



PCGENESIS TECHNICAL SYSTEM OPERATIONS GUIDE

4/22/2020

Section B: PCGenesis Backup /
Reorganization / Restore

***[Topic 2: How To Schedule the PCGenesis
Reorganization Job, V1.3]***

Revision History

Date	Version	Description	Author
4/22/2020	1.3	20.02.00 – Add information about SQL Server service.	D. Ochala
03/30/2020	1.2	20.01.00 – Add screen shot showing logon screen warning.	D. Ochala
03/25/2019	1.1	19.01.00 – Update with <i>PCGenesisDB SQL Server Database</i> instructions.	D. Ochala
12/06/2018	1.0	18.03.01 – Create document.	D. Ochala

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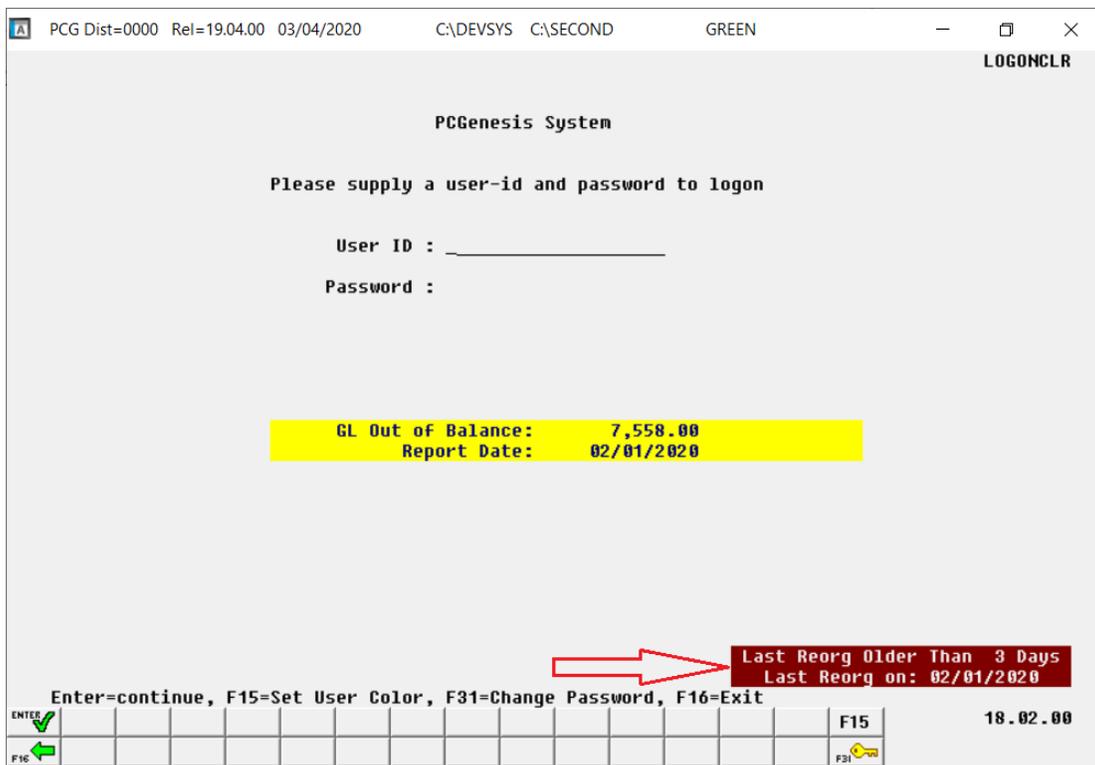
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Overview

The PCGenesis reorganization task creates a copy of **K:\SECOND** as **K:\SECONDX** and reorganizes all indexed files. The reorganization task also creates a copy of the *SQL Server* PCGenesis database (**PCGenesisDB**) as **PCGenesisDBX.BAK**. The scheduled task creates a recap report which will allow the user to verify that the reorganization process has completed successfully. The recap report will be created in the **K:\UCTPRINT\#SPLPRT** directory with the filename **REOGnnnn**. If the General Ledger is out of balance, an additional report will be created with the filename **GBALnnnn**.

The PCGenesis administrator must ensure that the reorganization task runs successfully every day. Any failure that affects the integrity and availability of PCGenesis data is unacceptable. The PCGenesis reorganization task improves PCGenesis reliability and data integrity by reorganizing all PCGenesis indexed files. The reorganization task also creates a daily restore point that remains on the PCGenesis server for quick access. This restore point often provides the Ga DOE Helpdesk with a quick and easy way to recover from a data issue.

If the reorganization batch job has not run successfully for at least three days, the PCGenesis users' logon screen will display an error message in red, as shown below. If this message appears on the PCGenesis logon screen, the reorganization task is not running to completion successfully. This error must be addressed immediately by the IT staff!



The PCGenesis reorganization task requires installation of **RoboCopy**. **RoboCopy** is included with the Windows Server 2012 and 2016 and 2019 operating systems. **RoboCopy** is also included in the *Windows 2003 Server Resource Kit*. The **RoboCopy** installation file is available in **K:\DOWNLOAD\2003 Resource Kit\rktools.exe**.

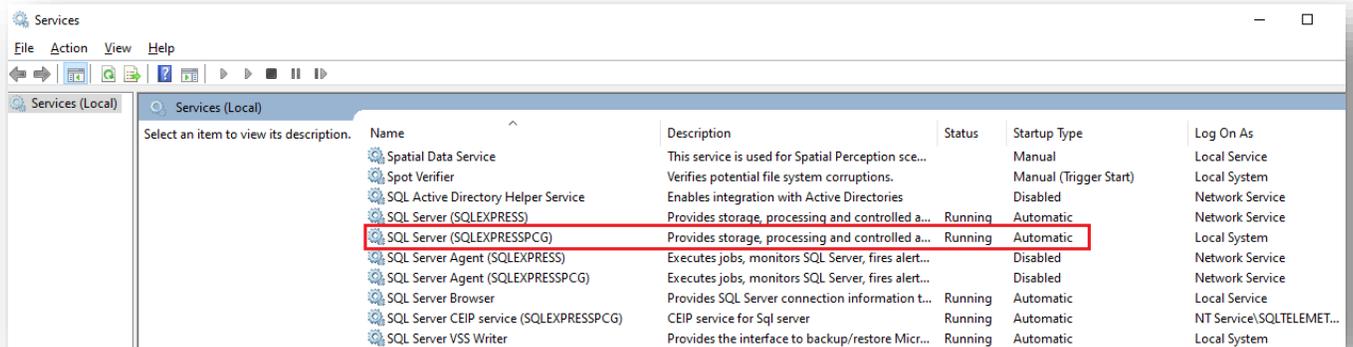
If it is necessary to install the *Resource Kit* tools:

- Run **K:\Download\2003 Resource Kit\rktools.exe**.
- After you accept the *End User License Agreement* (EULA), all necessary files are installed to the **%Program Files%\Windows Resource Kits\Tools** folder.
- Prior to starting and using the *Resource Kit* tools, please be sure to read the **readme.htm** file, which is located in the **%Program Files%\Windows Resource Kits\Tools** folder.

This document provides instructions for creating the scheduled task for **K:\BACKUP\PCGREORG.BAT**. The scheduled task parameters should be defined as follows:

- Schedule nightly after backup to finish prior to 6:00am. Allow up to 60 minutes processing time.
- **SQL Server (SQLEXPRESSPCG)** must be running.
- Requires **ROBOCOPY** which should be included with Windows Sever 2012 or 2016 or 2019 64 bit operating systems
 - Verify available in **C:\WINDOWS\SYSTEM32\ROBOCOPY.EXE**
 - If missing, run **K:\DOWNLOAD\2003 RESOURCE KIT\rktools.exe** to install **ROBOCOPY**

The PCGenesis reorganization task uses *SQL Server* tools to create the **PCGenesisDB** backup file. Therefore, it is required that the **SQL Server (SQLEXPRESSPCG)** service is running during the reorganization job, as shown below.



PCGenesis data is split between files contained in the directory **K:\SECOND** and the *SQL Server* database tables located in **K:\PCGSQldb**.

The PCGenesis database files are in the following location for *Windows Server 2012 or 2016 or 2019*:

- K:\PCGSQldb\MSSQL13.SQLEXPRESSPCG\MSSQL\DATA\PCGenesisDB.mdf
- K:\PCGSQldb\MSSQL13.SQLEXPRESSPCG\MSSQL\DATA\PCGenesisDB_log.ldf

The database files are in the following location for *Windows Server 2008 R2*:

- K:\PCGSQldb\MSSQL11.SQLEXPRESSPCG\MSSQL\DATA\PCGenesisDB.mdf
- K:\PCGSQldb\MSSQL11.SQLEXPRESSPCG\MSSQL\DATA\PCGenesisDB_log.ldf

SECONDX and PCGenesisDBX.BAK: The *SECONDX* directory is a backup of *SECOND* that is made during the nightly reorganization (Reorg) process. If a restore of *SECOND* is needed from the previous day, *SECONDX* should be used.

