# Databases Laboratory Work Nr.2

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FAF – 192

## Title: Creating and maintaining the database

### Prerequisites:

- PC with MySQL tools installed
- Lab book with steps
- Basic knowledge about MySQL

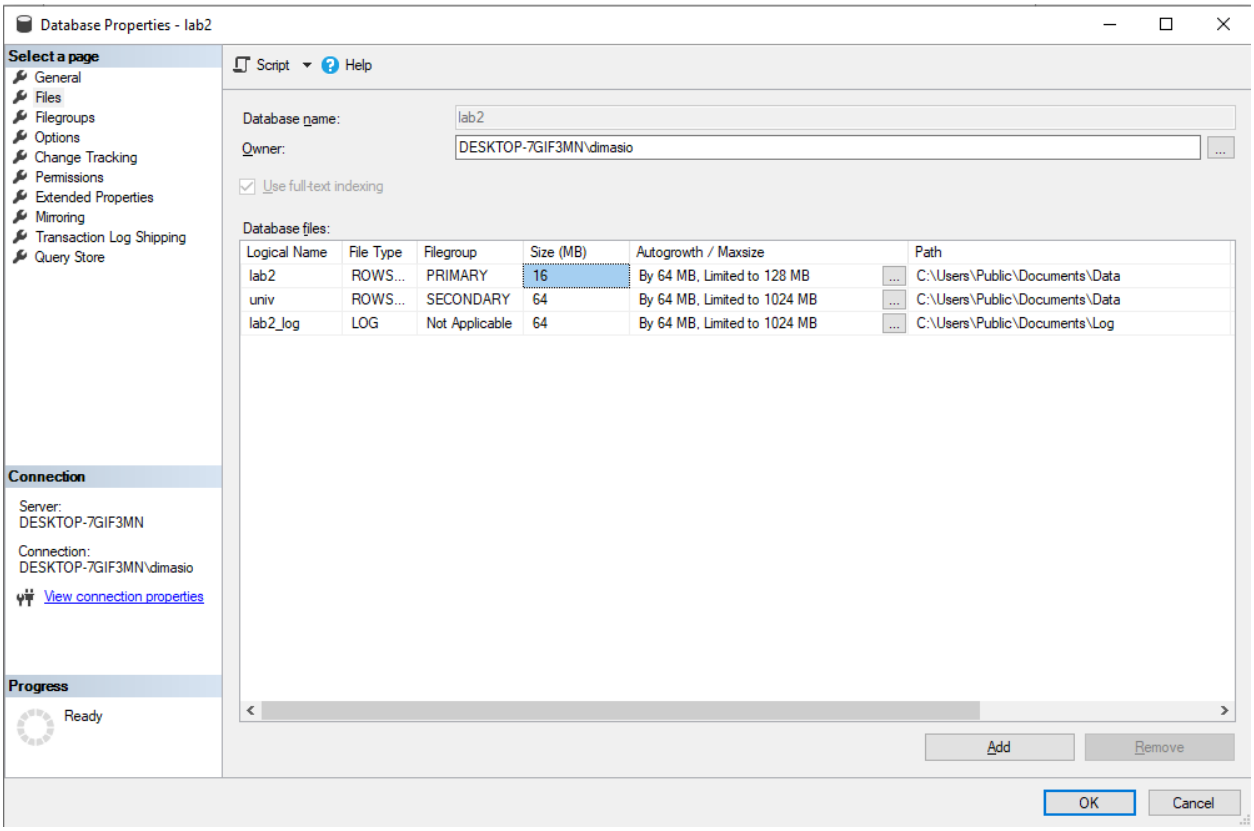
### Tasks:

1. Create a database physically placed in the MyDocs \ Data folder, setting a file growth of the 16MB base with a growth limit of 128 MB and of the 64 MB log with the1024 MB growth. For secondary files to define a new default Filegroup, setting the growth of secondary files to 64 MB with a limit of 1024 MB. Configuration of SQL Server 2017
2. Create a database, where the log file is physically placed in the MyDocs\Log folder, name the log file of the operating system environment must differ from the logically defined e m physical scheme. It is important that the database created is compatible with the MS SQL system
3. Create the database maintenance plan, built in task 1. Unused space by the database files must be removed when it reaches the size 2000Mb. Space released must be returned to the operating system. This operation must run m every Friday at 00:00. The maintenance plan execution report must be saved to the docker MyDocs \ SQL_event_logs. Initialize the execution of the plan. After execution, check results m log file.
4. Create the database maintenance plan, built in exercise 2. The name of the plan will be: "Index reconstruction". In this plan, the system must perform the reconstruction indices only on the basic tables (excluding visions) from all existing schemes form database in cause. The free space on the page must be 10%. Sorting of indexes must be done in tempdb. After the reconstruction, the collection of statistics must follow complete about reconstructed indices. The third step of the plan should be the task of Clear history of Backup-Restore operations on SQL Server. Must Delete the history that is older than 6 weeks. This plan must be executed in each the first Sunday of the month. Create the MyDocs\ SQL_reports folder. Execution report of This file must be added to the plan. Maintenance process

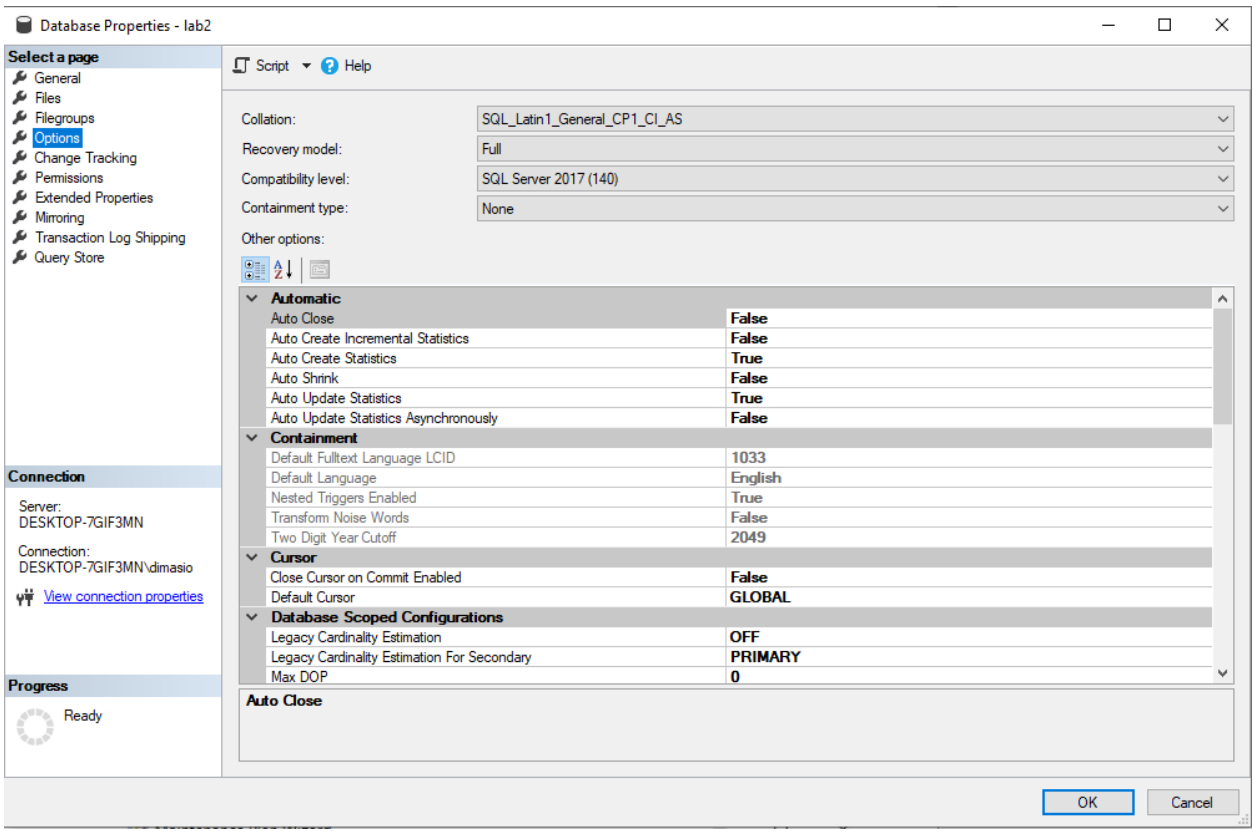
- to be logged in mod extended. Initialize the execution of the plan. After execution, check the results in the log file generated.

