Databases Laboratory Work Nr. 2

The Creation and Maintenance of Database

Prerequisites:
SQL Server 2017, SQL Server Management Studio 2017
Objectives:
● Study Chapter 2;
● Complete the practical tasks.
Tasks:

1. Create a database in the ***MyDocuments/Data*** folder, fixing the growth of the primary file in 16MB with limit to 128MB and of the log file with growth of 64MB limited to 1024MB. The secondary files should be defined in a new filegroup and with the growth of 64MB limited to 1024MB;

2. Create a database with the log file located in ***MyDocuments/Log***, the name of the log file should be different in the OS environment. It is important that the database should be compatible with SQL Server 2017 and to be accessible to only one user at a specific time.

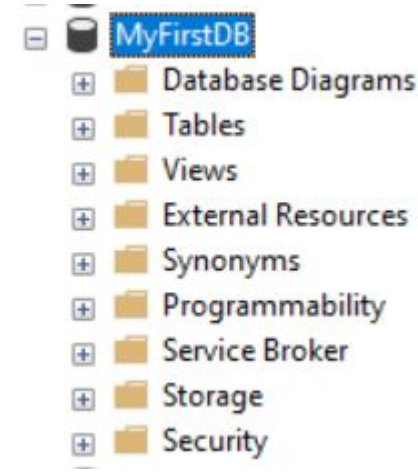
3. Create a maintenance plan for the database created in the first task. The unused space should be shrinked when it reaches 2000MB. The freed space should be returned to the OS. This plan should be executed every Friday at 12 AM. The report should be saved in ***MyDocuments/SQL_event_logs*** folder. Initialize the maintenance plan, verify the results in the log file.

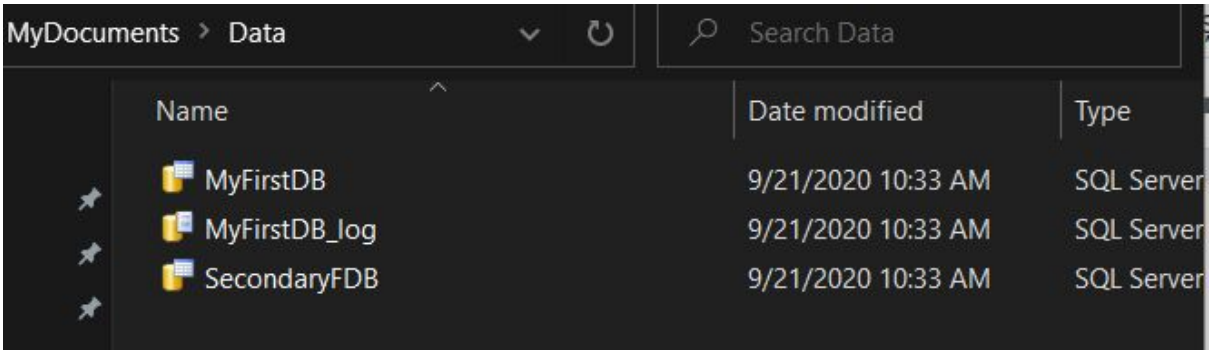
4. Create a maintenance plan for the database created in the second task. It should be called "***Reconstruire Index***". In this plan, the system must accomplish the rebuilding of indices of the tables only (excluding the views). The free space on the page should be 10%. The sorting of indices should be realized in **tempdb**. After rebuilding, the complete statistics should be collected about the rebuilt indices. The third step of the plan should be the task of erasing the history of the Backup-Restore operations that had taken place in the SQL Server. All the history that is older than 6 weeks should be deleted. This plan should be executed monthly, on the first Sunday. Create the ***MyDocuments/SQL_event_logs*** folder. The execution report should be placed there and the maintenance process should be logged extensively. Initialize the maintenance plan, verify the results in the log file.

Implementation:

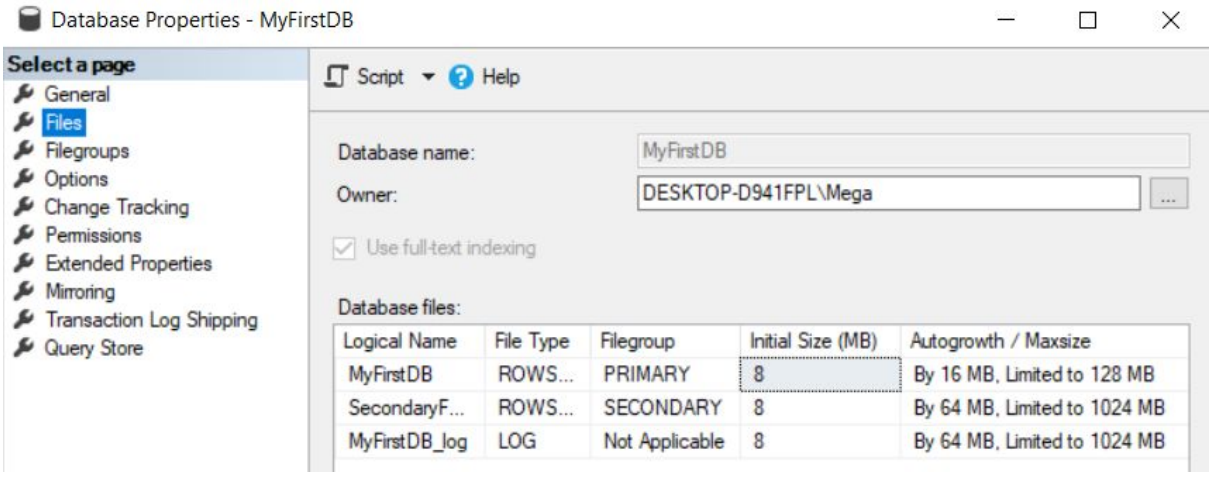
Task 1:

Create a database in the ***MyDocuments/Data*** folder



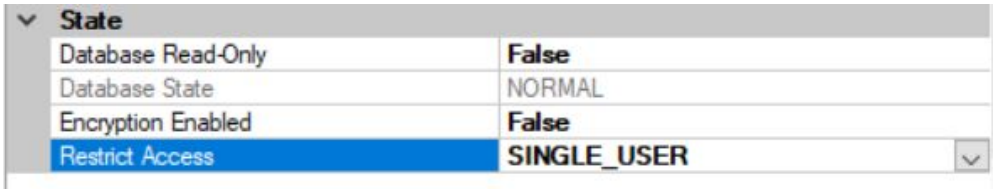


Set the properties: the growth of the primary file in 16MB with limit to 128MB and of the log file with growth of 64MB limited to 1024MB. The secondary files should be defined in a new filegroup and with the growth of 64MB limited to 1024MB.



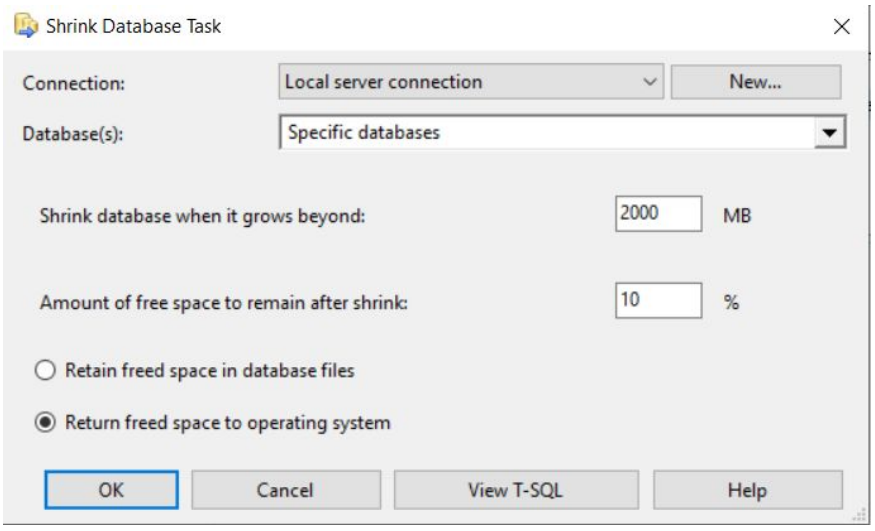
Task 2:

Create a database with the log file located in ***MyDocuments/Log*** and to be accessible to only one user at a specific time.