The nightly reorganization process also creates a backup of the PCGenesis database. This backup is available in the following directory:

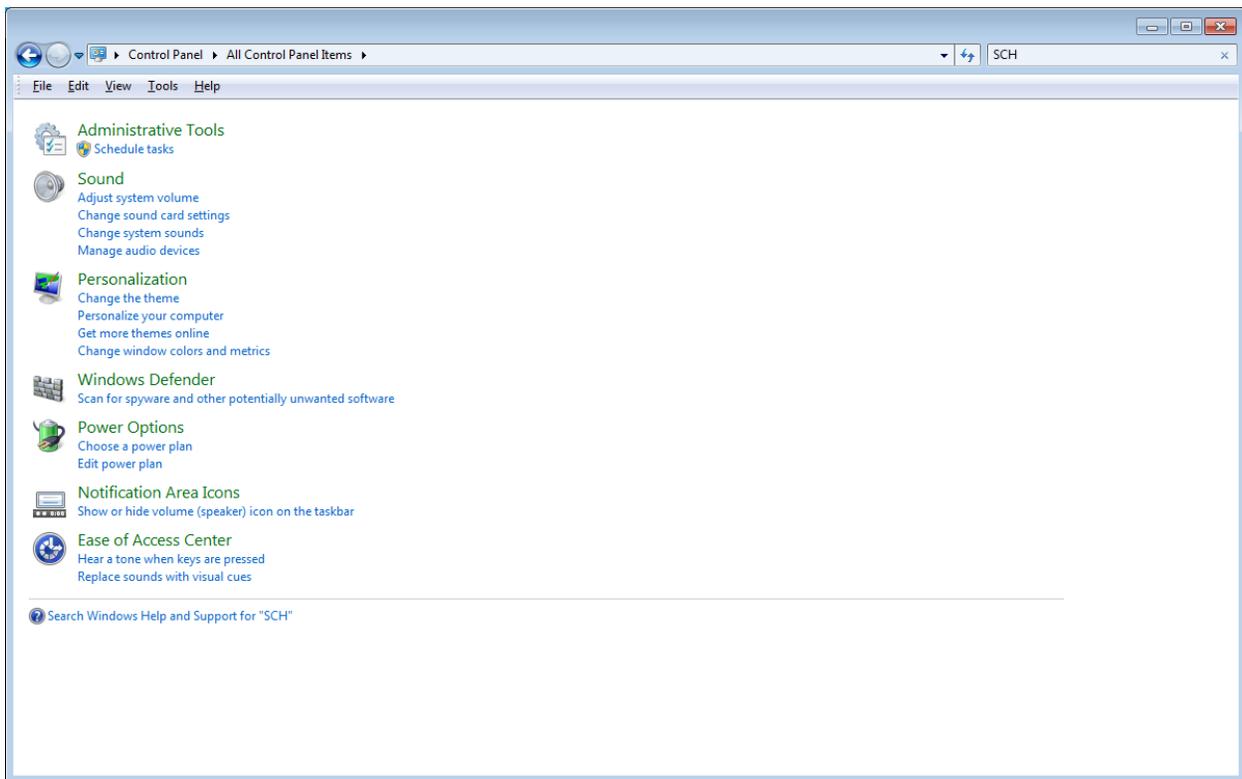
K:\PCGSQldb\MSSQL13.SQLEXPRESSPCG\MSSQL\Backup\PCGenesisDBX.BAK

It is very important to coordinate the **K:\SECONDX** directory with the **PCGenesisDBX.BAK** database backup. **One component cannot be backed up and/or restored without the other component, and they must be maintained together.**

Procedure A: Schedule PCGenesis Reorganization Task

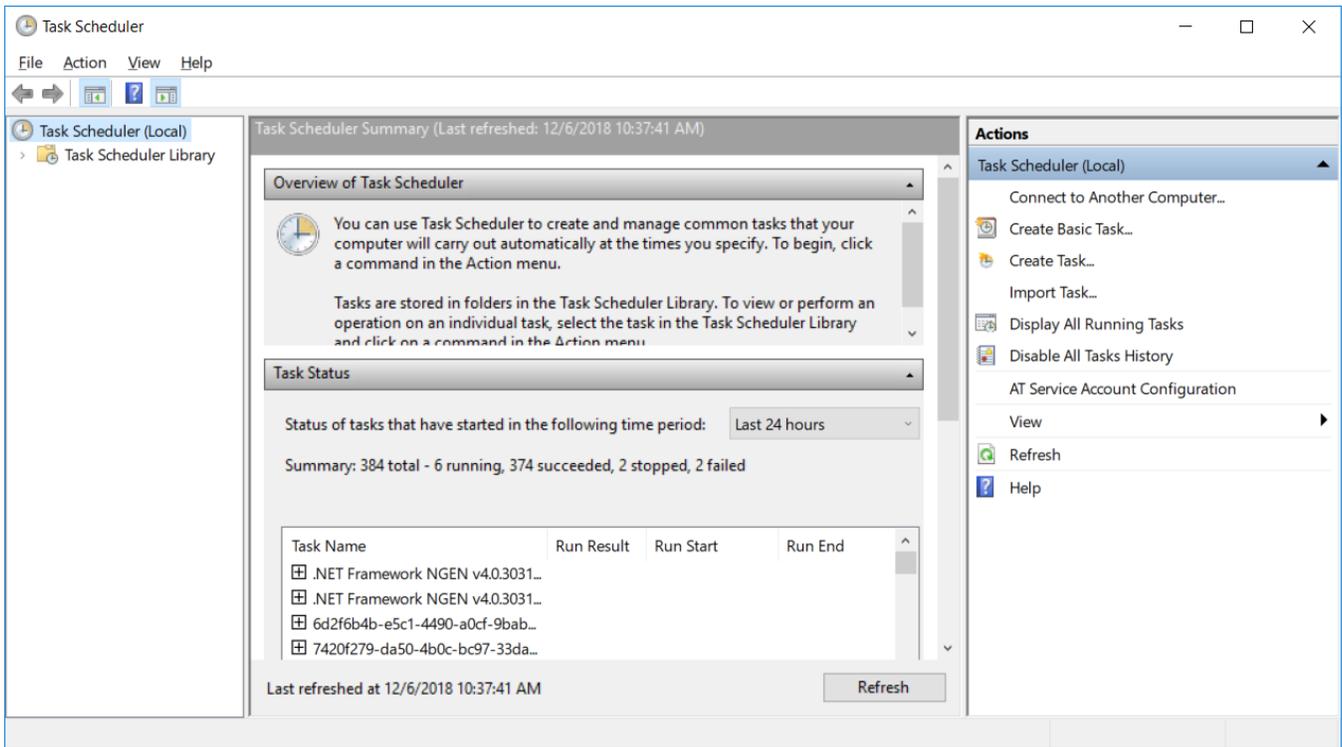
Step	Action
1	Bring up the <i>Windows Control Panel</i> .
2	In the upper right-hand corner, search for the word <i>Schedule</i> .
3	Under the heading <i>Administrative Tools</i> , the item <i>Schedule tasks</i> is displayed.

The following screen displays:



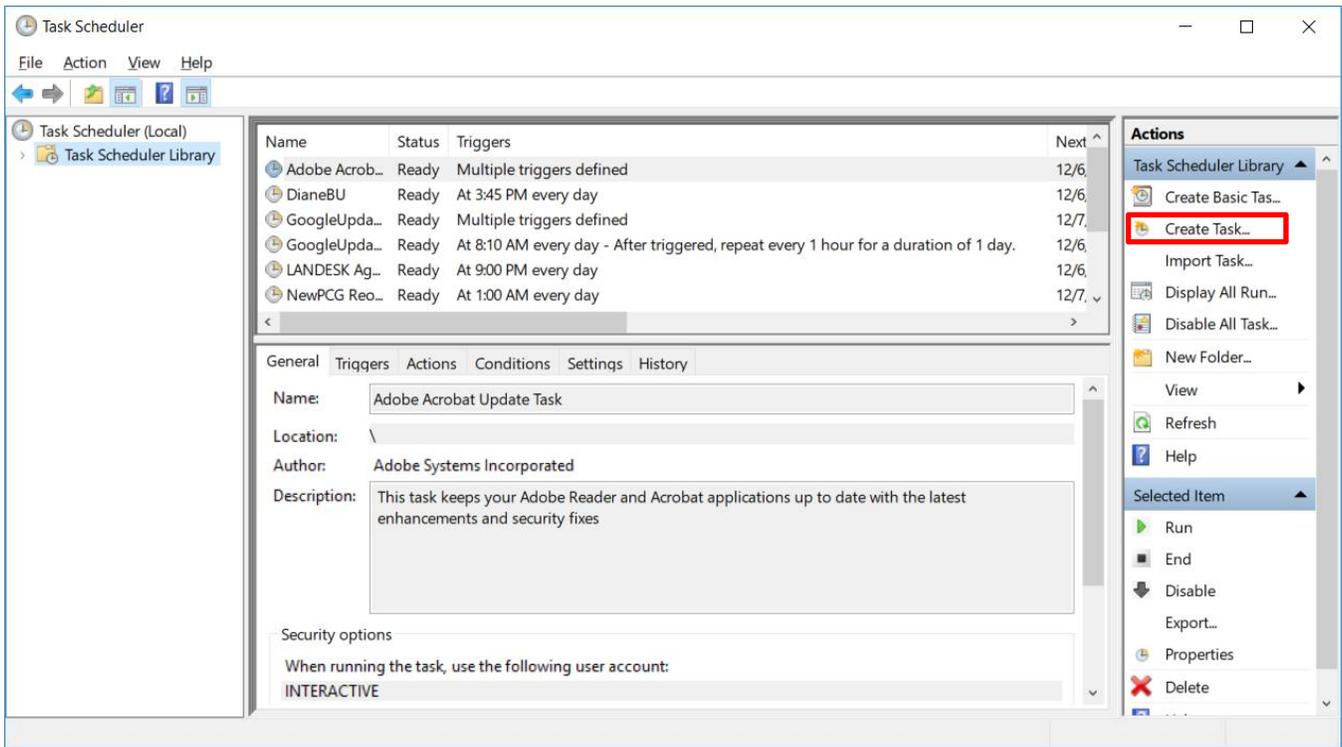
Step	Action
4	Select  Schedule tasks (Schedule tasks).