## Implementation:

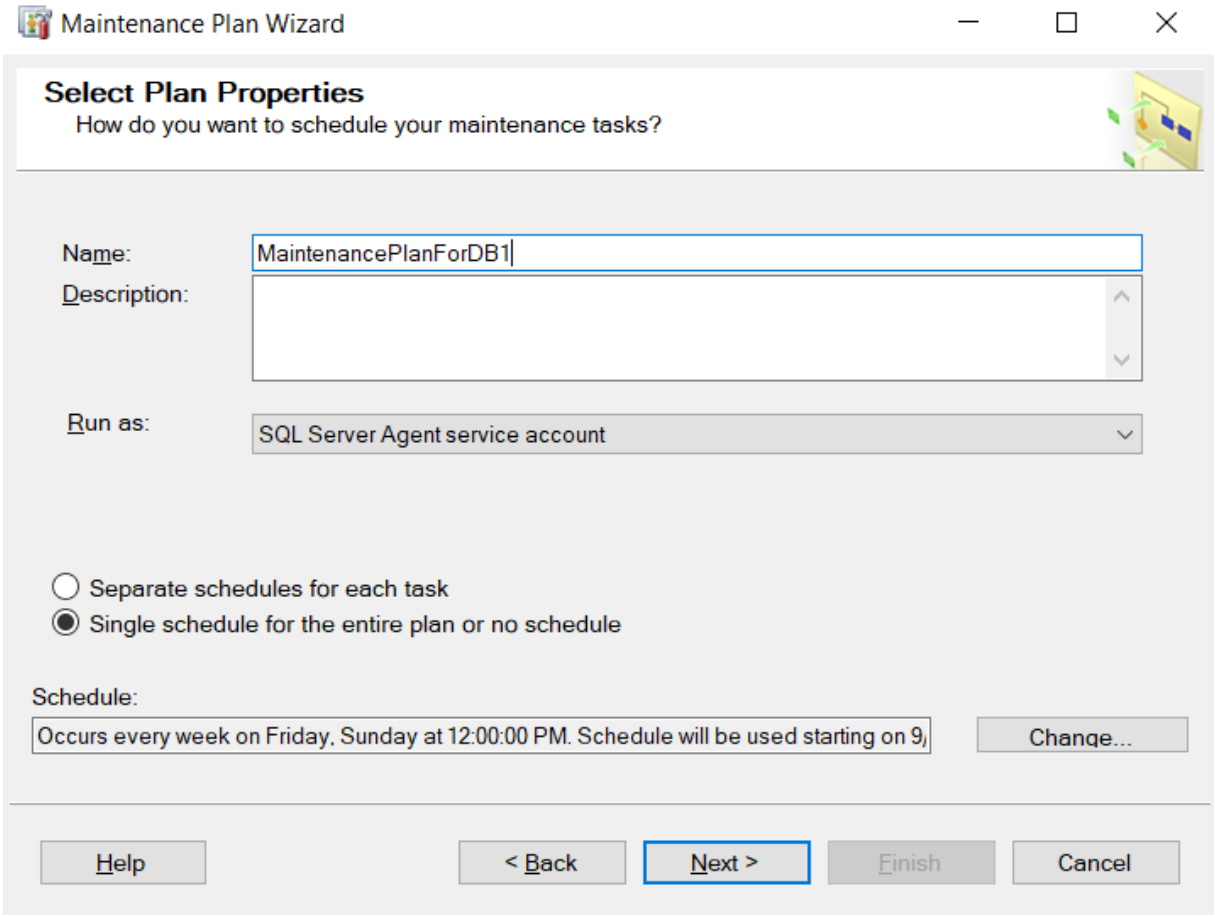
### Task 1:

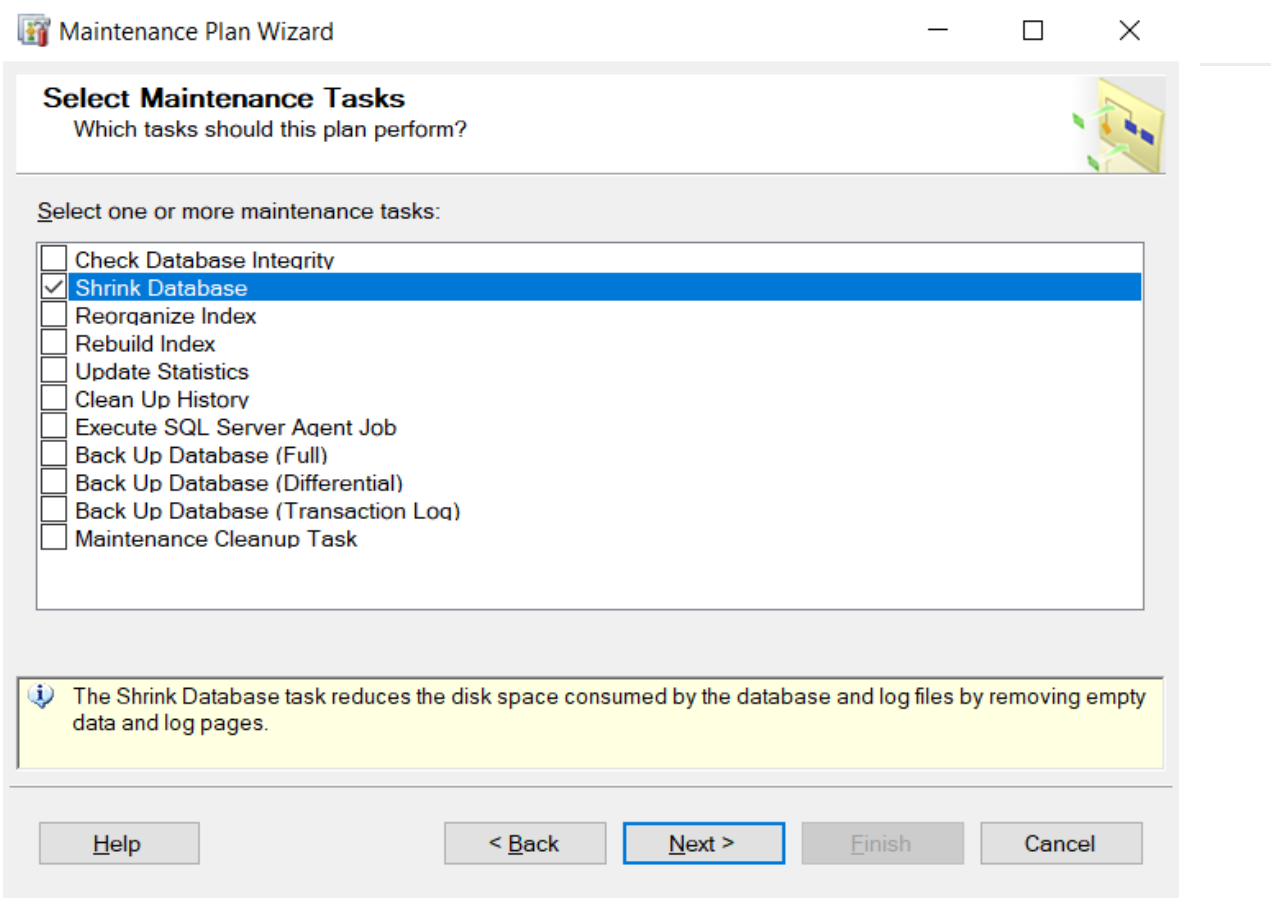


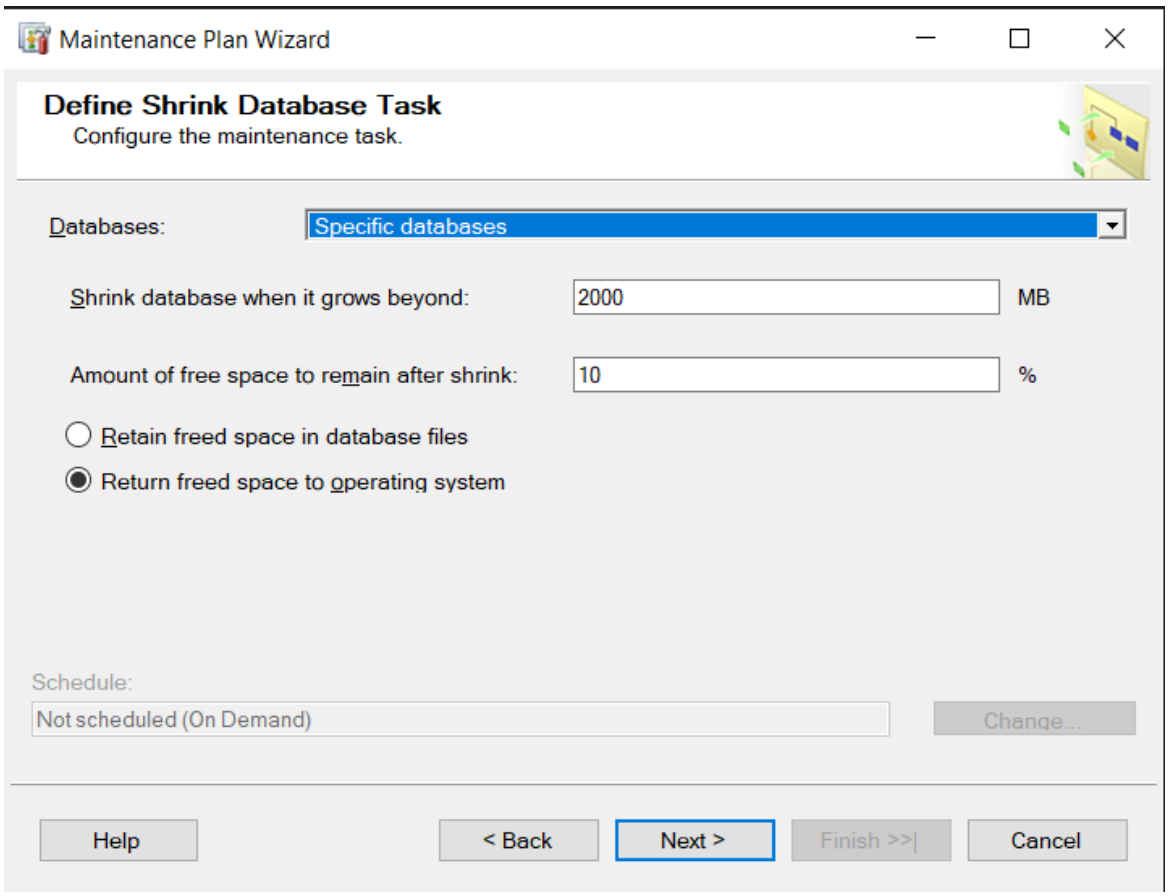

### Task 2:

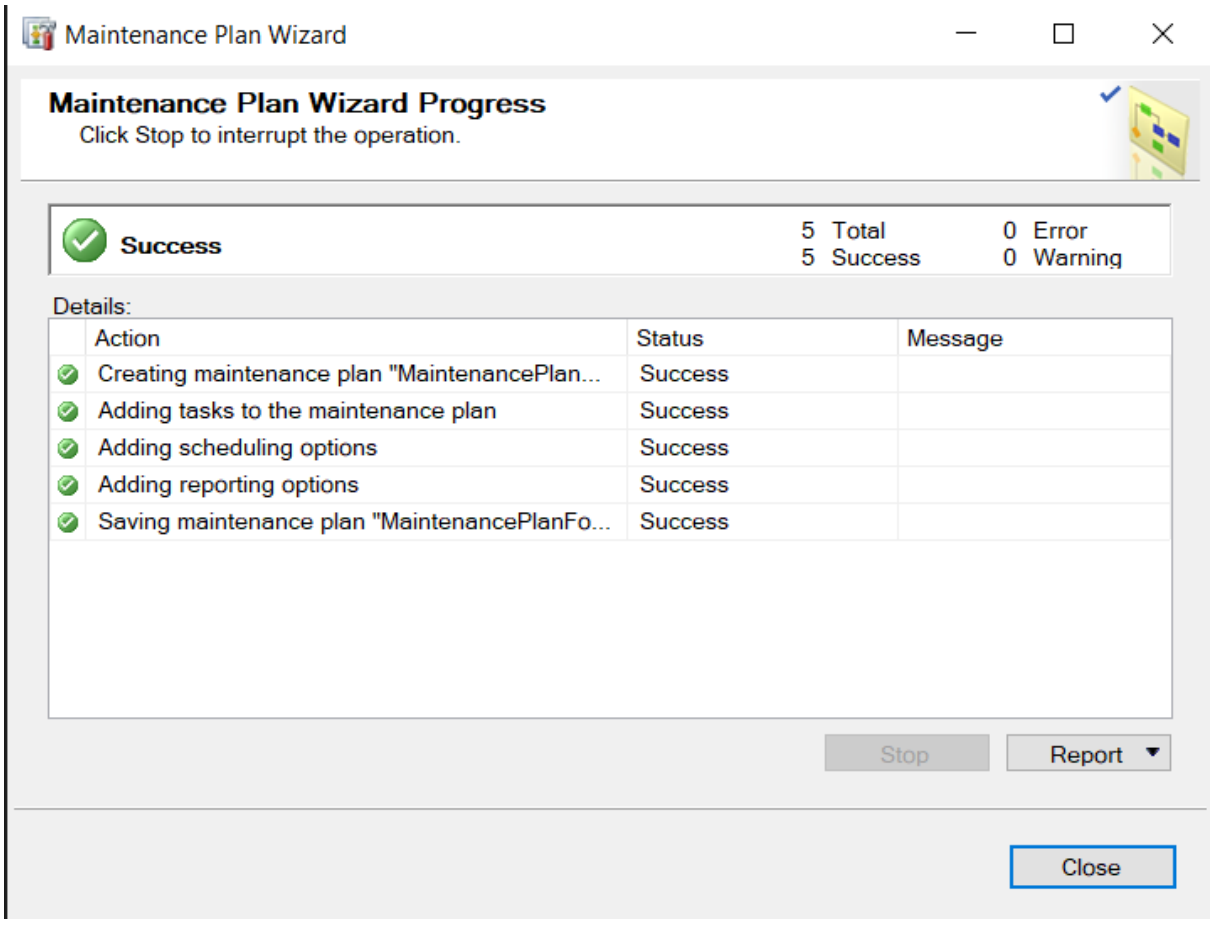

Database Properties - lab2
Select a page
General
Files
Filegroups
Options
Change Tracking
Permissions
Extended Properties
Mirroring
Transaction Log Shipping
Query Store
Script
Help
Collation: SQL_Latin1_General_CP1_CI_AS
Recovery model: Full
Compatibility level: SQL Server 2017 (140)
Containment type: None
Other options:
Automatic
Auto Close False
Auto Create Incremental Statistics False
Auto Create Statistics True
Auto Shrink False
Auto Update Statistics True
Auto Update Statistics Asynchronously False
Containment
Default Fulltext Language LCID 1033
Default Language English
Nested Triggers Enabled True
Transform Noise Words False
Two Digit Year Cutoff 2049
