



TECHNICAL UNIVERSITY OF MOLDOVA

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## DB Laboratory 1

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## General purpose:

### Learn about Creating a Database

## Tasks:

- Create physical data stored in the MyDocuments map by setting an increase of the primary 5MB file with the 100MB increase limit and 20MB initial with the 1000MB increase limit. Bypass secondary files to define a new Filegroup implicit, setting the increase of 10 MB of secondary files with the limit of 1000 MB.
- Create a database, where the log file is physically placed on the MyDocuments / log map, the name log file in the operating system environment must be different from the logical one defined in physical scheme. It is important that the database you create is compatible with the MS SQL system The 2014 Server is accessible to only one user at a time.
- Create the database interlining plan built in load 1. Unused sleeping space database files must be removed when it reaches 2000Mb. space released must be returned to the operating system. This operation must also be run in every Friday at 02:00. The report of the implementation of the plan must be saved in the file MyDocuments SQLreports. They executed the plan. After execution, verifies the results in the log figure.
- Create the plan of database interconnection built in exercise 2. The name of the plan will be: Reconstruction index. "Under this plan, the system must undertake the reconstruction indexes only on the base tables (excluding the views) of all the existing schemes in the data base in question. The free space on the page must be 10 After rebuilding, you must to follow the collection of complete statistics on reconstruction indices. The third step of the plan must also be the task of deleting history of Backup-Restore operations what happened on SQL Server. The history that is older than 6 weeks must be deleted. This the plan must be executed every first Sunday of the month. Create the file MyDocument/SQL/reports. The plan execution report must be added to this file. They executed the plan. After execution, verify the results in the generated log file

## Task Realization:

In figure 1 we can see the process Creating a Database.