The following screen displays:



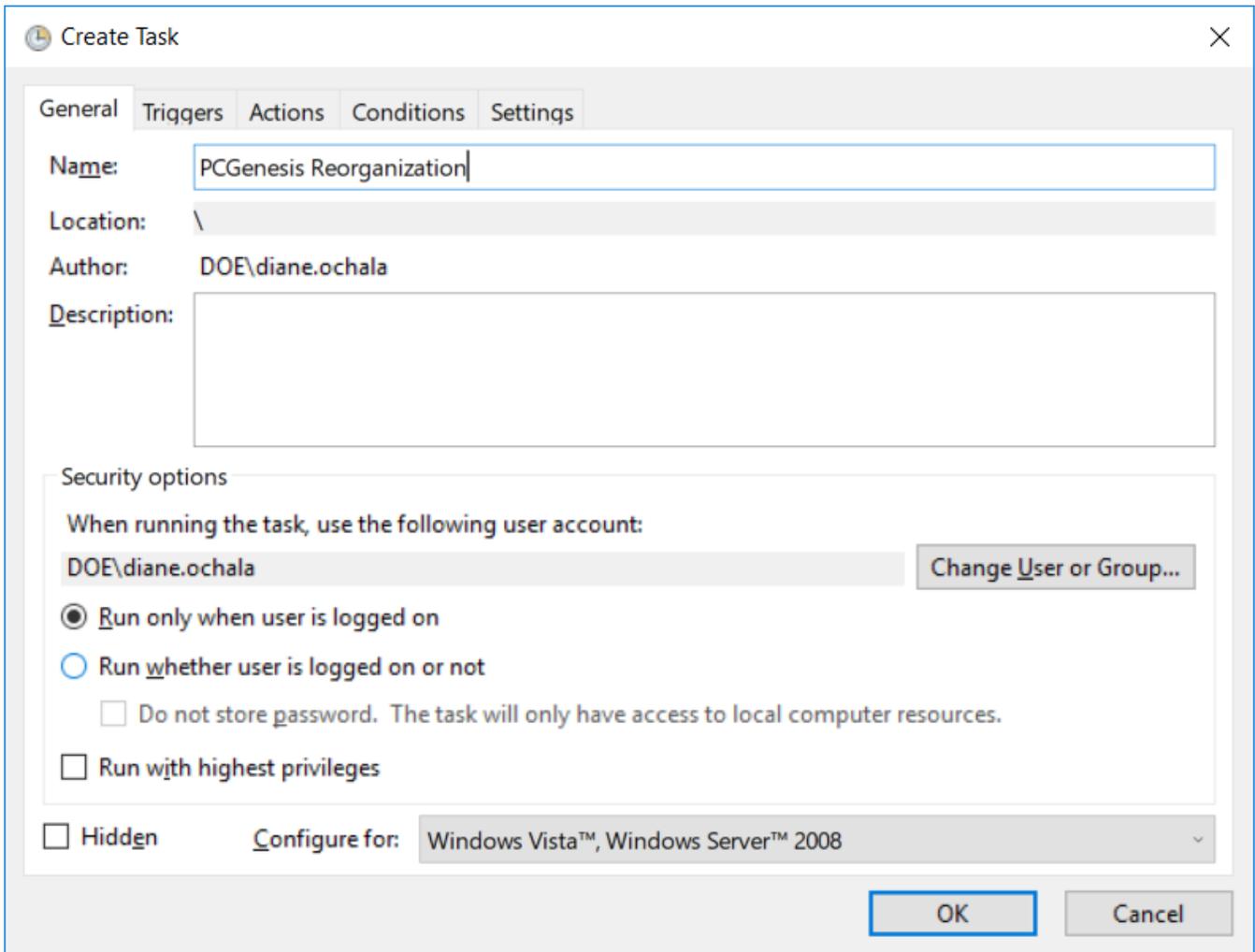
Step	Action
5	Click  Task Scheduler Library (Task Scheduler Library) to display the current list of tasks.

The following screen displays:



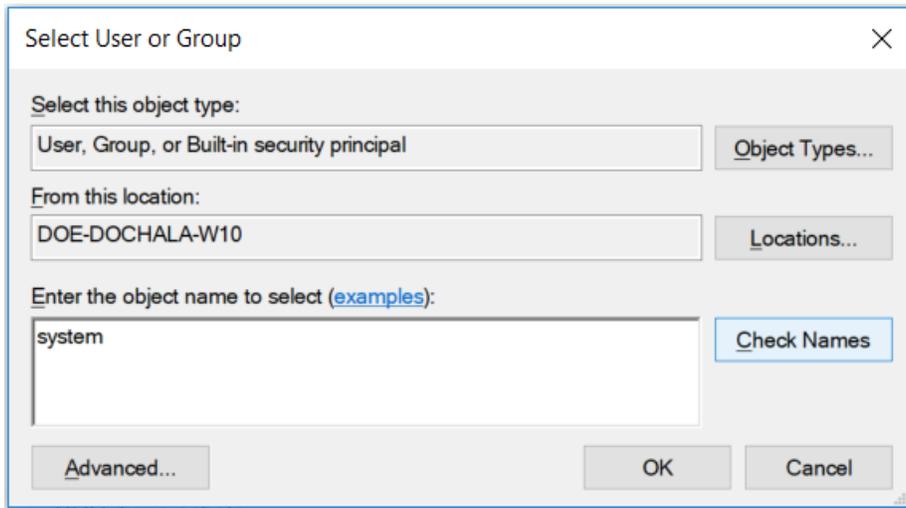
Step	Action
6	Click  (Create Task) to create a new task.

The following screen displays:



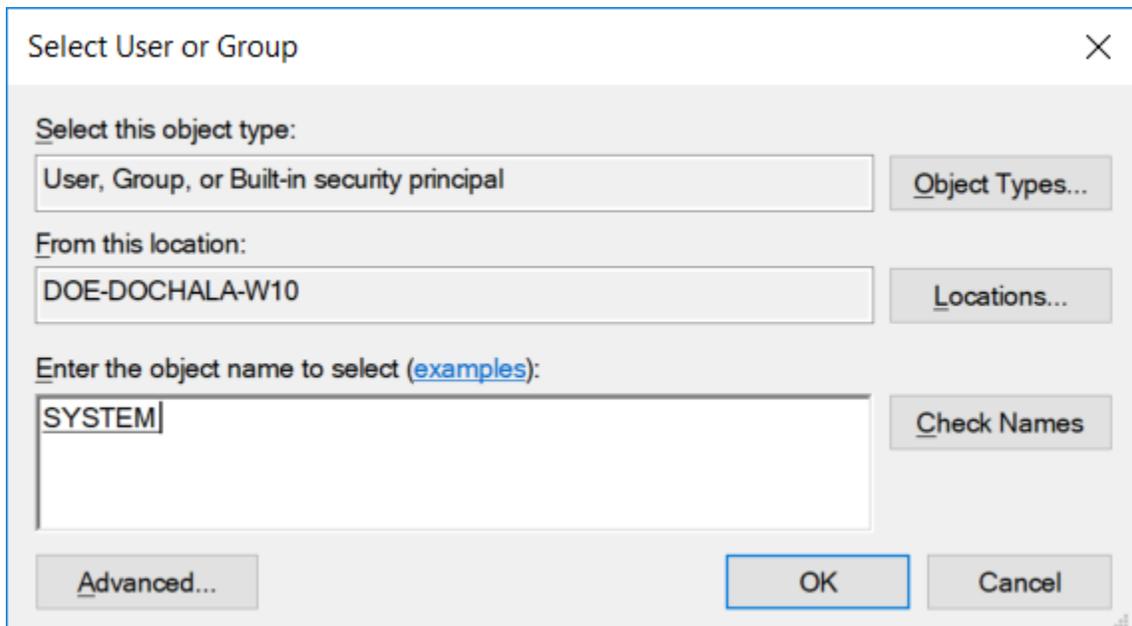
Step	Action
7	Enter the Name field with the title ' <i>PCGenesis Reorganization</i> '.
8	Under Security options select Change User or Group... (Change User or Group).

The following screen displays:

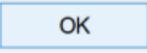


Step	Action
9	Type 'system' in the Enter the object name to select field, as shown above.
10	Select  (Check Names).

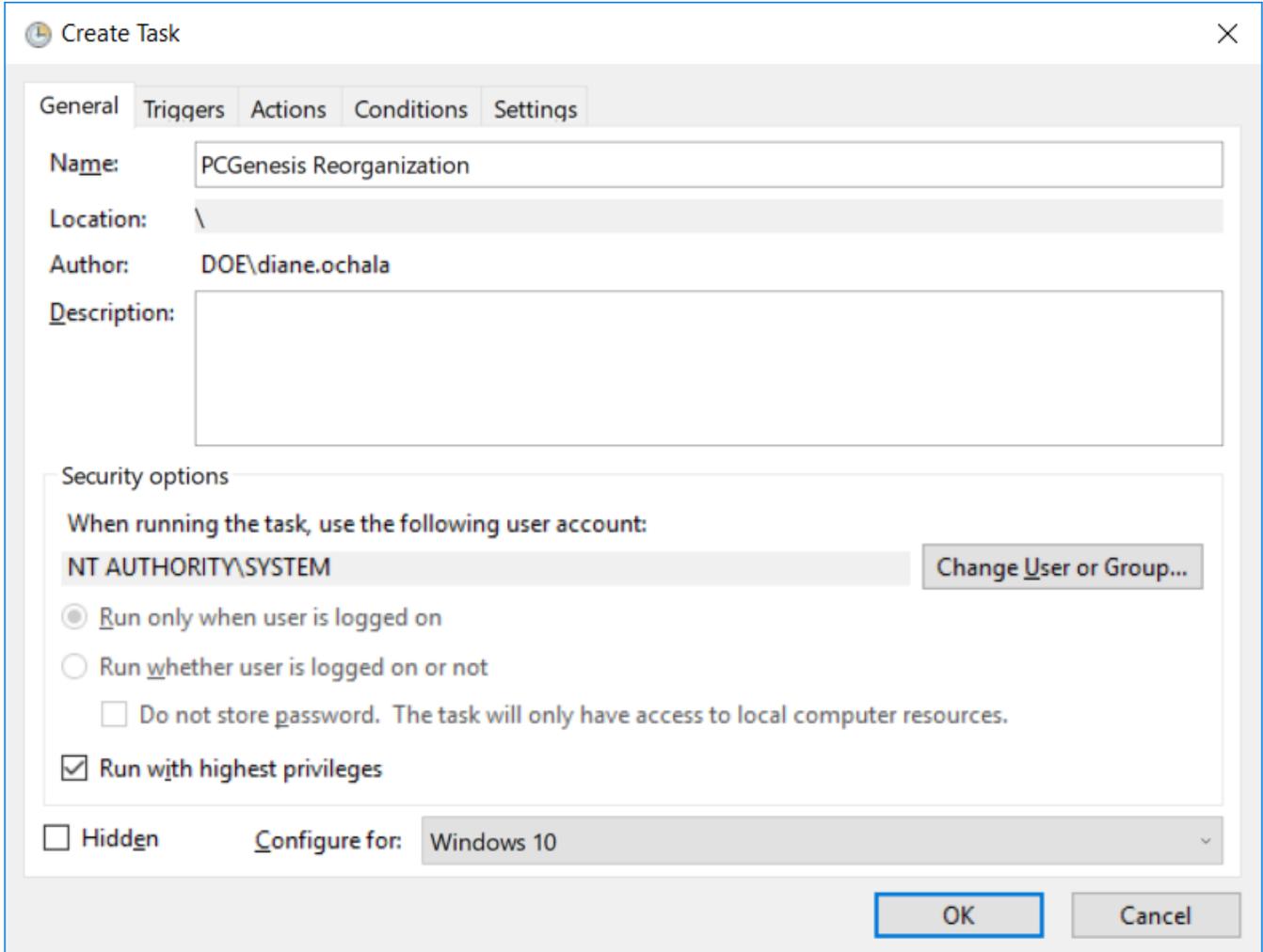
The following screen displays:



Step	Action
11	If the object resolves correctly, the screen will be returned as shown above, with <u>SYSTEM</u> underlined.

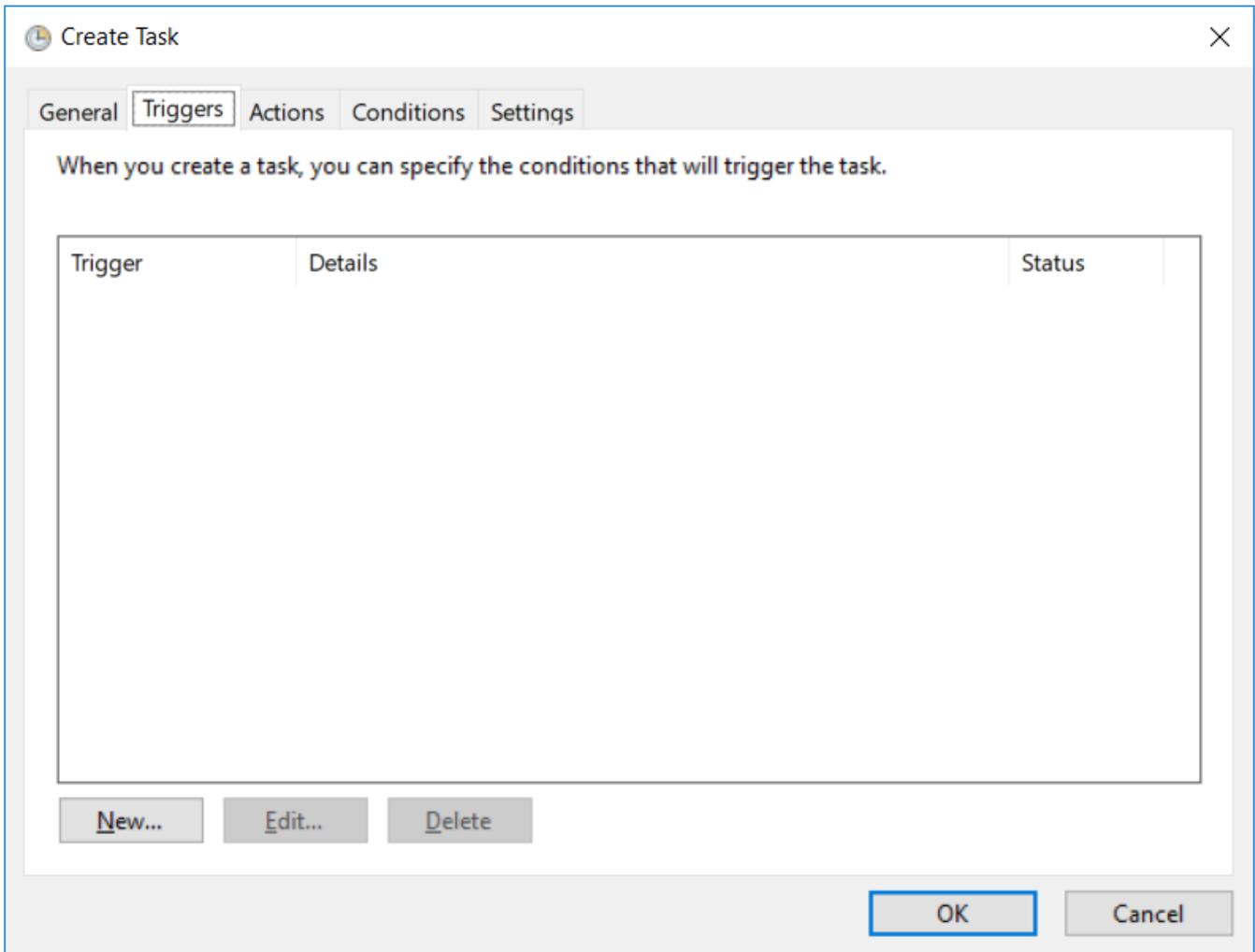
Step	Action
12	Select  (OK) to return to the General tab.

The following screen displays:



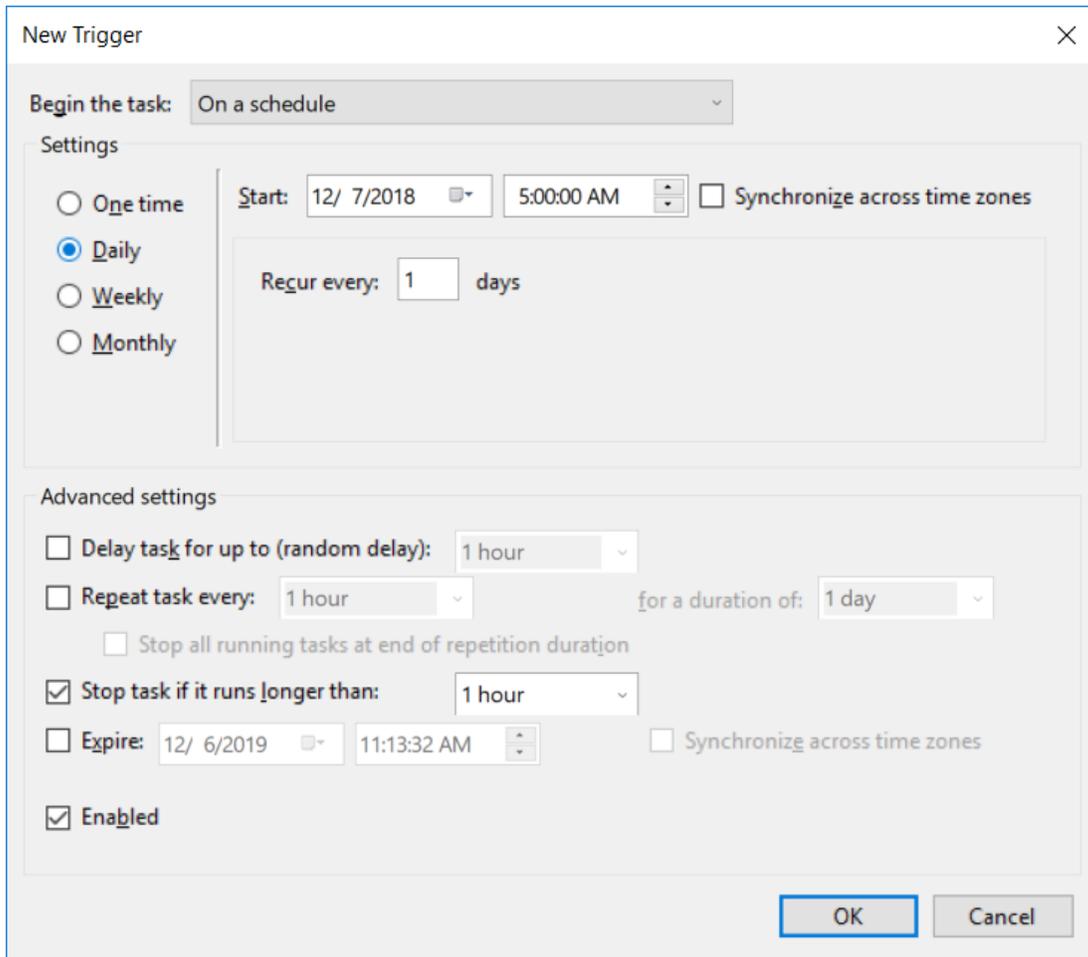
Step	Action
13	Select the check box <input checked="" type="checkbox"/> to the left of Run with highest privileges .
14	Select the operating system of the PCGenesis server from the Configure for drop-down box.
15	The General tab is complete. Now, select the Triggers tab.

The following screen displays:



Step	Action
16	Select  (New) to create a new trigger.