Cursor
Close Cursor on Commit Enabled False
Default Cursor GLOBAL
Database Scoped Configurations
Legacy Cardinality Estimation OFF
Legacy Cardinality Estimation For Secondary PRIMARY
Max DOP 0
Auto Close
Connection
Server: DESKTOP-7GIF3MN
Connection: DESKTOP-7GIF3MN\dimasio
View connection properties
Progress
Ready
OK
Cancel

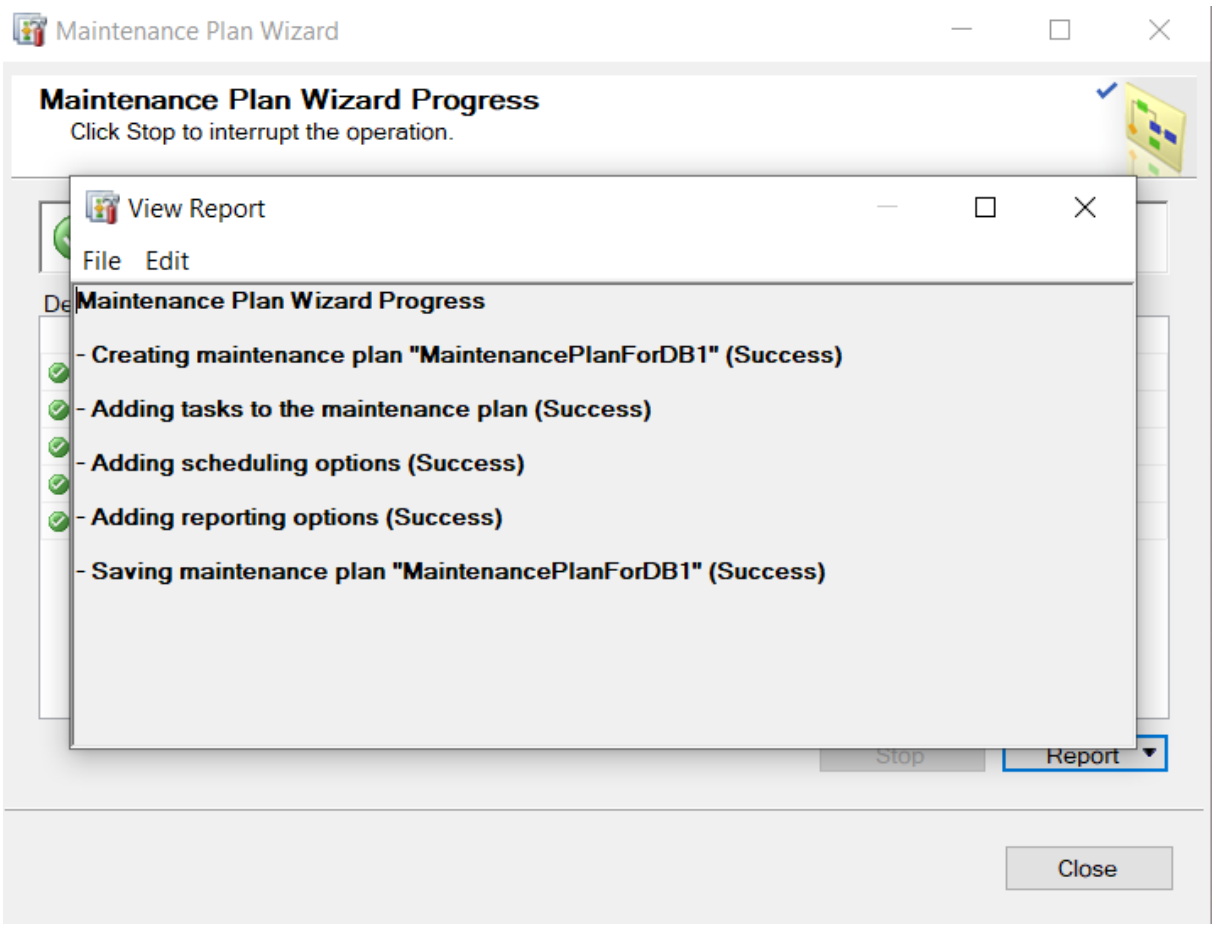
## Task 3:


Maintenance Plan Wizard
Select Plan Properties
How do you want to schedule your maintenance tasks?
Name:
MaintenancePlanForDB1
Description:
Run as:
SQL Server Agent service account
Separate schedules for each task
Single schedule for the entire plan or no schedule
Schedule:
Occurs every week on Friday, Sunday at 12:00:00 PM. Schedule will be used starting on 9/
Change...
Help
< Back
Next >
Finish
Cancel