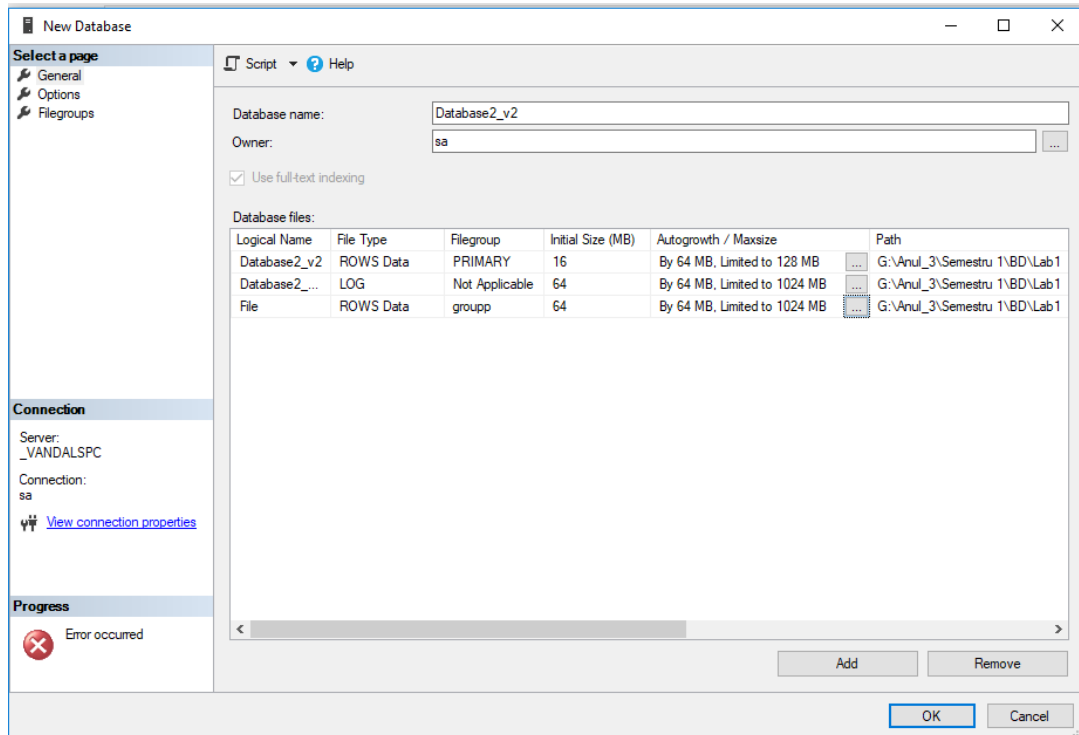


Figure 1: Creating a Database

Here i also set the Filegroups, Initial Sizes , Autogrowth size and the paths

