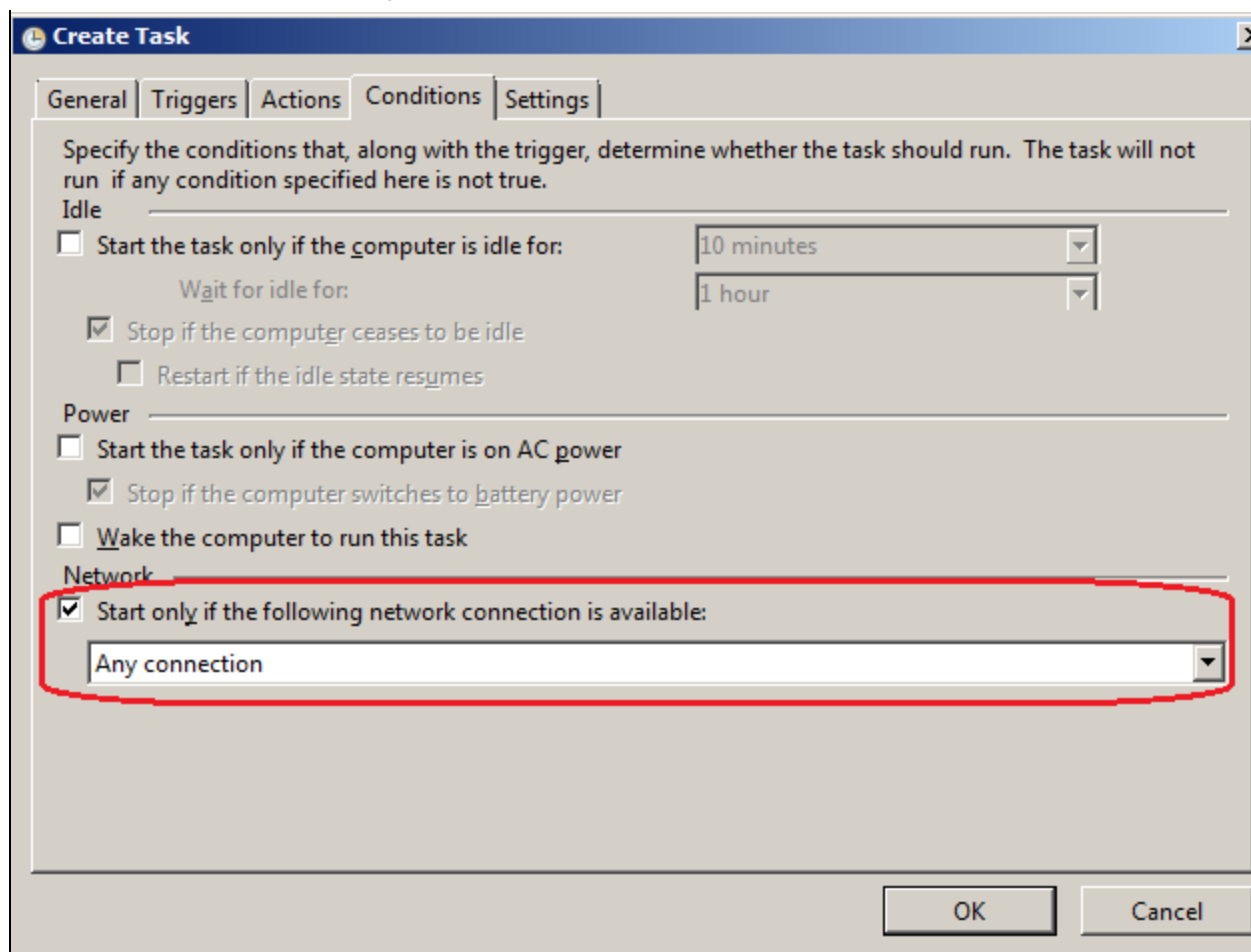
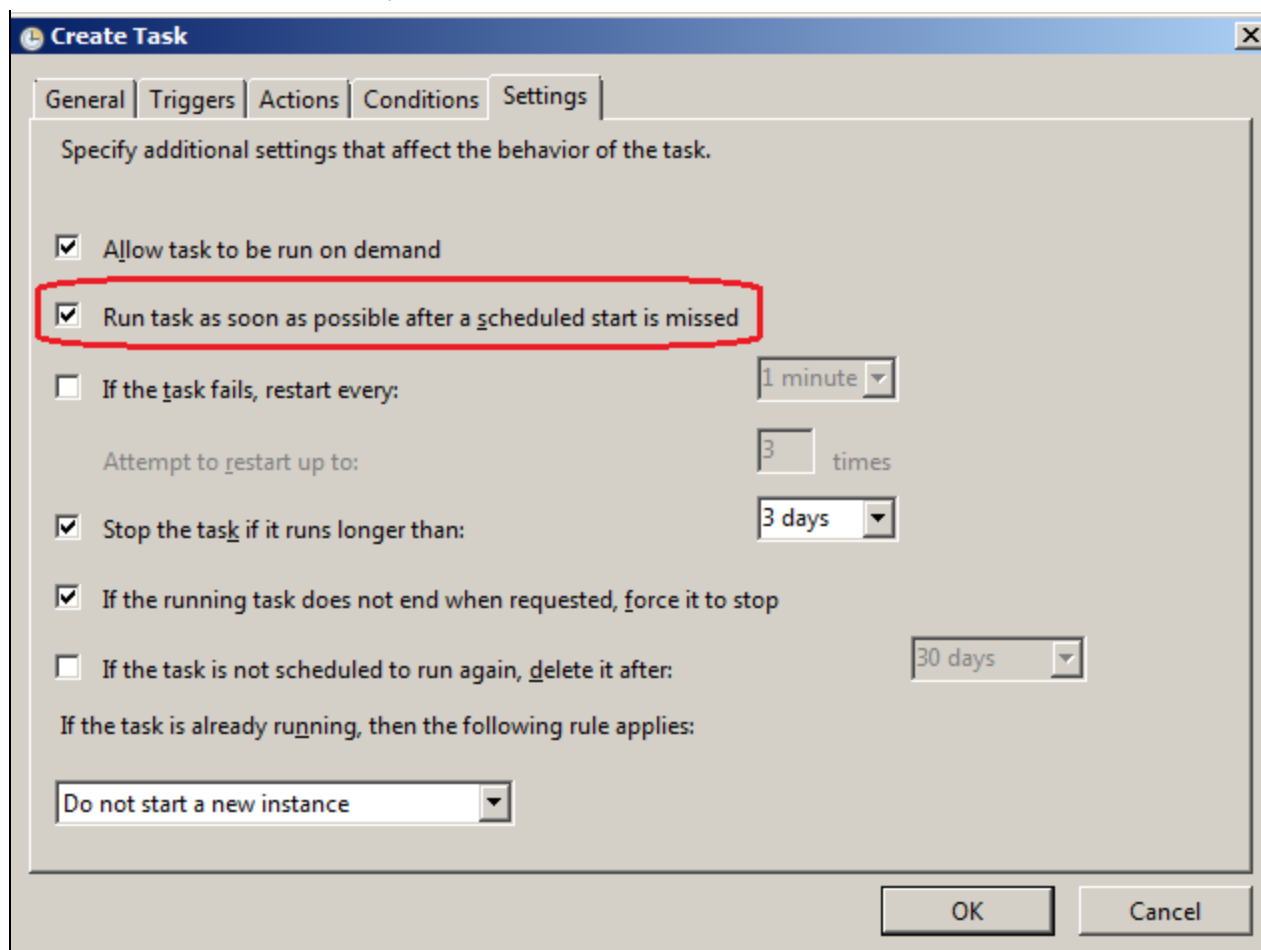


FIGURE 10: START WITH ANY NETWORK CONNECTION

15. Click the **Settings** tab and set the task to **Run as soon as possible if its scheduled start is missed** (Figure 11 below).



**FIGURE 11: RUN TASK ASAP**

16. Click **OK** to save the settings.

The TimeSynchronization task is now ready to run automatically as defined by the scheduled TimeSynchronization task.

You can now run some tests to see if the configured task actually works by changing the computer's system clock to a different time, then right-click on the task and select Run. The system clock now should be synchronized to that of the time source.

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