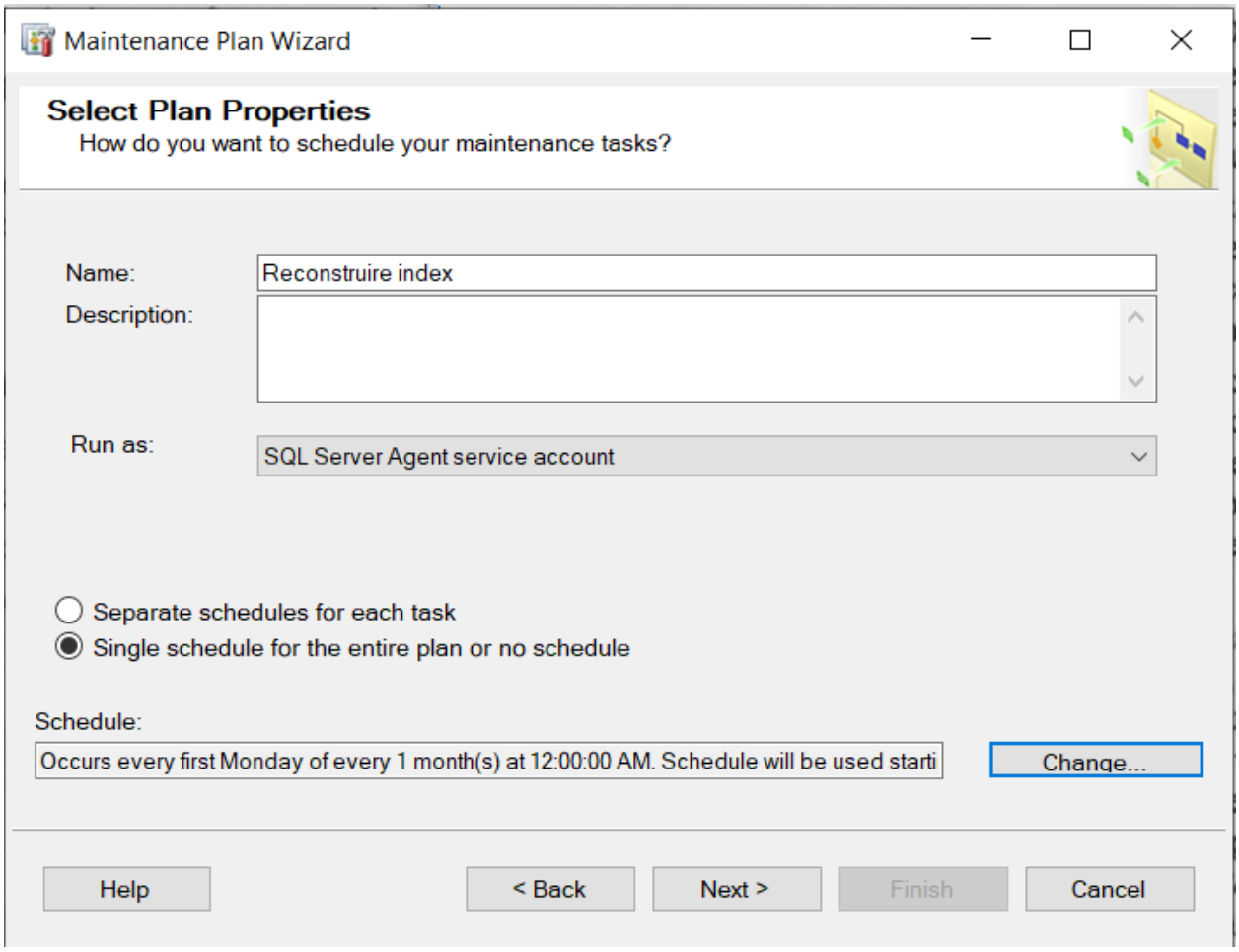

Maintenance Plan Wizard
Select Maintenance Tasks
Which tasks should this plan perform?
Select one or more maintenance tasks:
Check Database Integrity
Shrink Database
Reorganize Index
Rebuild Index
Update Statistics
Clean Up History
Execute SQL Server Agent Job
Back Up Database (Full)
Back Up Database (Differential)
Back Up Database (Transaction Log)
Maintenance Cleanup Task
The Shrink Database task reduces the disk space consumed by the database and log files by removing empty data and log pages.
Help
< Back
Next >
Finish
Cancel

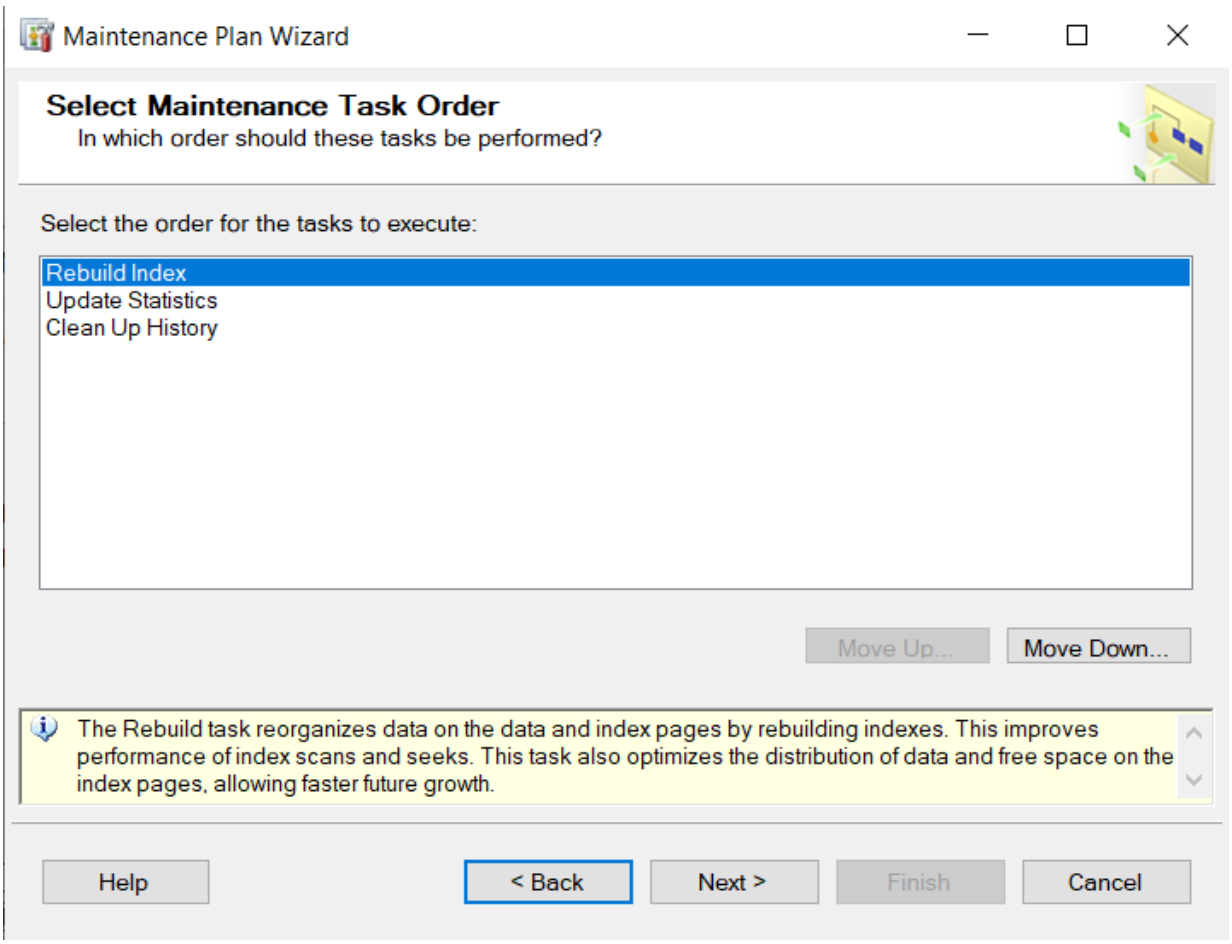

Maintenance Plan Wizard
Define Shrink Database Task
Configure the maintenance task.
Databases:
Specific databases
Shrink database when it grows beyond:
2000
MB
Amount of free space to remain after shrink:
10
%
Retain freed space in database files
Return freed space to operating system
Schedule:
Not scheduled (On Demand)
Change...
Help
< Back
Next >
Finish >>|
Cancel