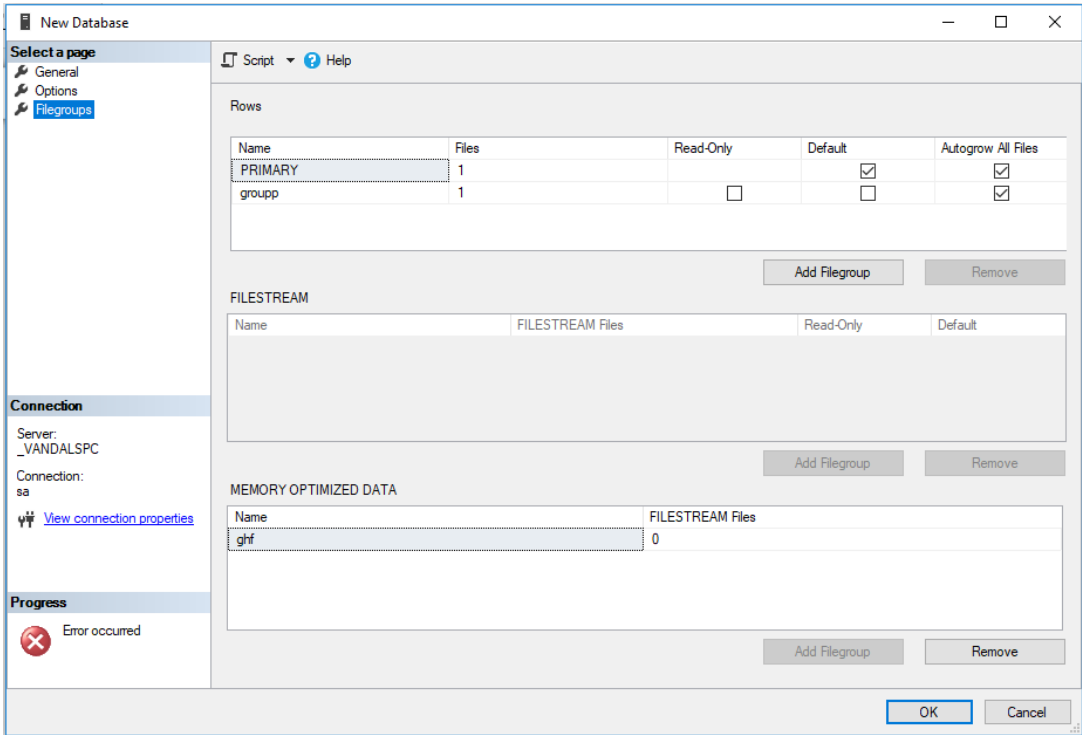


Figure 2: Setting Filegroups  
I created 2 custom filegroups

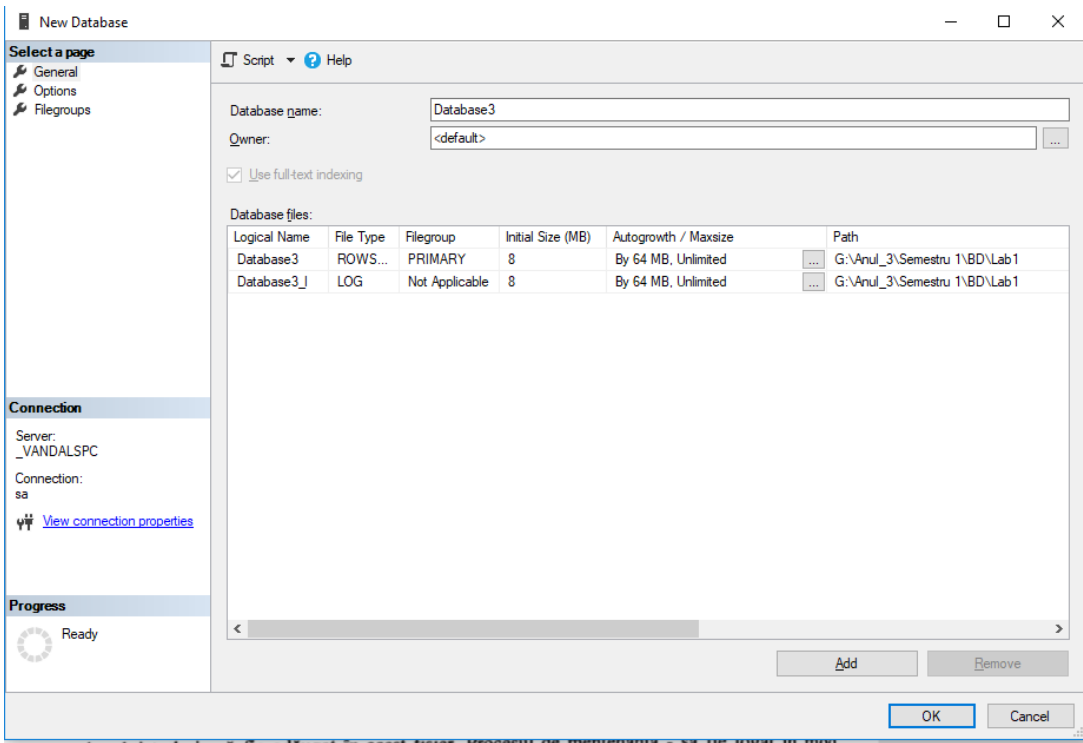


Figure 3: Creating Second Database