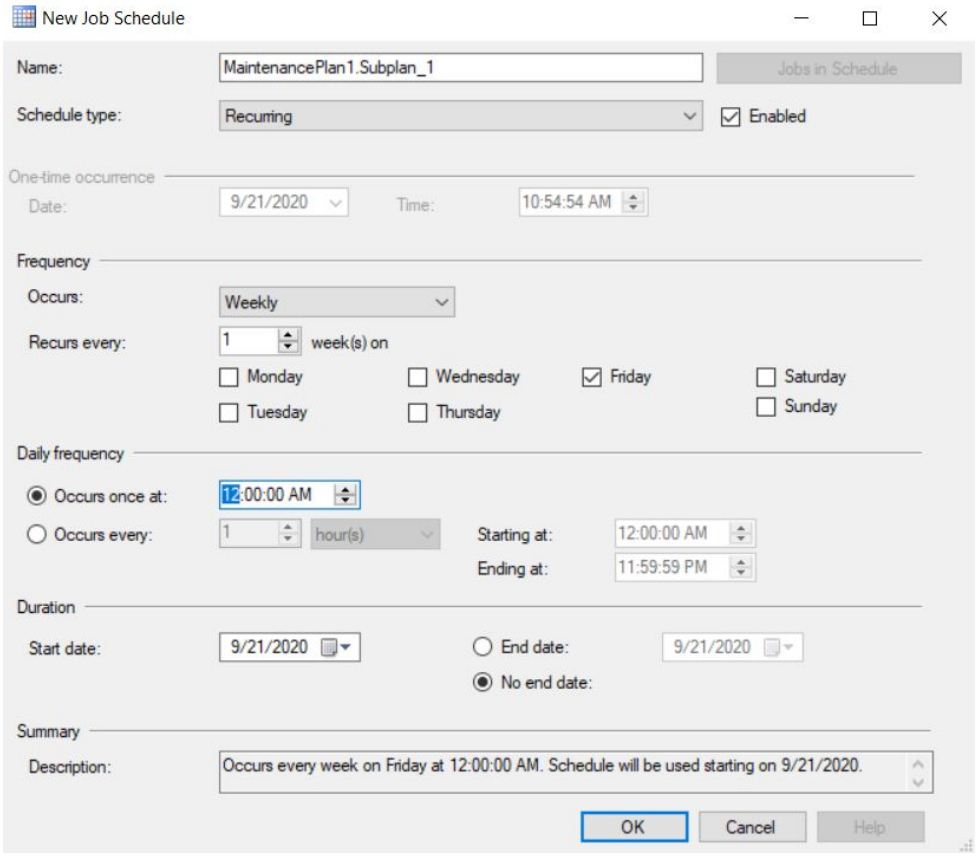


Task 3:

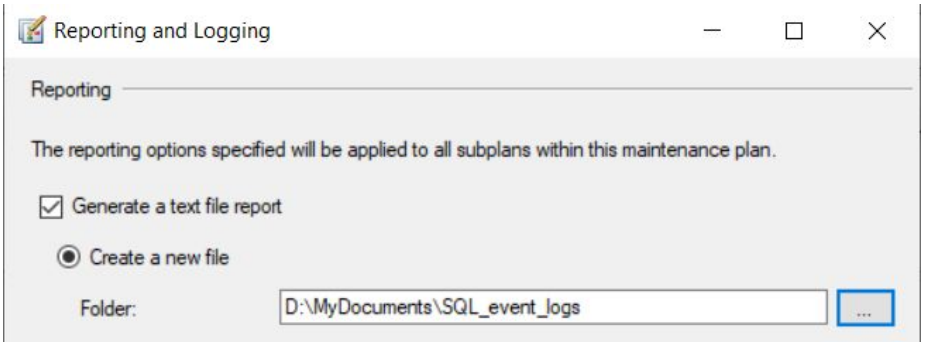
Create a maintenance plan for the database created in the first DB with the parameters with unused space should be shrinked when it reaches 2000MB.



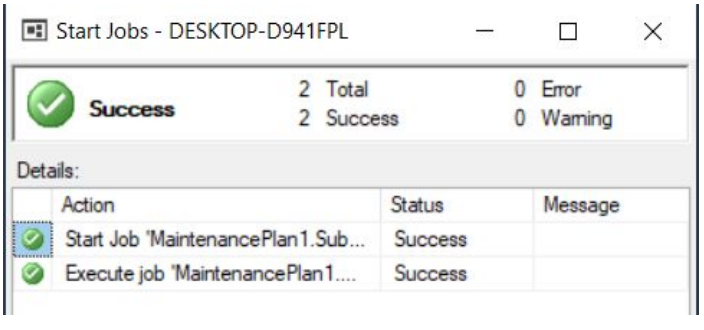
Set the schedule:



Set the report file path:



Run the Maintenance Plan:



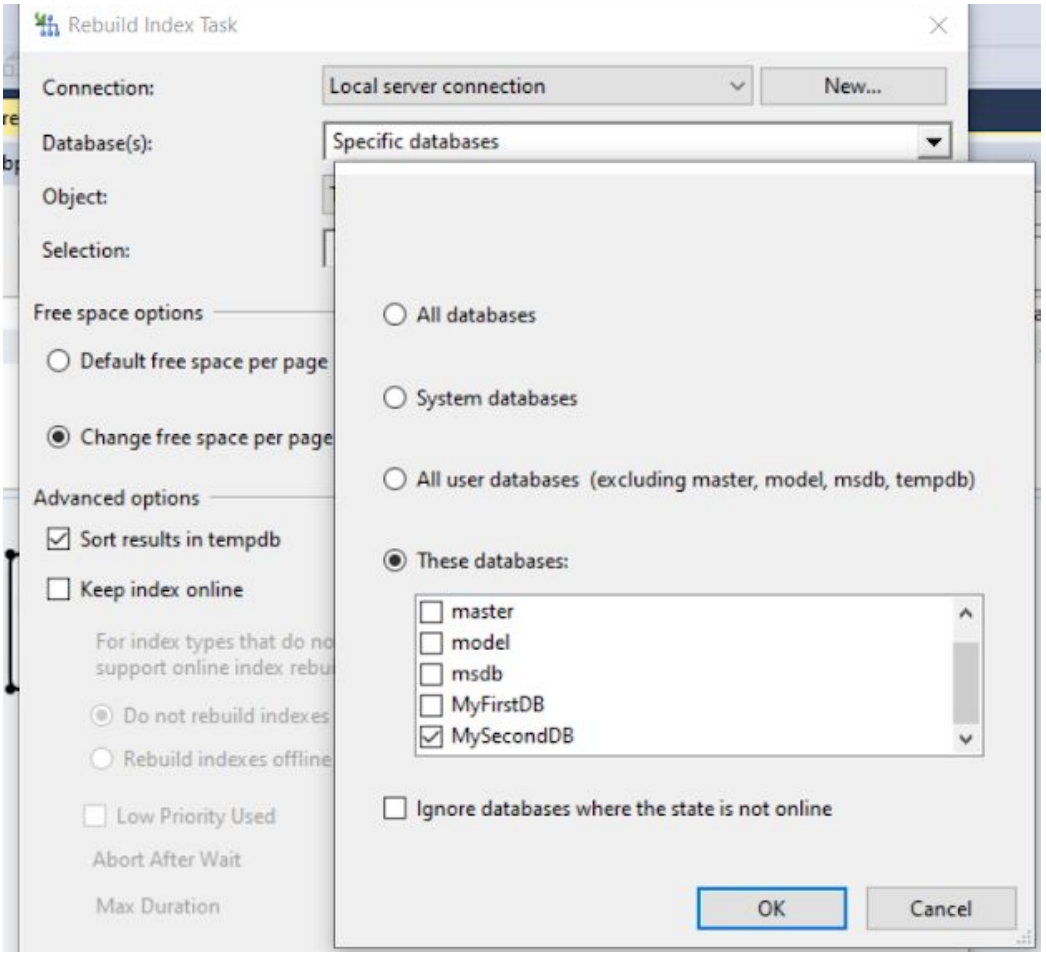
MaintenancePlan1_Subplan_1_20200921105848 - Notepad