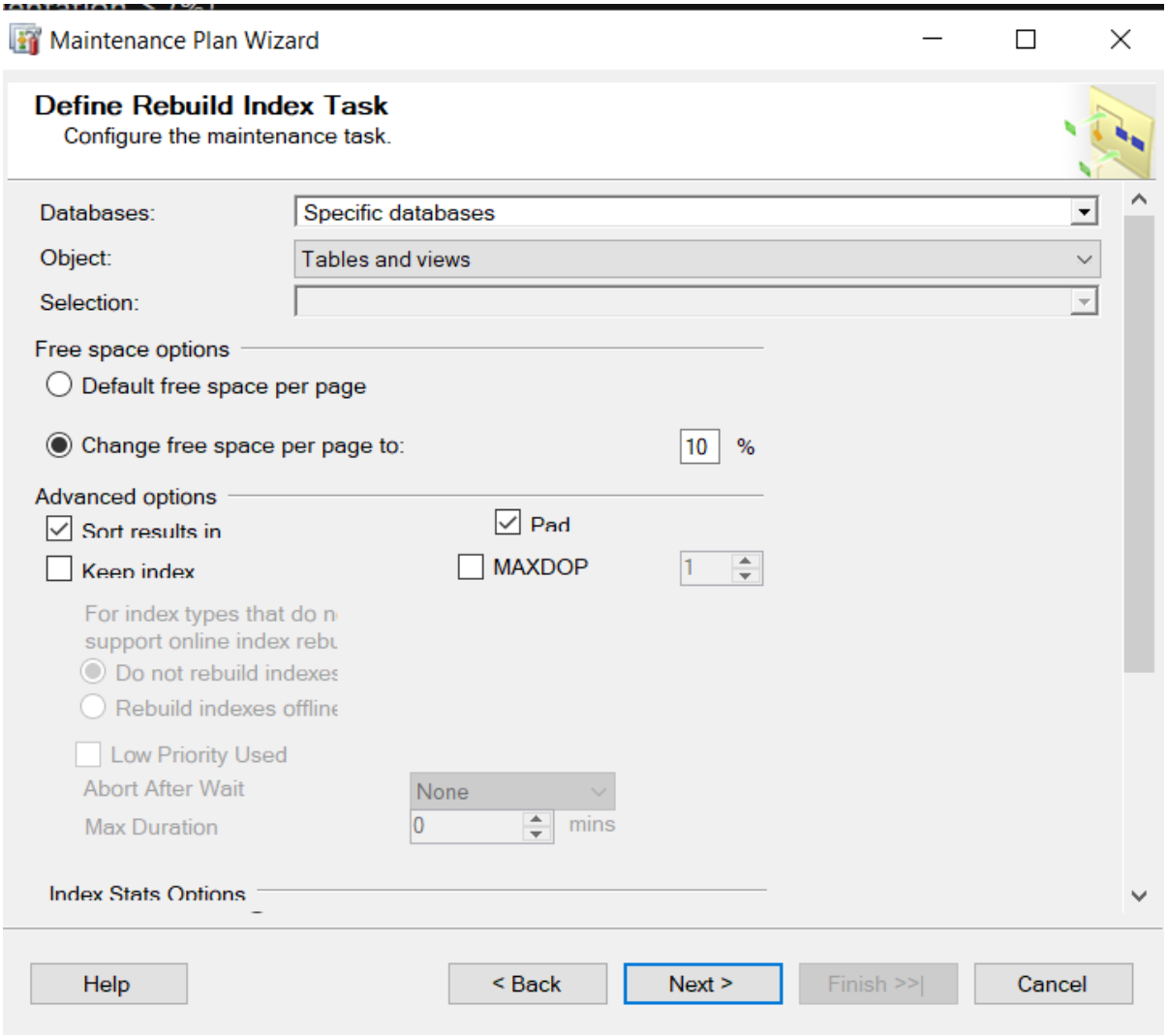

Maintenance Plan Wizard
Maintenance Plan Wizard Progress
Click Stop to interrupt the operation.
Success
5 Total
5 Success
0 Error
0 Warning
Details:
Action
Status
Message
Creating maintenance plan "MaintenancePlan...
Success
Adding tasks to the maintenance plan
Success
Adding scheduling options
Success
Adding reporting options
Success
Saving maintenance plan "MaintenancePlanFo...
Success
Stop
Report
Close

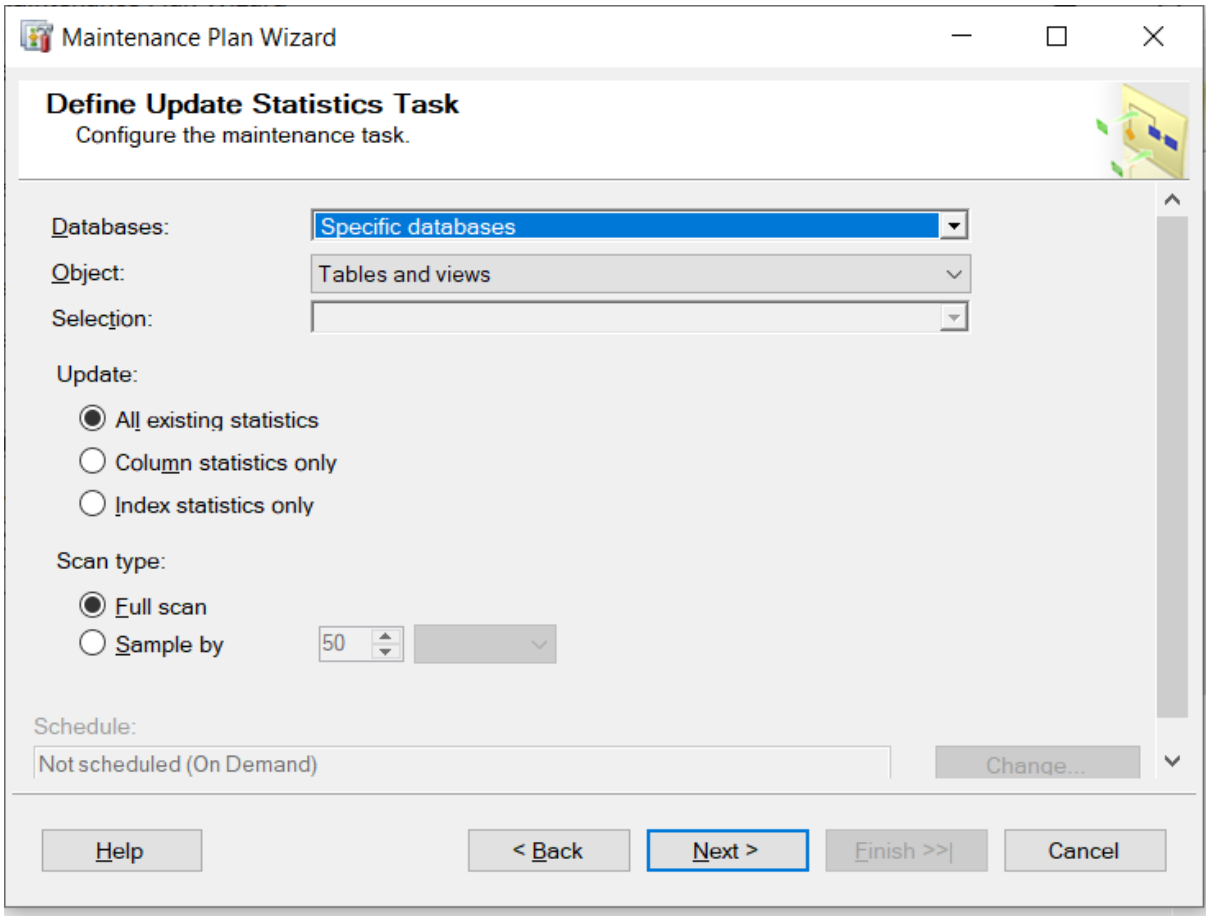

Maintenance Plan Wizard
Maintenance Plan Wizard Progress
Click Stop to interrupt the operation.
View Report
File Edit
Maintenance Plan Wizard Progress
- Creating maintenance plan "MaintenancePlanForDB1" (Success)
- Adding tasks to the maintenance plan (Success)
- Adding scheduling options (Success)
- Adding reporting options (Success)
- Saving maintenance plan "MaintenancePlanForDB1" (Success)
Stop
Report
Close