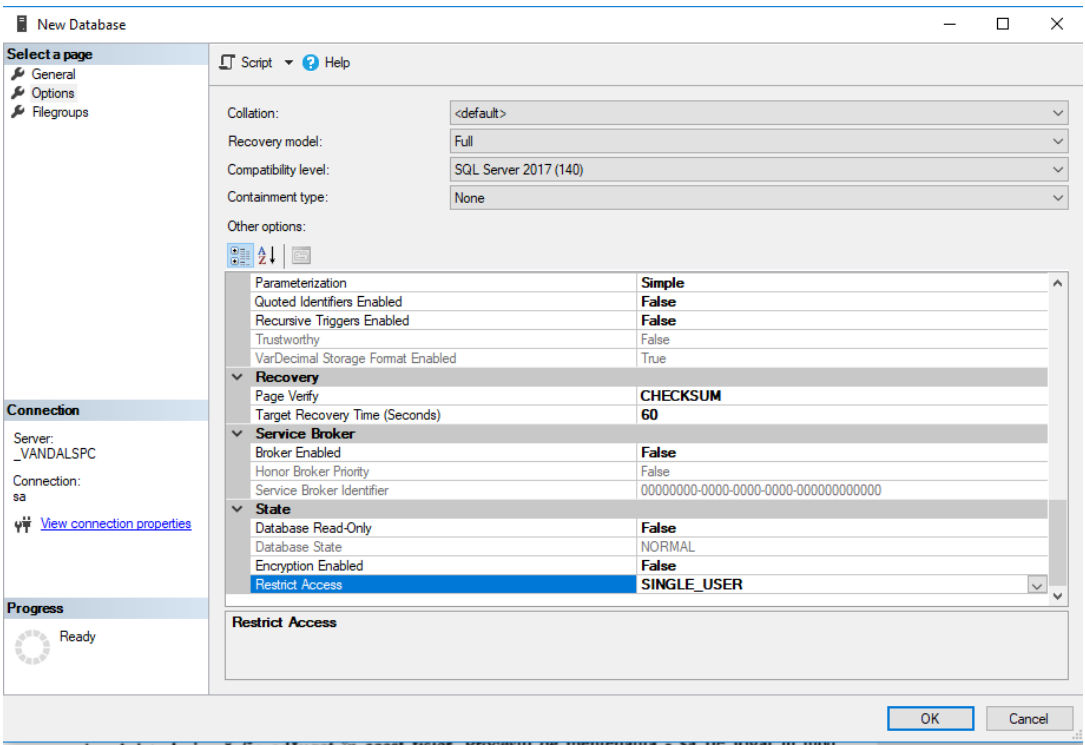
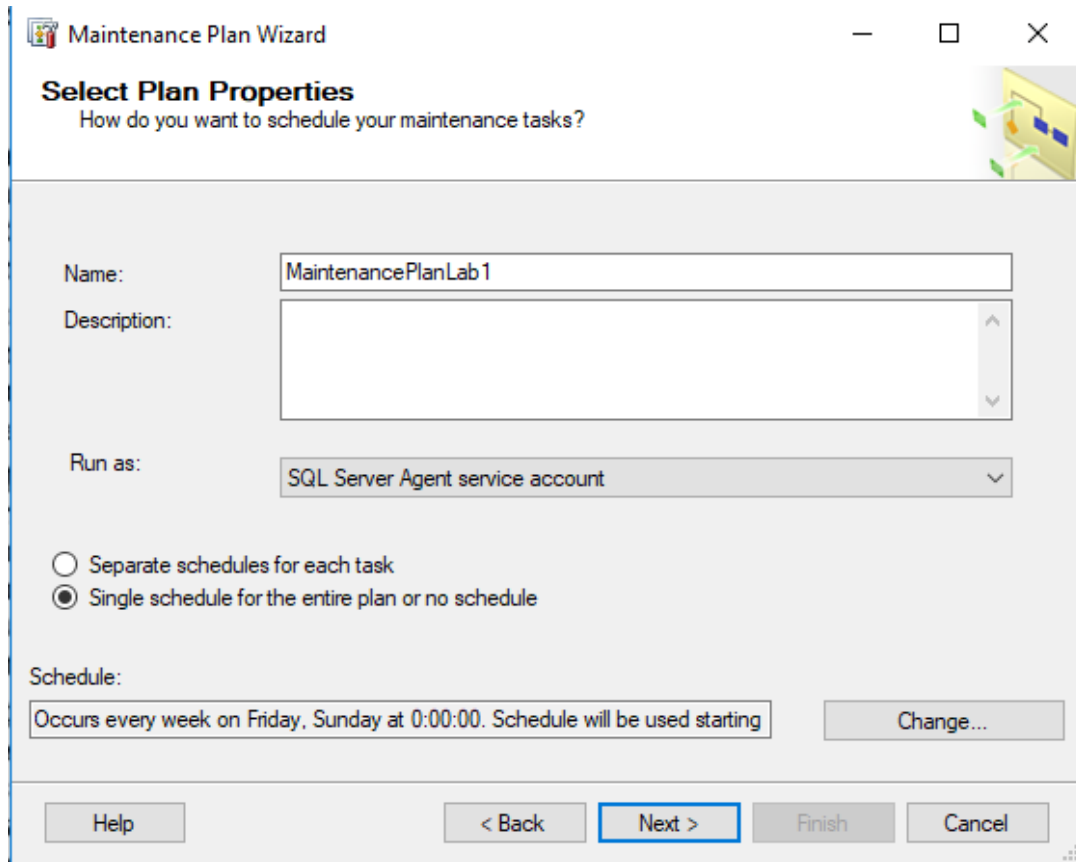


Figure 4: Configuring DB Options

I set the single user and SQL Server 2017 compatibility level.