File Edit Format View Help

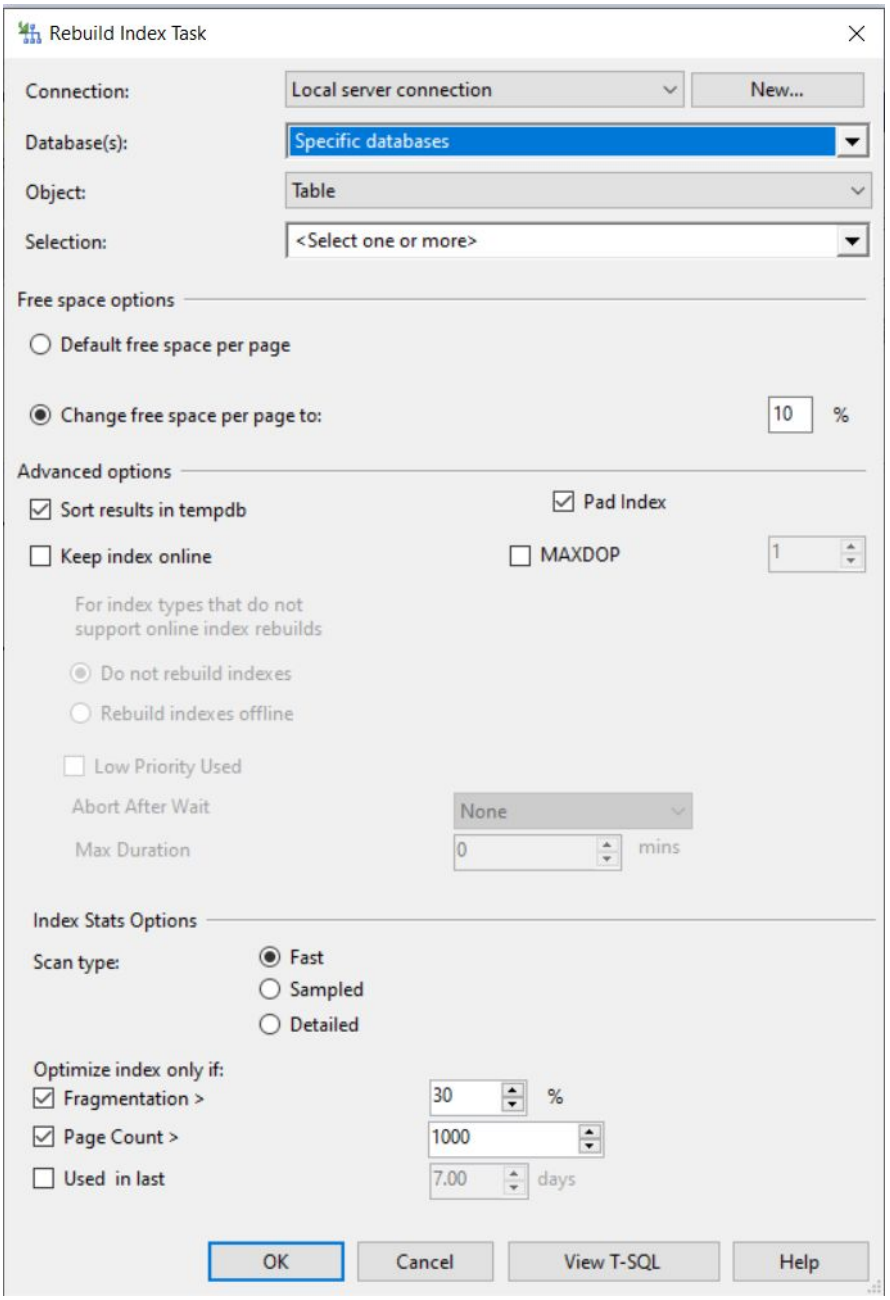
```
Microsoft(R) Server Maintenance Utility (Unicode) Version 14.0.2027
Report was generated on "DESKTOP-D941FPL".
Maintenance Plan: MaintenancePlan1
Duration: 00:00:03
Status: Succeeded.
Details:

Task start: 2020-09-21T10:58:46.
Task end: 2020-09-21T10:58:46.
Success
```

Task 4:

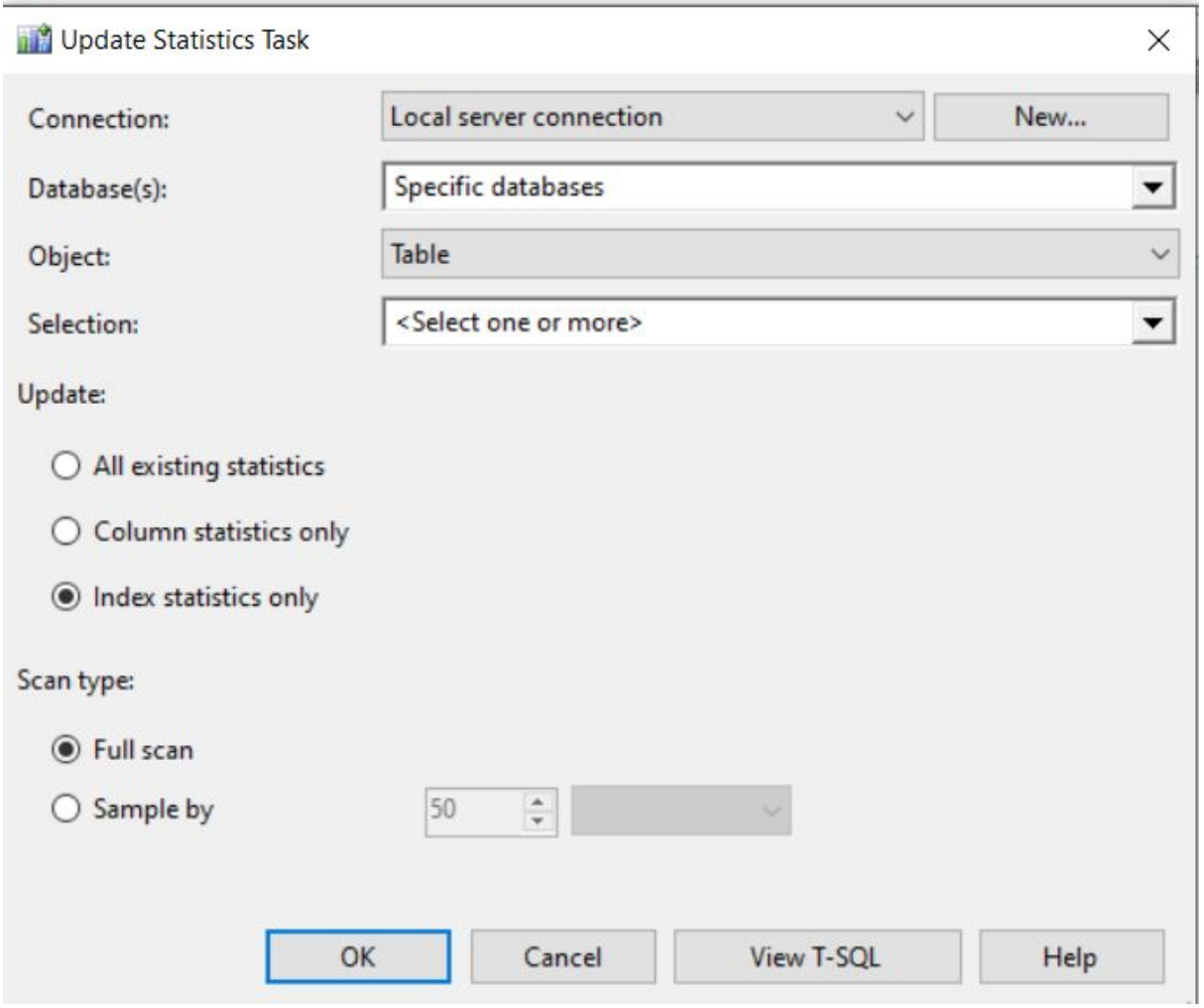
Create a maintenance plan for the database created in the second task. It should be called "***Reconstruire Index***"



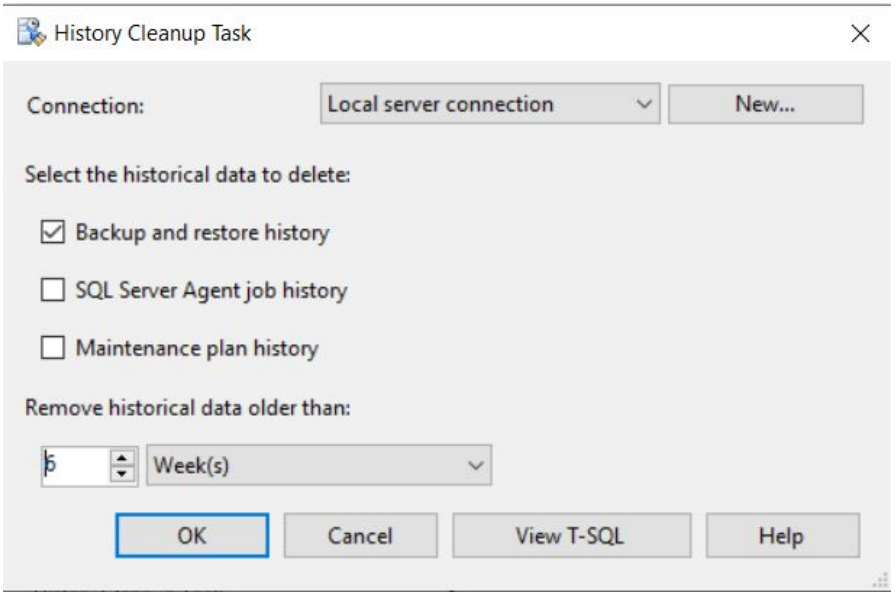
In the following step the sorting of indices should be realized in **tempdb.**