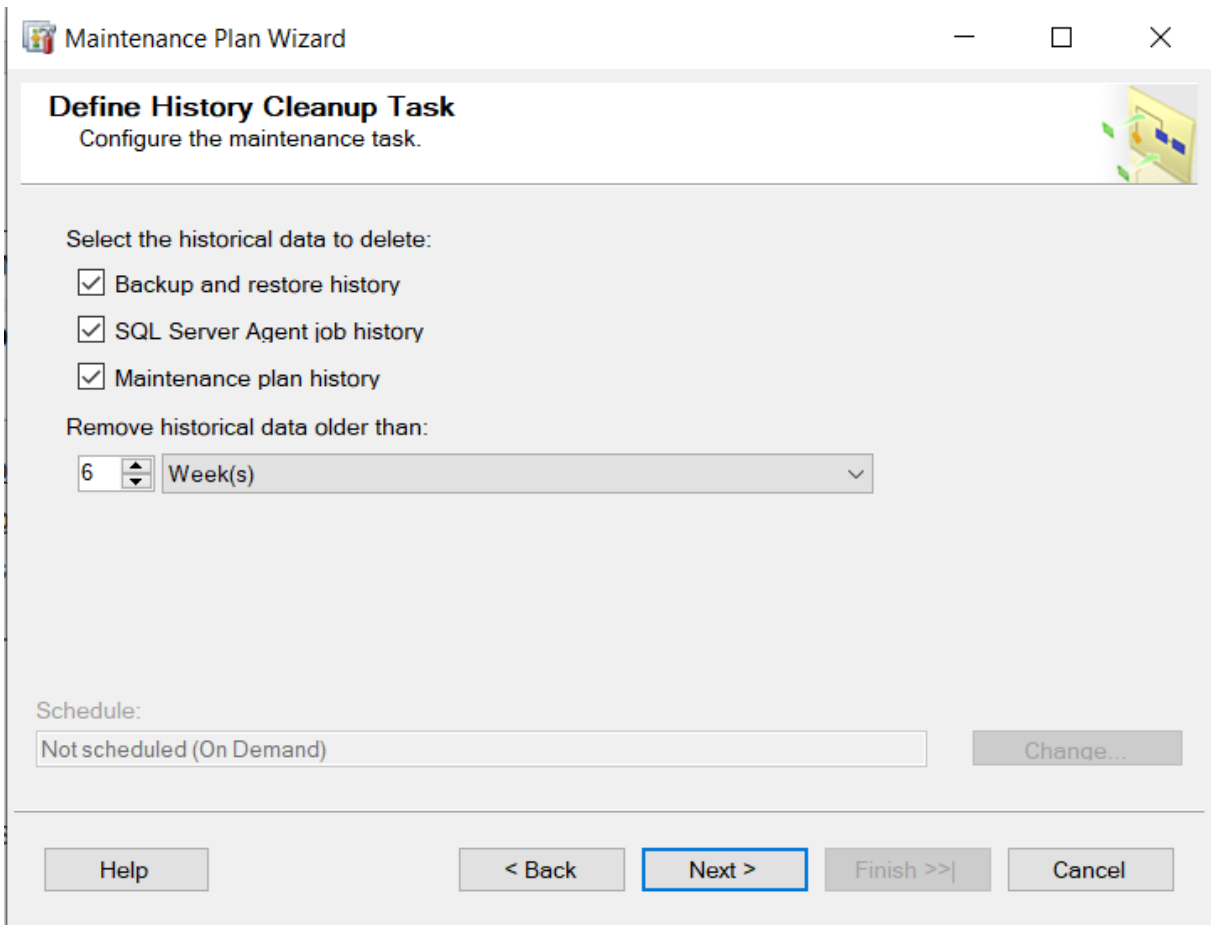
## Task 4:

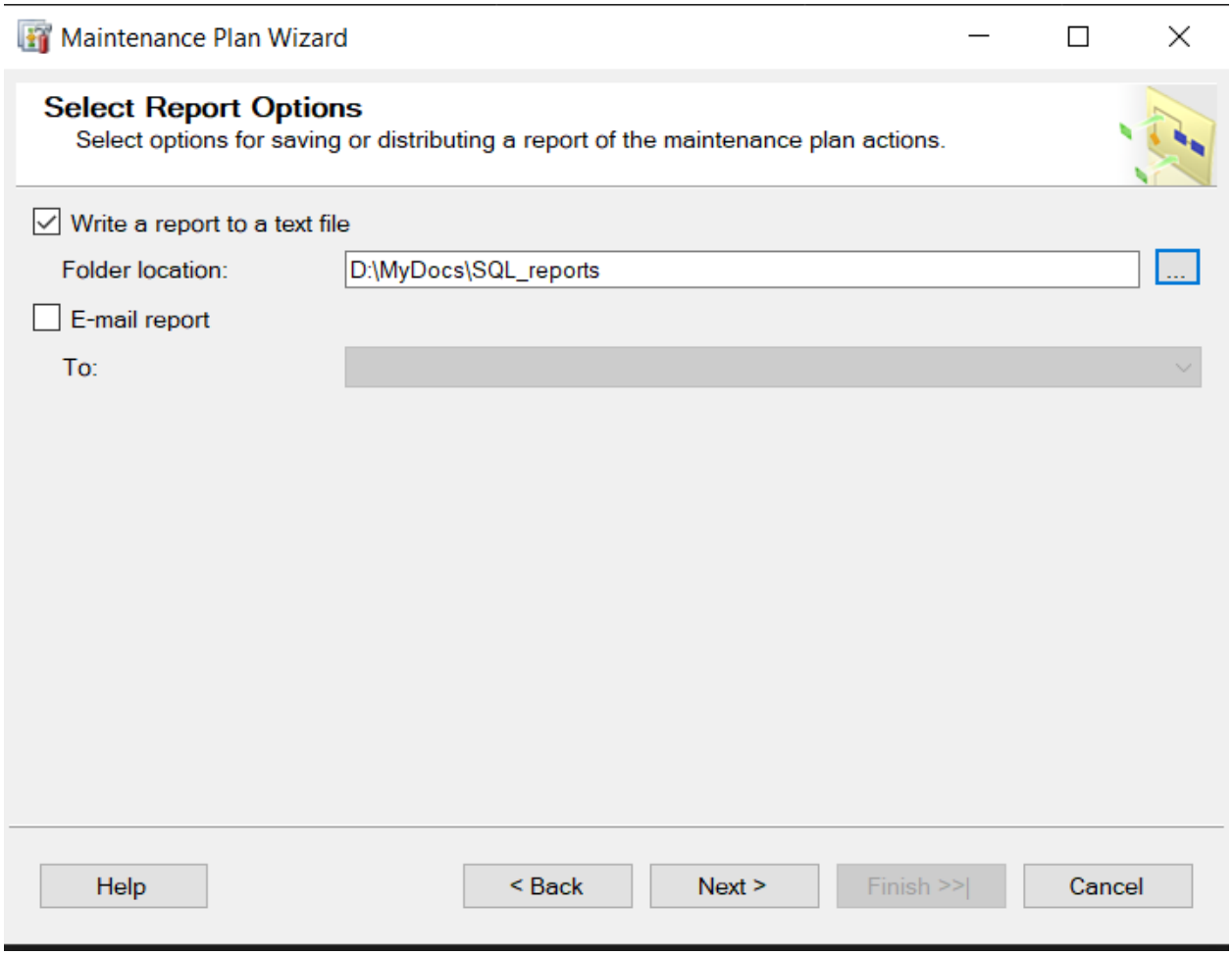

Maintenance Plan Wizard
Select Plan Properties
How do you want to schedule your maintenance tasks?
Name:
Reconstruire index
Description:
Run as:
SQL Server Agent service account
Separate schedules for each task
Single schedule for the entire plan or no schedule
Schedule:
Occurs every first Monday of every 1 month(s) at 12:00:00 AM. Schedule will be used starti
Change...
Help
< Back
Next >
Finish
Cancel