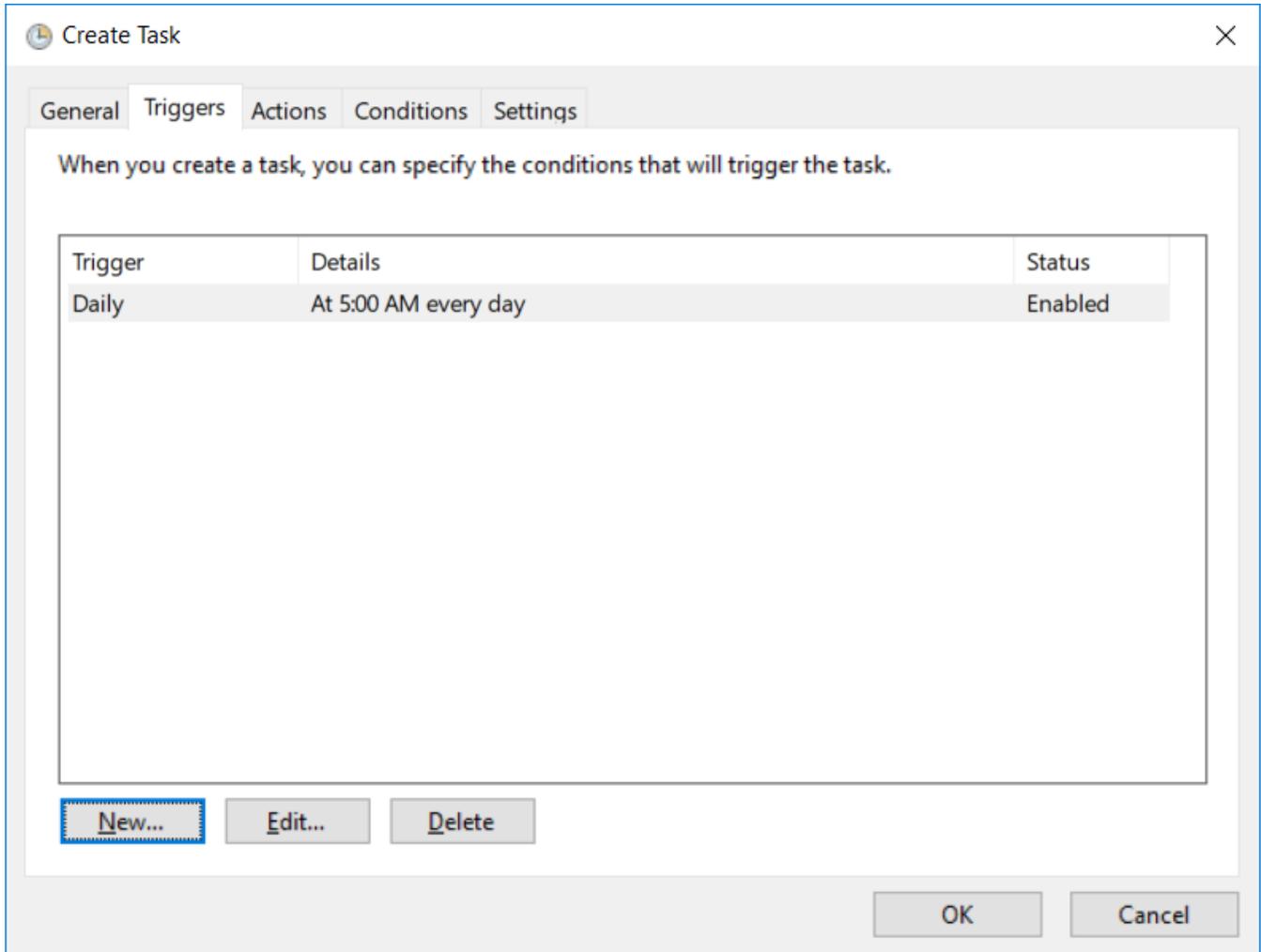
The following screen displays:



Step	Action
17	Under Settings , select <input checked="" type="radio"/> Daily (Daily) so that the task will run every day.
18	Under Start , select today's date and schedule a time that does not interfere with any other backup, clean up, or reorganization process.
19	<p>Reorganization task considerations:</p> <ul style="list-style-type: none"> • The <i>VerraDyne Print Manager</i> automatically runs a clean-up process every night at midnight which should take approximately 15 minutes to run. • Since this process runs at midnight, make sure that the PCGenesis backups and reorganizations are not scheduled to overlap this timeframe. <p>Overlapping timeframes may cause problems with the clean-up, reorganization, and/or backup processes.</p>
20	Select the task to Recur every 1 day so that it runs daily.

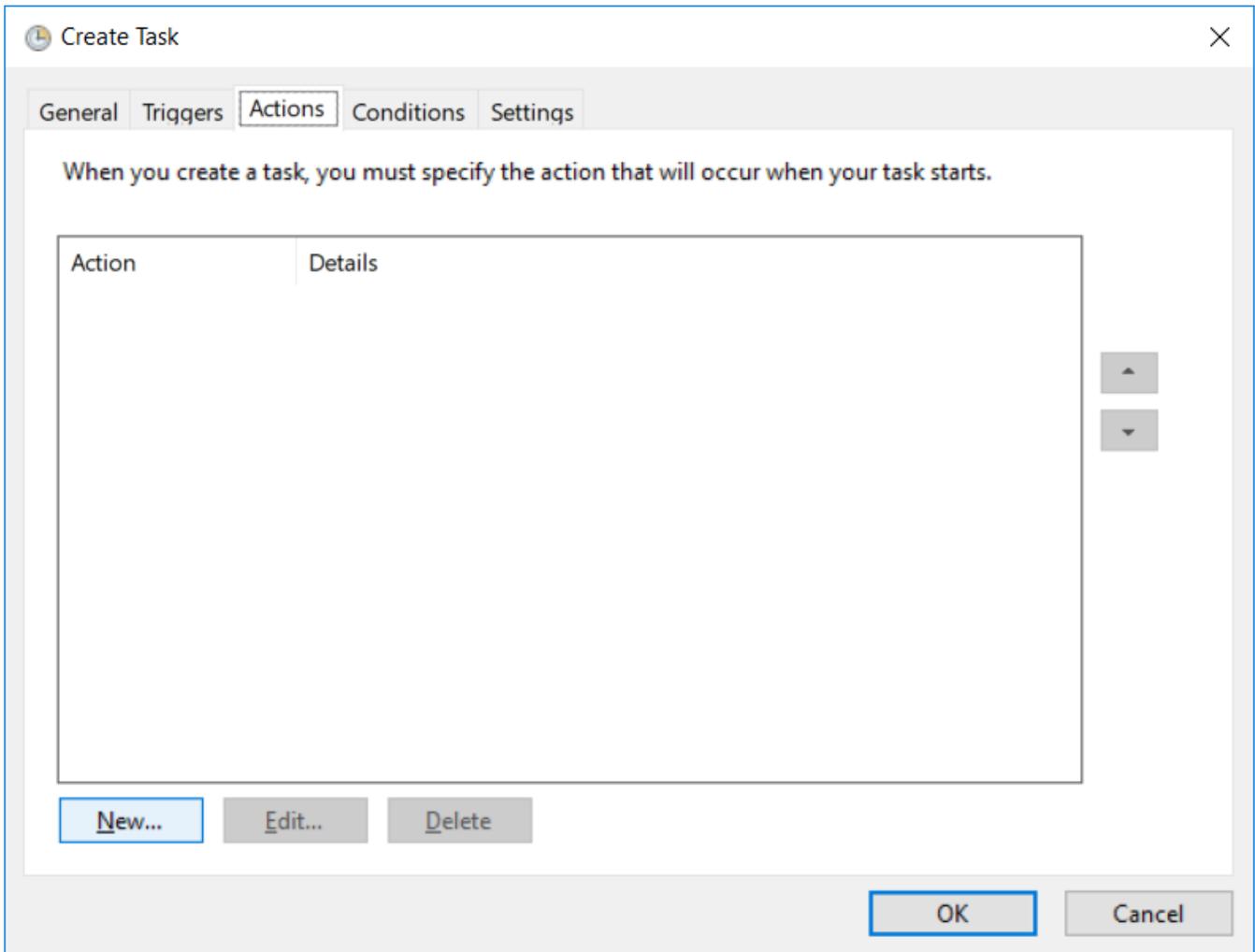
Step	Action
21	Select the check box <input checked="" type="checkbox"/> to the left of Stop task if it runs longer than . Select 1 hour from the drop-down to the right of Stop task if it runs longer than .
22	Select the check box <input checked="" type="checkbox"/> to the left of Enabled .
23	Select <input type="button" value="OK"/> (OK) to return to the Triggers tab.

The following screen displays:



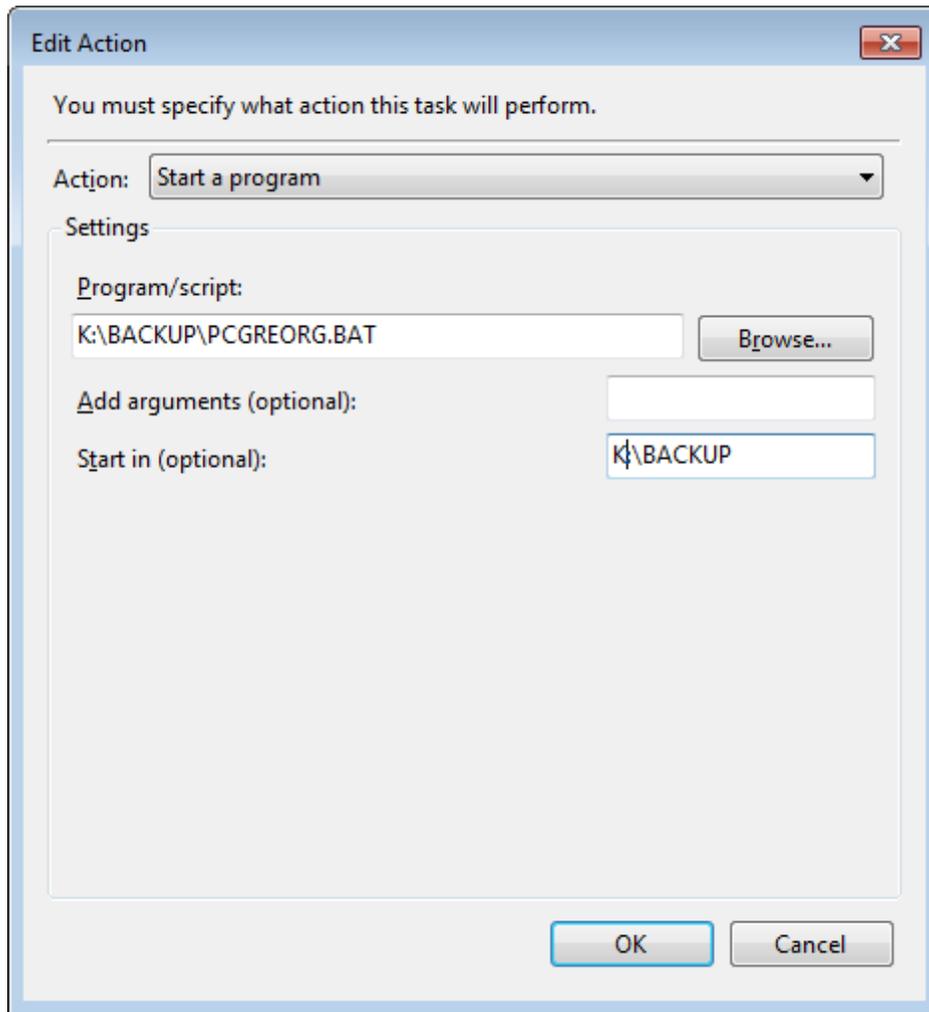
Step	Action
24	The Triggers tab is complete. Now, select the Actions tab.

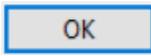
The following screen displays:



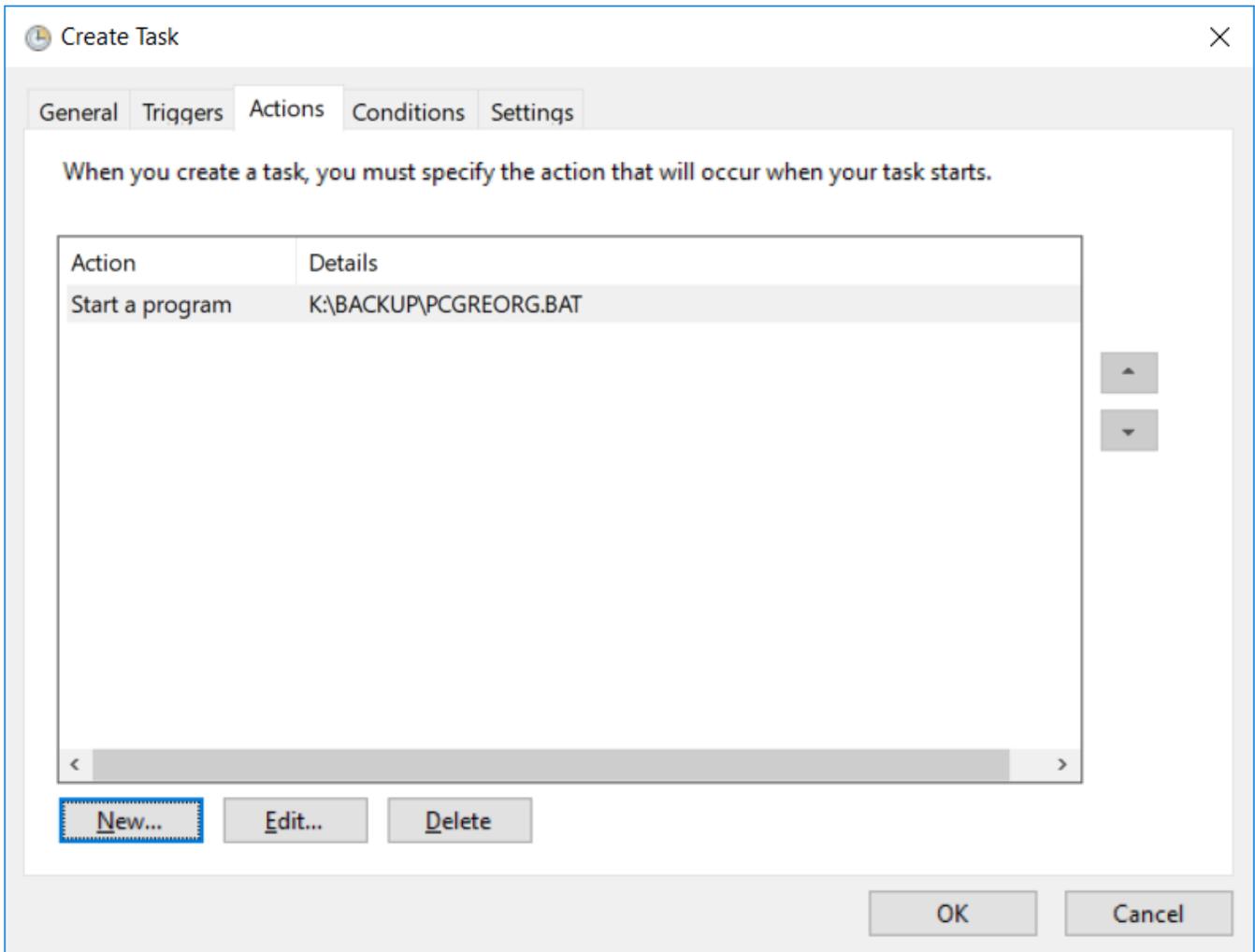
Step	Action
25	Select  (New) to create a new action.

The following screen displays:



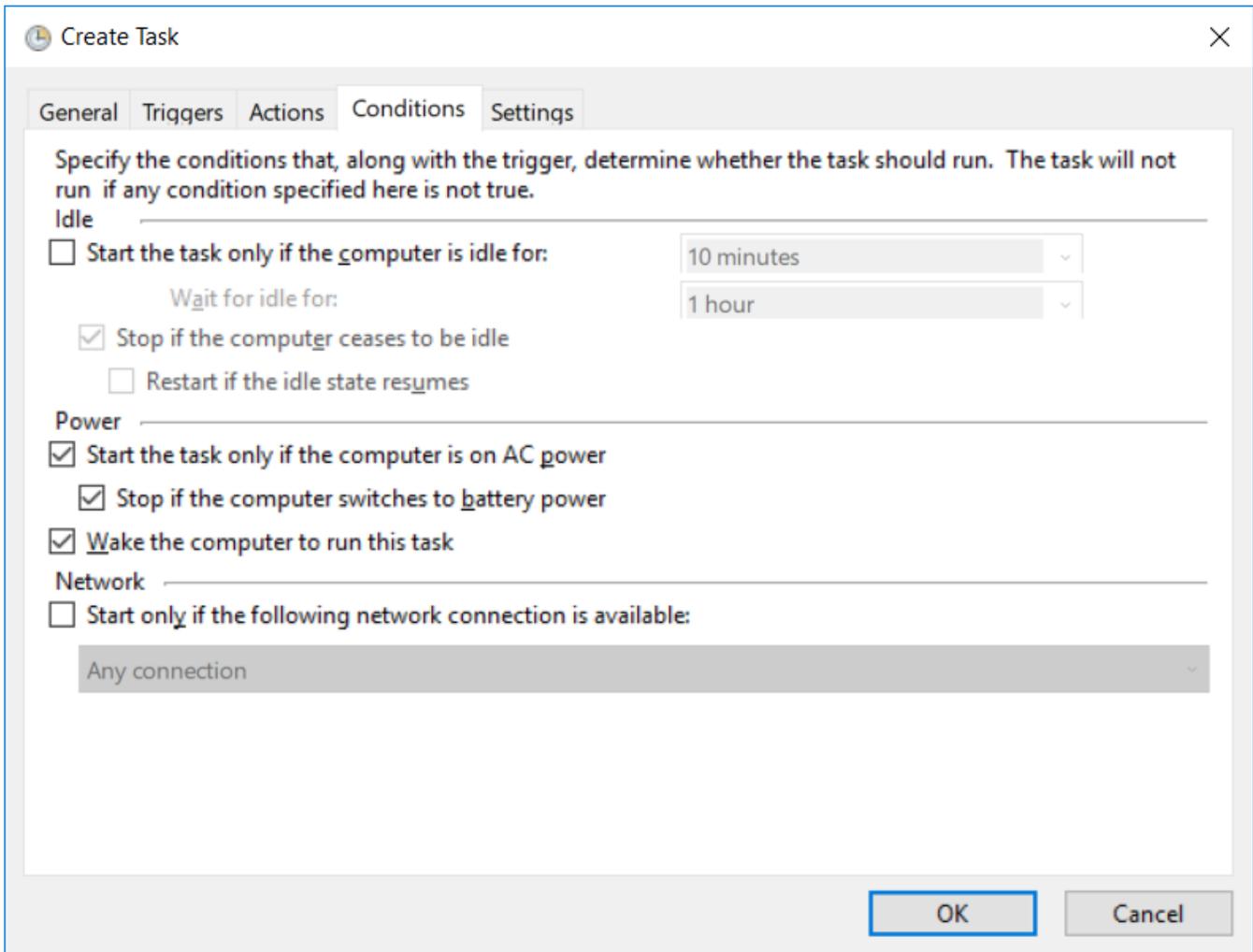
Step	Action
26	Next to Action , select Start a program from the drop-down box.
27	Under Settings , enter the Program/script field as K:\BACKUP\PCGREORG.BAT .
28	Under Settings , enter the Start in (optional) field as K:\BACKUP .
29	Select  (OK) to return to the Actions tab.

