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How to create individual job step output files as per the execution times and purge them on a scheduled time?

Posted by **jp chen** on April 6th, 2014

Pop Quiz again HotShot! There's a critical SQL Server Agent job that was created N years ago by some very senioreed SQL Server DBAs with collaborations with what some had claimed the smartest SQL Server Developers under the sky. The job has more than 23 steps and the last step is to notify the VIPs (Very Import People) in your company on the results. The job is scheduled to run daily and it fails on step 5 and step 13 intermittently for the past 6 months. Everyone was too busy to attempt to fix this job failure that's very critical to company. You are the newly hired SQL Server DBA. On your first day on the new job, you have been delegated to work with the Development team resolve this job failure. You will need to enable the job output and make sure they do not get overwritten so that the Development team get to review the job output log files for troubleshooting. What do you do? What do you do?! Remember: there's no crying for DBAs! Let's attempt our usual troubleshooting methodology: 1.Fact finding. 2. Investigation and research. 3. Exploring and testing your options in a testing environment. 4. Rollout to production when ready. 5. Get a Grande Frappuccino from the nearest Starbucks.

1. Facts:

- 1) Steps 5 and 13 have been failing intermittently for the past 6 months.
- 2) Step 5 has not job output.
- 3) Step 13 has job output and on each execution the last job out will overwrite the previous one as per the default option. In case the latest execution is successful, it will overwrite the previous job failure output. Therefore, you will not be able to see the previous failure or any other failure before it.

2. After some research and investigation, you find that:

- 1) You will need to enable tokens in order to dynamically generate the output file name. See "Use Tokens in Job Steps" for more details: <http://msdn.microsoft.com/en-us/library/ms175575.aspx>
(<http://msdn.microsoft.com/en-us/library/ms175575.aspx>)
- 2) After you had enabled the token, you will need to add in the "Output file:" textbox the directory for the job output, the job step name, and the date and time variables to dynamically generate the output file. For example: C:\OutputFiles\Example_Step1_\$(ESCAPE_NONE(DATE))_\$(ESCAPE_NONE(TIME)).log

3) To purge the old output file, you can use a Powershell script to delete the *.log files in the job output file rather than using the xp_delete_file system proc. I know I had blogged about it a few months back, but it has a mind of its own and it's not worth to waste our time on it any further.

3. Test the solution based on our research and investigation in a testing environment.

1) Enable the token:

```
1 USE [msdb]
2 GO
3 EXEC msdb.dbo.sp_set_sqlagent_properties @alert_replace_runtime_tokens=1
4 GO
```

2) Create a test job. For example: "Test Job Output."

3) Add a job step to run some basic select statements. For example:

```
1 SELECT SERVERPROPERTY('SERVERNAME') [Instance_Name], GETDATE() [Time_Now]
```

4) Click on the "Advanced" page and add in the "Output file:" text box:

```
1 C:\OutputFiles\Example_Step1_${ESCAPE_NONE(DATE)}_${ESCAPE_NONE(TIME)}.log
```

Where:

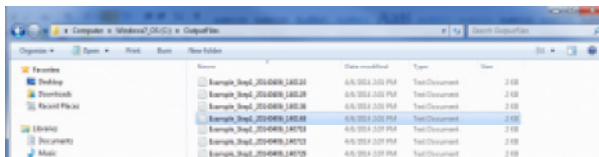
C:\OutputFiles is the existing directory for the output files.

Test_Step1 is the job step name.

_\${ESCAPE_NONE(DATE)}_\${ESCAPE_NONE(TIME)} is the date and time of the job execution.

5) After the test job is created in step 4), run it 3 times or more.

6) Browse to the job output folder, you will then see the job outputs for each of the executions you had performed in step 5).

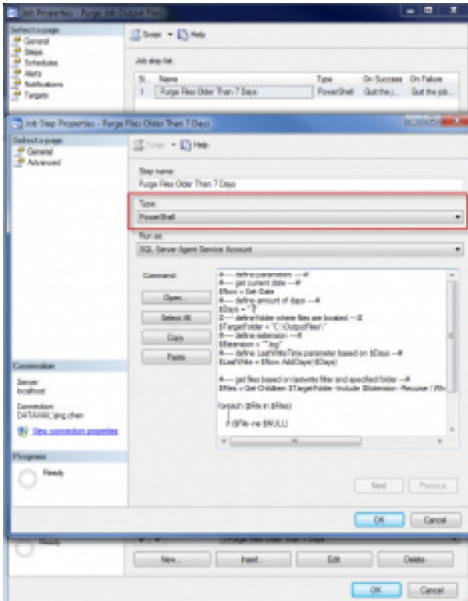


<http://www.handsonsqlserver.com/wp-content/uploads/2014/04/JobOutputFiles.png>

7) To purge the output files older than 7 days or set your retention days, create a purge job and embed the following Powershell script. Set the retention day as the value for \$Days and in the job step type, you will need to select "PowerShell":

```
1 #----- define parameters -----#
2 #----- get current date -----#
3 $Now = Get-Date
4 #----- define amount of days -----#
5 $Days = "7"
6 #----- define folder where files are located -----#
7 $TargetFolder = "C:\OutputFiles\"
8 #----- define extension -----#
9 $Extension = "*.log"
10 #----- define LastWriteTime parameter based on $Days ---#
11 $LastWrite = $Now.AddDays(-$Days)
12
13 #----- get files based on lastwrite filter and specified folder ---#
14 $Files = Get-Childitem $TargetFolder -Include $Extension -Recurse | Where
    { $_.LastWriteTime -le "$LastWrite" }
15
16 foreach ($File in $Files)
17 {
18     if ($File -ne $NULL)
19     {
20         Remove-Item $File.FullName | out-null
21     }
22 }
```

<http://www.handsonsqlserver.com/wp->



[content/uploads/2014/04/PowerShell Script To Purge JobOutput Files.png](#))

4. Rollout to production when ready.

You may need to submit a Change Request ticket, get the approval, or do some demonstrations to show and proof that it works before you can rollout to the production. If you encounter bureaucratic roadblocks, you are on your own. Watch some “[Meet the Press \(http://www.nbcnews.com/meet-the-press\)](http://www.nbcnews.com/meet-the-press)” or “[Face the Nation \(http://www.cbsnews.com/face-the-nation/\)](http://www.cbsnews.com/face-the-nation/)” on Sunday mornings to get some exposures on how to handle them diplomatically. [ESPN SportCenter \(http://espn.go.com/video/sportscenter\)](http://espn.go.com/video/sportscenter) can’t help you on this subject matter.

5. Get a Grande Frappuccino from the nearest Starbucks and enjoy!

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19	20	21	22	23	24	25
26	27	28	29	30		

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