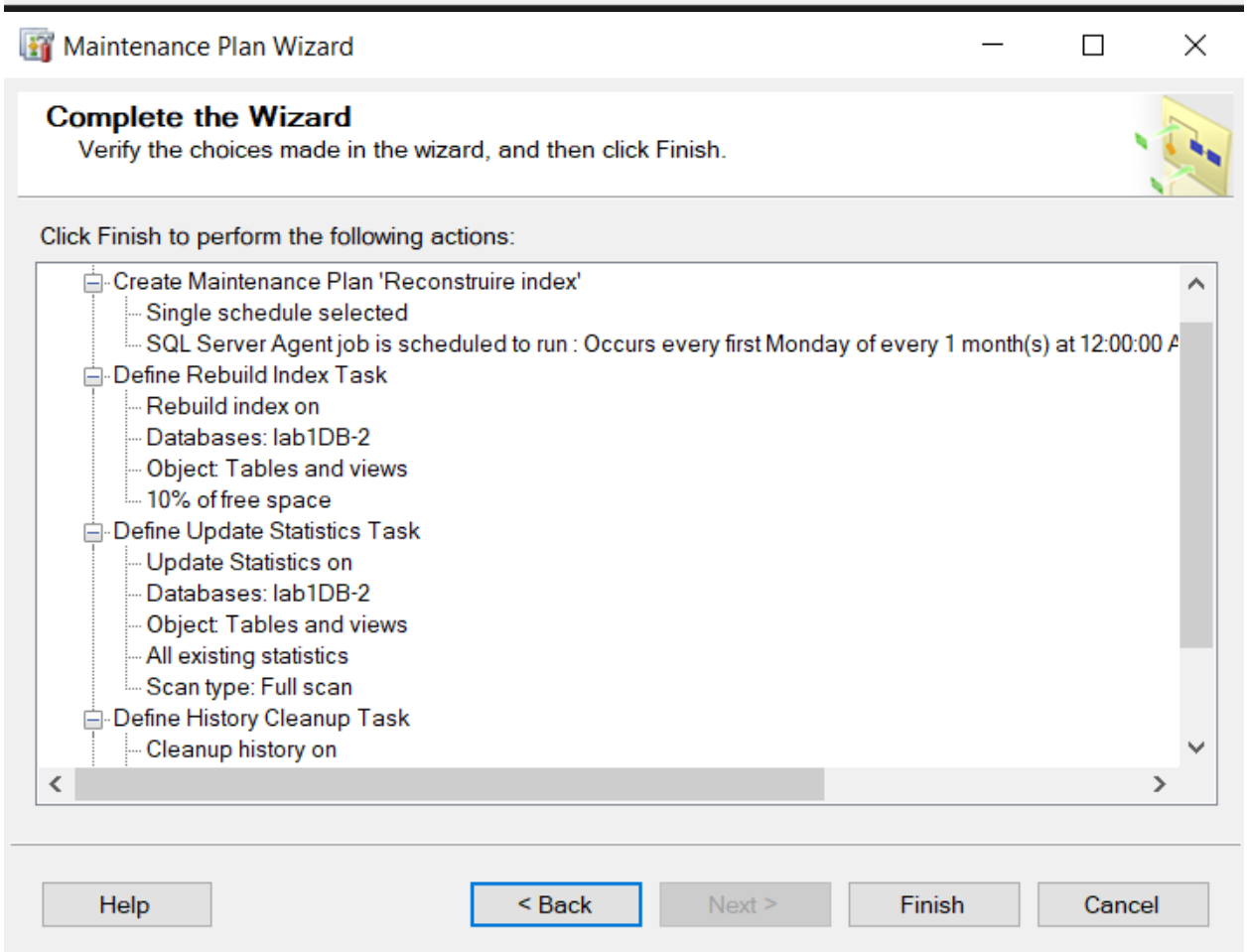

Maintenance Plan Wizard
Select Maintenance Task Order
In which order should these tasks be performed?
Select the order for the tasks to execute:
Rebuild Index
Update Statistics
Clean Up History
Move Up...
Move Down...
The Rebuild task reorganizes data on the data and index pages by rebuilding indexes. This improves performance of index scans and seeks. This task also optimizes the distribution of data and free space on the index pages, allowing faster future growth.
Help
< Back
Next >
Finish
Cancel


Maintenance Plan Wizard
Define Rebuild Index Task
Configure the maintenance task.
Databases:
Specific databases
Object:
Tables and views
Selection:
Free space options
Default free space per page
Change free space per page to:
10
%
Advanced options
Sort results in
Pad
Keep index
MAXDOP
1
For index types that do n
support online index rebu
Do not rebuild indexes
Rebuild indexes offline
Low Priority Used
Abort After Wait
None
Max Duration
0
mins
Index Stats Options
Help
< Back
Next >
Finish >>|
Cancel


Maintenance Plan Wizard
Define Update Statistics Task
Configure the maintenance task.
Databases:
Specific databases
Object:
Tables and views
Selection:
Update:
All existing statistics
Column statistics only
Index statistics only
Scan type:
Full scan
Sample by
50
Schedule:
Not scheduled (On Demand)
Change...
Help
< Back
Next >
Finish >>|
Cancel


Maintenance Plan Wizard
Define History Cleanup Task
Configure the maintenance task.
Select the historical data to delete:
Backup and restore history
SQL Server Agent job history
Maintenance plan history
Remove historical data older than:
6
Week(s)
Schedule:
Not scheduled (On Demand)
Change...
Help
< Back
Next >
Finish >>|
Cancel


Maintenance Plan Wizard
Select Report Options
Select options for saving or distributing a report of the maintenance plan actions.
Write a report to a text file
Folder location:
D:\MyDocs\SQL_reports
...
E-mail report
To:
Help
< Back
Next >
Finish >>|
Cancel


Maintenance Plan Wizard
Complete the Wizard
Verify the choices made in the wizard, and then click Finish.
Click Finish to perform the following actions:
Create Maintenance Plan 'Reconstruire index'
Single schedule selected
SQL Server Agent job is scheduled to run : Occurs every first Monday of every 1 month(s) at 12:00:00 A
Define Rebuild Index Task
Rebuild index on
Databases: lab1DB-2
Object: Tables and views
10% of free space
Define Update Statistics Task
Update Statistics on
Databases: lab1DB-2
Object: Tables and views
All existing statistics
Scan type: Full scan
Define History Cleanup Task
Cleanup history on
Help
< Back
Next >
Finish
Cancel

Scan type: Full scan
Define History Cleanup Task
Cleanup history on
History type: Backup,Job,Maintenance Plan
Age: Older than 6 Weeks
Selected reporting options
Report will be generated in folder: D:\MyDocs\SQL_reports

Maintenance Plan Wizard

**Maintenance Plan Wizard Progress**

Click Stop to interrupt the operation.

**Success** 5 Total 0 Error 5 Success 0 Warning

Details:

| Action | Status | Message |
|---|---|---|
| Creating maintenance plan "Reconstruire index" | Success | |
| Adding tasks to the maintenance plan | Success | |
| Adding scheduling options | Success | |
| Adding reporting options | Success | |
| Saving maintenance plan "Reconstruire index" | Success | |

Stop Report Close

View Report

File Edit

**Maintenance Plan Wizard Progress**

**- Creating maintenance plan "Reconstruire index" (Success)**

**- Adding tasks to the maintenance plan (Success)**

**- Adding scheduling options (Success)**

**- Adding reporting options (Success)**

**- Saving maintenance plan "Reconstruire index" (Success)**

**Conclusions**:

This laboratory work taught me how to create a data base and configure its properties. Besides that, I learnt how to create a maintenance plan with the help of the Mantaince Wizard.