The following screen displays:



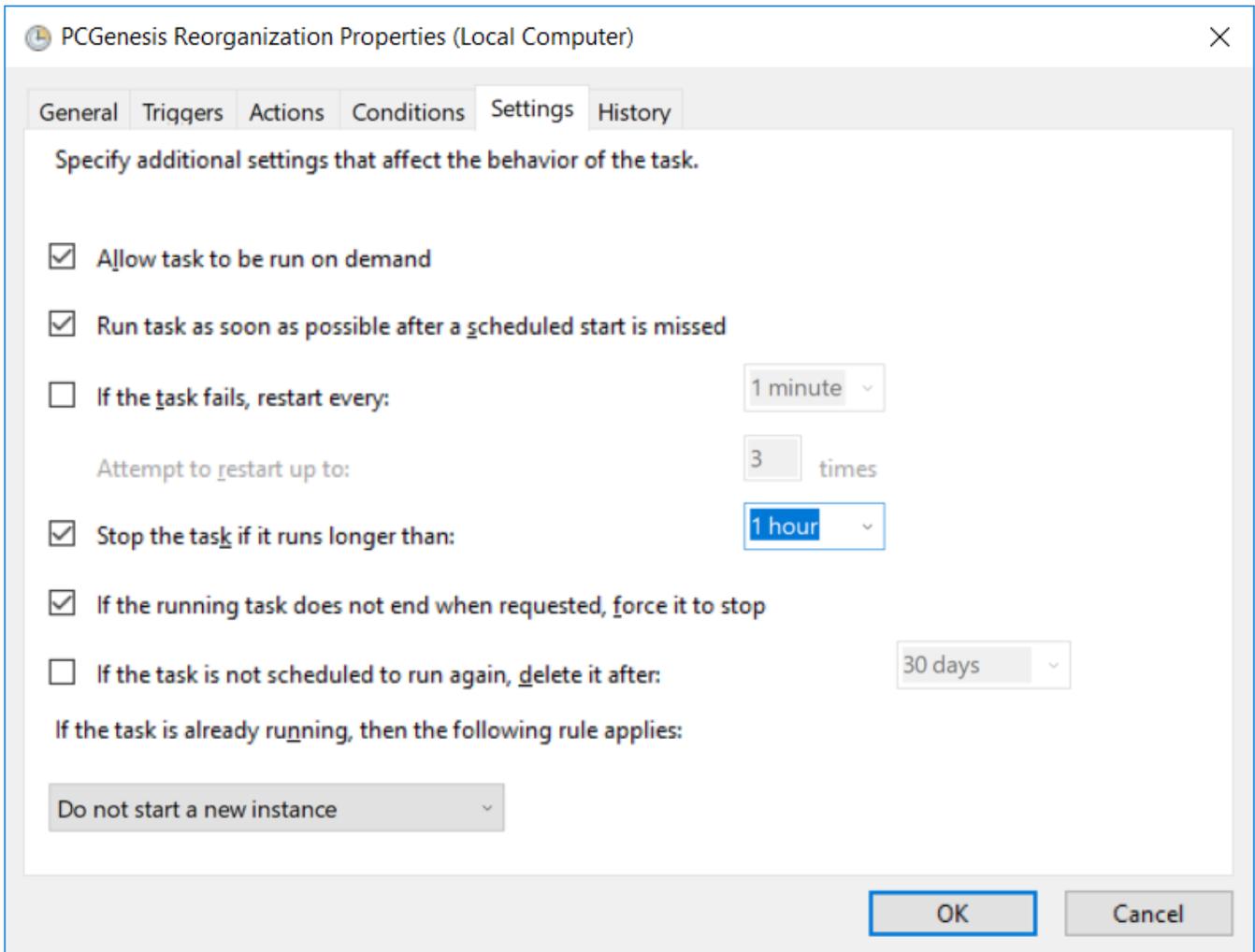
Step	Action
30	The Actions tab is complete. Now, select the Conditions tab.

The following screen displays:



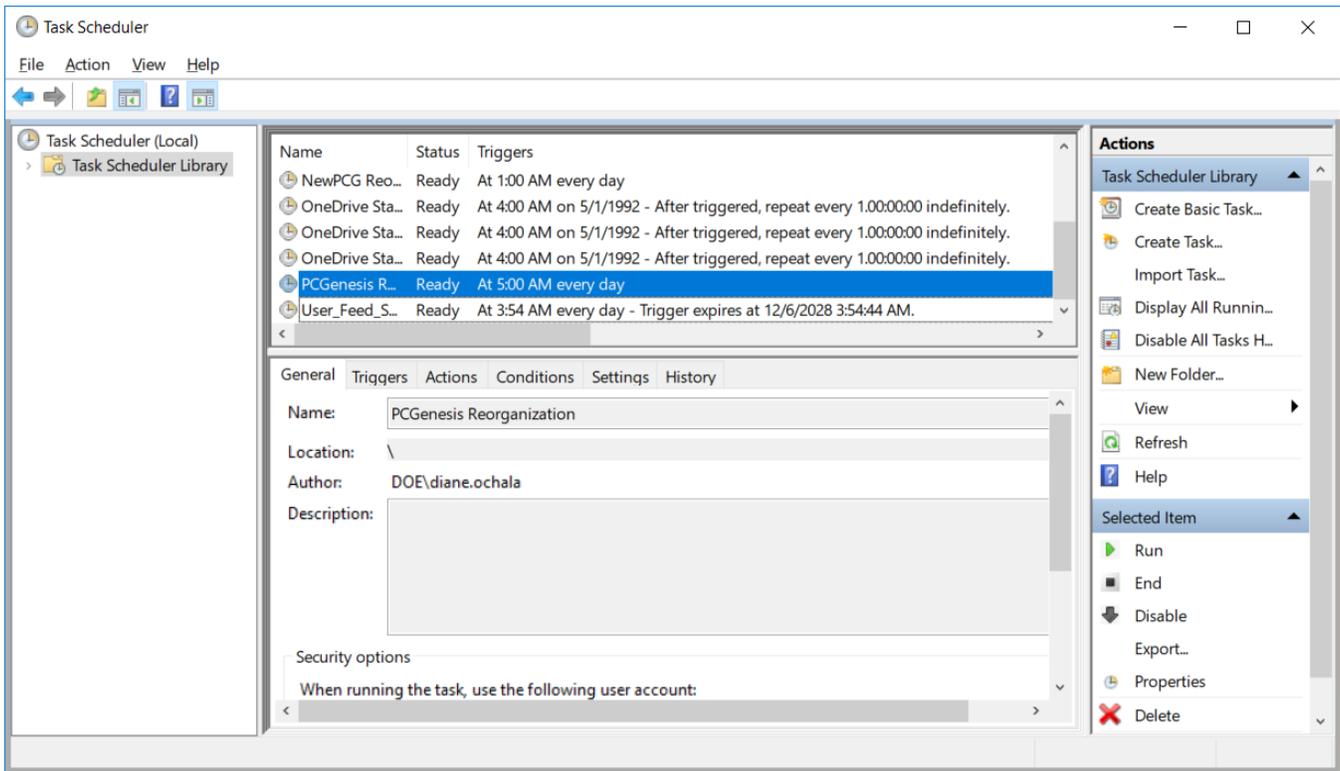
Step	Action
31	Select the check box <input checked="" type="checkbox"/> to the left of Start the task only if the computer is on AC power .
32	Select the check box <input checked="" type="checkbox"/> to the left of Stop if the computer switches to battery power .
33	Select the check box <input checked="" type="checkbox"/> to the left of Wake the computer to run this task .
34	The Conditions tab is complete. Now, select the Settings tab.

The following screen displays:



Step	Action
35	Select the check box <input checked="" type="checkbox"/> to the left of Allow task to be run on demand .
36	Select the check box <input checked="" type="checkbox"/> to the left of Run task as soon as possible after a scheduled start is missed .
37	Select the check box <input checked="" type="checkbox"/> to the left of Stop task if it runs longer than . Select 1 hour from the drop-down to the right of Stop task if it runs longer than .
38	Select the check box <input checked="" type="checkbox"/> to the left of If the running task does not end when requested, force it to stop .
39	The Settings tab is complete. Select <input type="button" value="OK"/> (OK) to return to the Task Scheduler .

The following screen displays:



Step	Action
40	The PCGenesis reorganization task uses ROBOCOPY to create the K:\SECONDX backup directory. Check that ROBOCOPY is available on the PCGenesis server. See the <i>Overview</i> in this document for additional information.
41	The PCGenesis reorganization task uses <i>SQL Server</i> tools to create the PCGenesisDB backup file. Check that the SQL Server (SQLEXPRESSPCG) service is running. See the <i>Overview</i> in this document for additional information.
42	Right-click on the <i>PCGenesis Reorganization</i> task and select Run to verify that the task runs to completion properly.
43	Exit the Task Scheduler .