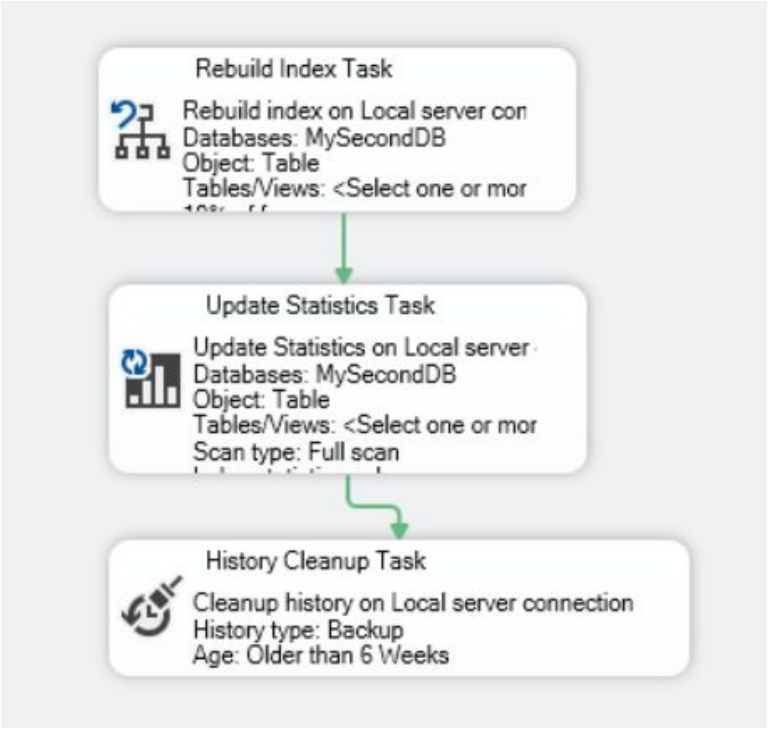


We configure the following task to collect statistics about the rebuild indexes.