A1. Reorganization Recap Report – Example

The first page of the *Reorganization Recap Report* shows the progression of the steps completed during the task.

```

File Reorg  Begin  Thu 12/06/2018  01:00:05 AM  K:\SYSTEM  K:\SECOND
                                     PCGenesis District 8991 File Reorganization
                                     PCGOS      2008
                                     PCGTYPE  SV
                                     ReorgPCG

-----
Copy Second -> SecondX                Begin 01:00:07 AM - Complete
ReIndex Second                        Begin 01:01:03 AM - Complete
Call GLBALRPT / PRTLST                Begin 01:02:38 AM - Called

PCG File Copy & Reorg Completed Successfully
                                     18.01.00
    
```

The middle portion of the *Reorganization Recap Report* recaps the **ROBOCOPY** actions.

```

-----
ROBOCOPY      ::      Robust File Copy for Windows
-----

Started : Thursday, December 6, 2018 1:00:08 AM
Source  : K:\SECOND\
Dest    : K:\SecondX\

Files   : *.*

Options : *.* /NFL /TEE /S /E /DCOPY:DA /COPY:DAT /R:1000000 /W:30
-----

New Dir      0 K:\SECOND\
New Dir      0 K:\SECOND\#DODPRT\
New Dir      0 K:\SECOND\#SPLPRT\
New Dir      5 K:\SECOND\ACCT1401\
New Dir      5 K:\SECOND\ACCT1402\
New Dir      5 K:\SECOND\ACCT1403\
New Dir      5 K:\SECOND\ACCT1404\
New Dir      5 K:\SECOND\ACCT1405\
New Dir      5 K:\SECOND\ACCT1406\
New Dir      5 K:\SECOND\ACCT1407\
New Dir      5 K:\SECOND\ACCT1408\
New Dir      5 K:\SECOND\ACCT1409\
New Dir      5 K:\SECOND\ACCT1410\
New Dir      5 K:\SECOND\ACCT1411\
New Dir      5 K:\SECOND\ACCT1412\
New Dir      5 K:\SECOND\ACCT1501\
New Dir      5 K:\SECOND\ACCT1502\
New Dir      5 K:\SECOND\ACCT1503\
New Dir      5 K:\SECOND\ACCT1504\
New Dir      5 K:\SECOND\ACCT1505\
New Dir      5 K:\SECOND\ACCT1506\
New Dir      5 K:\SECOND\ACCT1507\
New Dir      5 K:\SECOND\ACCT1508\
New Dir      5 K:\SECOND\ACCT1509\
New Dir      5 K:\SECOND\ACCT1510\
New Dir      5 K:\SECOND\ACCT1511\
New Dir      5 K:\SECOND\ACCT1512\
New Dir      5 K:\SECOND\ACCT1601\
New Dir      5 K:\SECOND\ACCT1602\
New Dir      5 K:\SECOND\ACCT1603\
New Dir      5 K:\SECOND\ACCT1604\
New Dir      5 K:\SECOND\ACCT1605\
New Dir      5 K:\SECOND\ACCT1606\
New Dir      5 K:\SECOND\ACCT1607\
New Dir      5 K:\SECOND\ACCT1803\
New Dir      5 K:\SECOND\ACCT1804\
New Dir      5 K:\SECOND\ACCT1805\
New Dir      5 K:\SECOND\ACCT1806\
New Dir      60 K:\SECOND\ACRLDATA\
New Dir      0 K:\SECOND\BUDGET\
New Dir      10 K:\SECOND\CPIDATA\
New Dir      69 K:\SECOND\FARDATA\
New Dir      7 K:\SECOND\FARMNTH\
New Dir      0 K:\SECOND\FARPMTH\
New Dir      1 K:\SECOND\GOSEND\
New Dir      0 K:\SECOND\GROSSDAT\
New Dir      66 K:\SECOND\PAYDATA\
New Dir      29 K:\SECOND\PERDATA\
New Dir      1 K:\SECOND\TRANDATA\
-----

Dirs :      Total      Copied      Skipped      Mismatch      FAILED      Extras
      :      68          68           0             0             0           0
Files :      513          513           0             0             0           0
Bytes :    1.029 g      1.029 g         0             0             0           0
Times  :    0:00:54      0:00:54         0             0             0           0

Speed :                20404907 Bytes/sec.
Speed :                1167.578 MegaBytes/min.
Ended : Thursday, December 6, 2018 1:01:02 AM

```

The final portion of the *Reorganization Recap Report* details the file reindexing information.

```

PCG Dist=8991 File Reorganization 12/06/2018 01:00:05 AM
NOTE: This is NOT A BACKUP!!!

Copy Second -> SecondX Begin 01:00:07 AM - Complete
ReIndex Second Begin 01:01:03 AM - Complete
Call GLBALRPT / PRTLST Begin 01:02:38 AM - Called

R = Rebuild

Directory: CPIDATA
File Size Second Records Date Time Size SecondX Records Date Time
CPIFILE 492,032 1,386 12/06/2018 01:01:03 AM R 492,032 1,386 12/05/2018 01:00:48 AM
CPIPCNTL 1,536 1 12/06/2018 01:01:03 AM R 1,536 1 12/05/2018 01:00:48 AM
CPIXREF 146,432 1,834 12/06/2018 01:01:03 AM R 146,432 1,834 12/05/2018 01:00:49 AM
DESCtbl 68,608 662 12/06/2018 01:01:04 AM R 68,608 662 12/05/2018 01:00:49 AM
SALSCHED 580,096 24 12/06/2018 01:01:04 AM R 580,096 24 12/05/2018 01:00:49 AM

Directory: FARDATA
File Size Second Records Date Time Size SecondX Records Date Time
ACCOUNT 13,332,992 50,780 12/06/2018 01:01:06 AM R 13,332,992 50,780 12/05/2018 01:00:50 AM
ACCOUNTG 1,677,824 4,981 12/06/2018 01:01:06 AM R 1,677,824 4,981 12/05/2018 01:00:50 AM
ACCOUNTR 1,472,000 5,650 12/06/2018 01:01:06 AM R 1,472,000 5,650 12/05/2018 01:00:50 AM
ASSET 5,120 1 12/06/2018 01:01:06 AM R 5,120 1 12/05/2018 01:00:50 AM
AUDIT 531,907,584 2,402,219 12/06/2018 01:02:12 AM R 531,907,584 2,402,219 12/05/2018 01:02:01 AM
BANK 2,048 11 12/06/2018 01:02:12 AM R 2,048 11 12/05/2018 01:02:01 AM
BANKMICR 2,048 1 12/06/2018 01:02:12 AM R 2,048 1 12/05/2018 01:02:01 AM
CHEKMSTR 10,630,144 78,856 12/06/2018 01:02:13 AM R 10,630,144 78,856 12/05/2018 01:02:02 AM
NEWCNVT 120,832 1,815 12/06/2018 01:02:13 AM R 120,832 1,815 12/05/2018 01:02:02 AM
CONTROL 4,096 5 12/06/2018 01:02:13 AM R 4,096 5 12/05/2018 01:02:32 AM
CTRL0396 14,336 85 12/06/2018 01:02:13 AM R 14,336 85 12/05/2018 01:02:02 AM
EXPENSE 194,220,544 164,903 12/06/2018 01:02:23 AM R 194,220,544 164,903 12/05/2018 01:02:11 AM
FACILITY 2,560 8 12/06/2018 01:02:23 AM R 2,560 8 12/05/2018 01:02:11 AM
INVEST 52,736 70 12/06/2018 01:02:23 AM R 52,736 70 12/05/2018 01:02:11 AM
JECONTRL 1,536 3 12/06/2018 01:02:23 AM R 1,536 3 12/05/2018 01:02:11 AM
JEMASTER 4,215,296 44,093 12/06/2018 01:02:23 AM R 4,215,296 44,093 12/05/2018 01:02:11 AM
MANUALS 512 12/06/2018 01:02:23 AM R 512 12/05/2018 01:02:12 AM
NAME 51,712 1,178 12/06/2018 01:02:23 AM R 51,712 1,178 12/05/2018 01:02:12 AM
PO 215,040 139 12/06/2018 01:02:24 AM R 215,040 139 12/05/2018 01:02:12 AM
POPRINT 40,960 338 12/06/2018 01:02:24 AM R 40,960 338 12/05/2018 01:02:12 AM
RECEIPT 7,872,000 11,410 12/06/2018 01:02:24 AM R 7,872,000 11,410 12/05/2018 01:02:12 AM
RECEIVE 3,987,456 1,972 12/06/2018 01:02:24 AM R 3,987,456 1,972 12/05/2018 01:02:12 AM
SNUIFUND 14,848 1 12/06/2018 01:02:24 AM R 14,848 1 12/05/2018 01:02:12 AM
SOURCE 16,384 48 12/06/2018 01:02:24 AM R 16,384 48 12/05/2018 01:02:13 AM
VENDOR 3,440,640 6,207 12/06/2018 01:02:25 AM R 3,440,640 6,207 12/05/2018 01:02:13 AM
WXFER 237,568 1,698 12/06/2018 01:02:25 AM R 237,568 1,698 12/05/2018 01:02:13 AM

Directory: PAYDATA
File Size Second Records Date Time Size SecondX Records Date Time
ANNUITY 1,536 4 12/06/2018 01:02:25 AM R 1,536 4 12/05/2018 01:02:13 AM
BENEDED 250,368 1,072 12/06/2018 01:02:25 AM R 250,368 1,072 12/05/2018 01:02:13 AM
CHEKMSTR 27,256,832 94,517 12/06/2018 01:02:26 AM R 27,256,832 94,517 12/05/2018 01:02:14 AM
DATEFL 1,536 1 12/06/2018 01:02:26 AM R 1,536 1 12/05/2018 01:02:14 AM
DDP 198,144 559 12/06/2018 01:02:26 AM R 198,144 559 12/05/2018 01:02:15 AM
DEDCTL 1,536 1 12/06/2018 01:02:26 AM R 1,536 1 12/05/2018 01:02:15 AM
DEDS 7,680 62 12/06/2018 01:02:26 AM R 7,680 62 12/05/2018 01:02:15 AM
DESC 58,880 427 12/06/2018 01:02:26 AM R 58,880 427 12/05/2018 01:02:15 AM
DESCA 61,440 266 12/06/2018 01:02:27 AM R 61,440 266 12/05/2018 01:02:15 AM
DISTRIB 58,909,696 333,625 12/06/2018 01:02:30 AM R 58,909,696 333,625 12/05/2018 01:02:18 AM
EMPCHG 1,201,664 3,725 12/06/2018 01:02:30 AM R 1,201,664 3,725 12/05/2018 01:02:18 AM

The REORG Process is Complete

NOTE: This is NOT A BACKUP!!!

```

A2. GL Out of Balance Recap – Example

```
GENERAL LEDGER  BEGIN PERIOD 07/01/17  END PERIOD 06/30/18      GL Out of Balance Recap      PAGE      1
YR 18 FUND 603      *----- OUT OF BALANCE -----*      .02
```