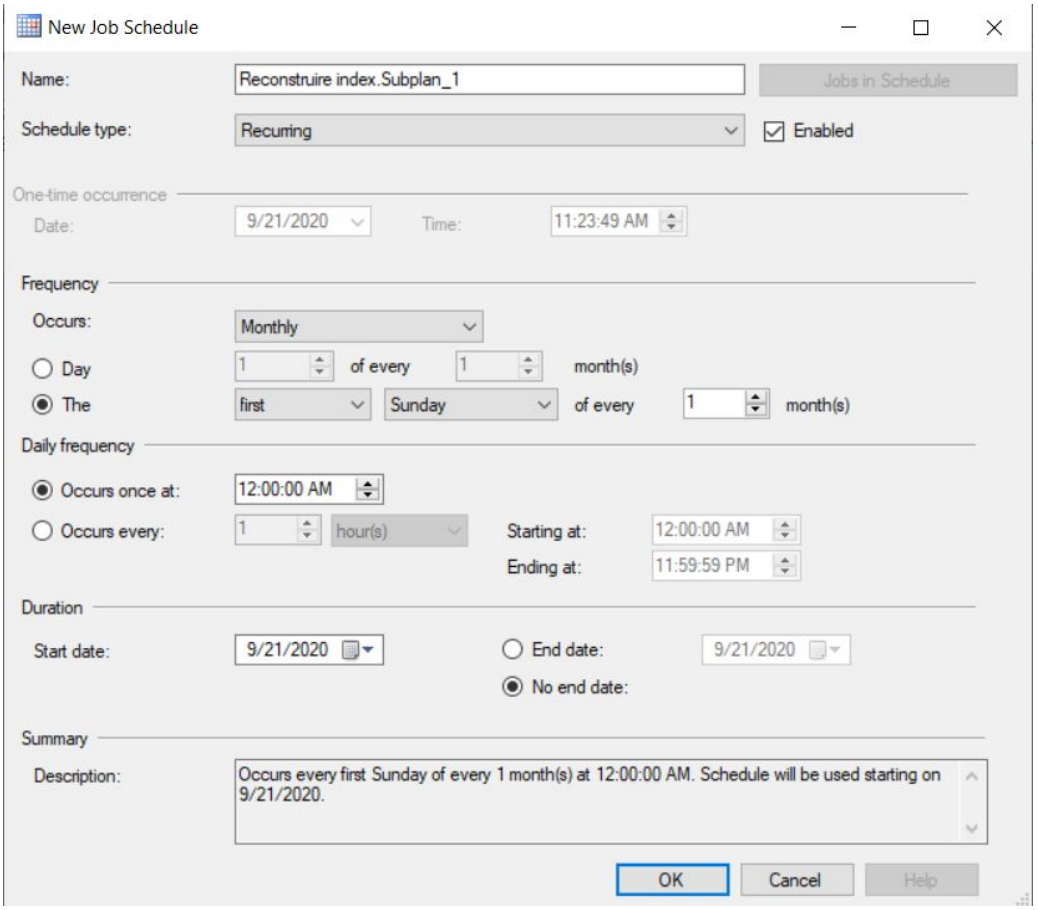


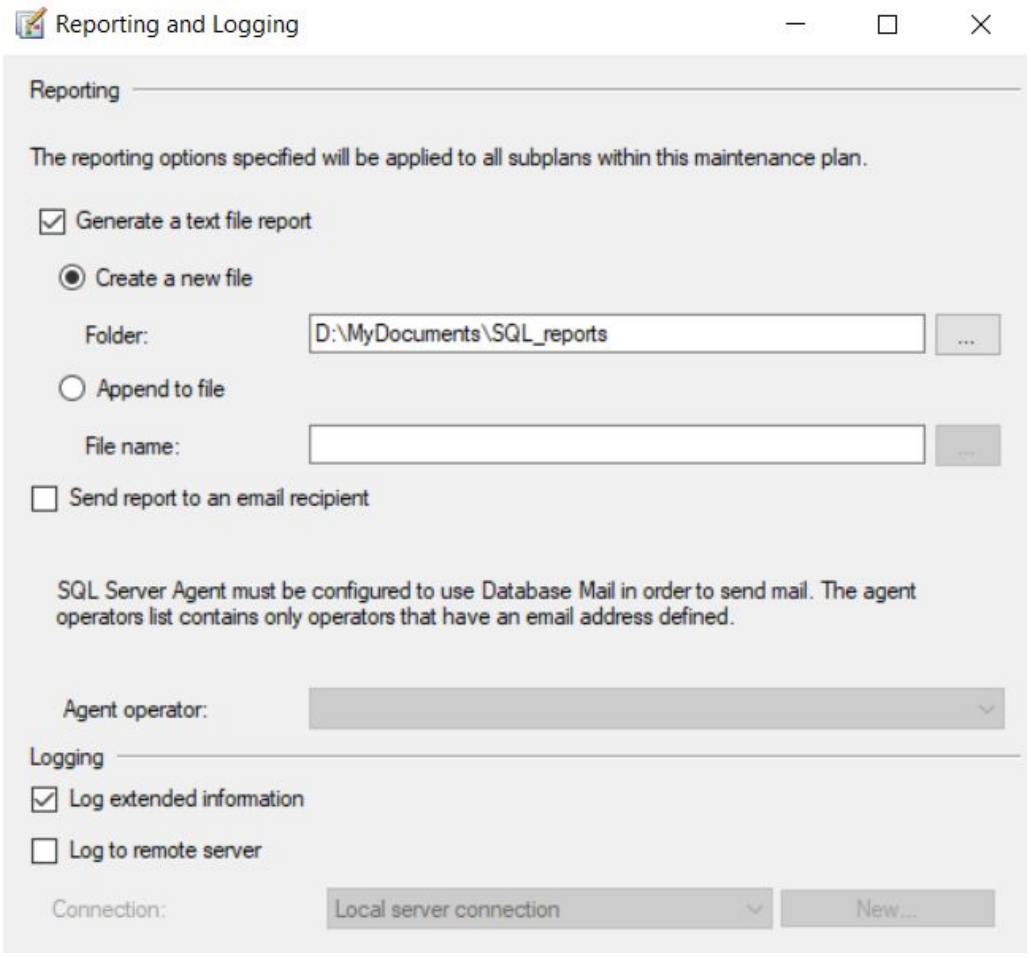
Clean up history after 6 weeks:





We set the Schedule:





Report:

Reconstruire index_Subplan_1_20200921112611 - Notepad

File Edit Format View Help

```
Microsoft(R) Server Maintenance Utility (Unicode) Version 14.0.2027
Report was generated on "DESKTOP-D941FPL".
Maintenance Plan: Reconstruire index
Duration: 00:00:13
Status: Succeeded.
Details:

Rebuild index on Local server connection
Databases: MySecondDB
Object: Tables and views
10% of free space
Task start: 2020-09-21T11:25:59.
Task end: 2020-09-21T11:25:59.
Success
Command:
GO
```

Conclusion:

During this laboratory I learned how to create and configure databases. I became familiar with maintenance plans, how to create them either manually or via Maintenance Plan Wizard, how to configure tasks and how to set up the reports and execution times.