The screenshot shows the 'Maintenance Plan Wizard' window, specifically the 'Select Plan Properties' step. The window title is 'Maintenance Plan Wizard'. Below the title bar, the text 'Select Plan Properties' is displayed, followed by the question 'How do you want to schedule your maintenance tasks?'. The main area contains several fields and options:

- Name:** A text box containing 'MaintenancePlanLab 1'.
- Description:** A large empty text box with a vertical scrollbar.
- Run as:** A dropdown menu showing 'SQL Server Agent service account'.
- Scheduling Options:** Two radio buttons are present:
  - ☐ Separate schedules for each task
  - ☒ Single schedule for the entire plan or no schedule
- Schedule:** A text box containing 'Occurs every week on Friday, Sunday at 0:00:00. Schedule will be used starting'. To the right of this text box is a 'Change...' button.

At the bottom of the window, there are five buttons: 'Help', '< Back', 'Next >' (which is highlighted with a blue border), 'Finish', and 'Cancel'.

Figure 5: Maintenance Plan Wizard

I created a Plan using Wizard and also i set the Schedule. Also i selected Shrink Database Option.

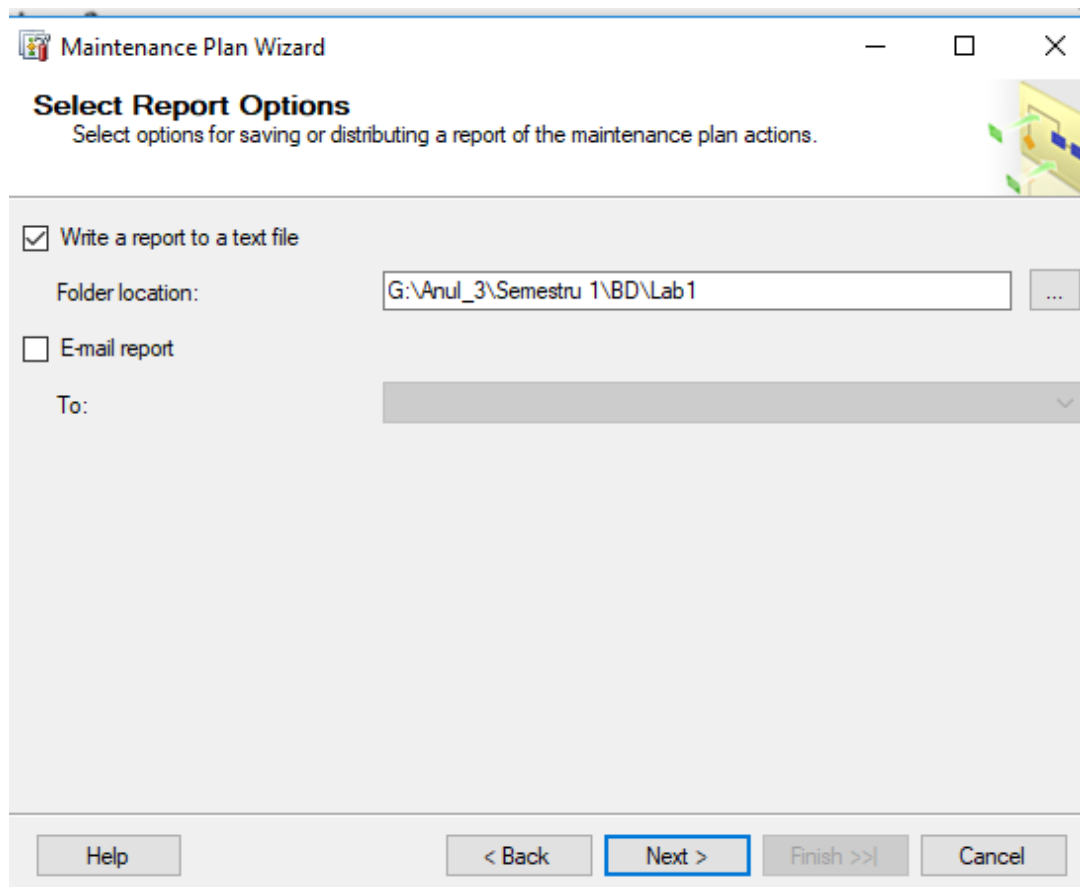


Figure 6: Setting folder Location



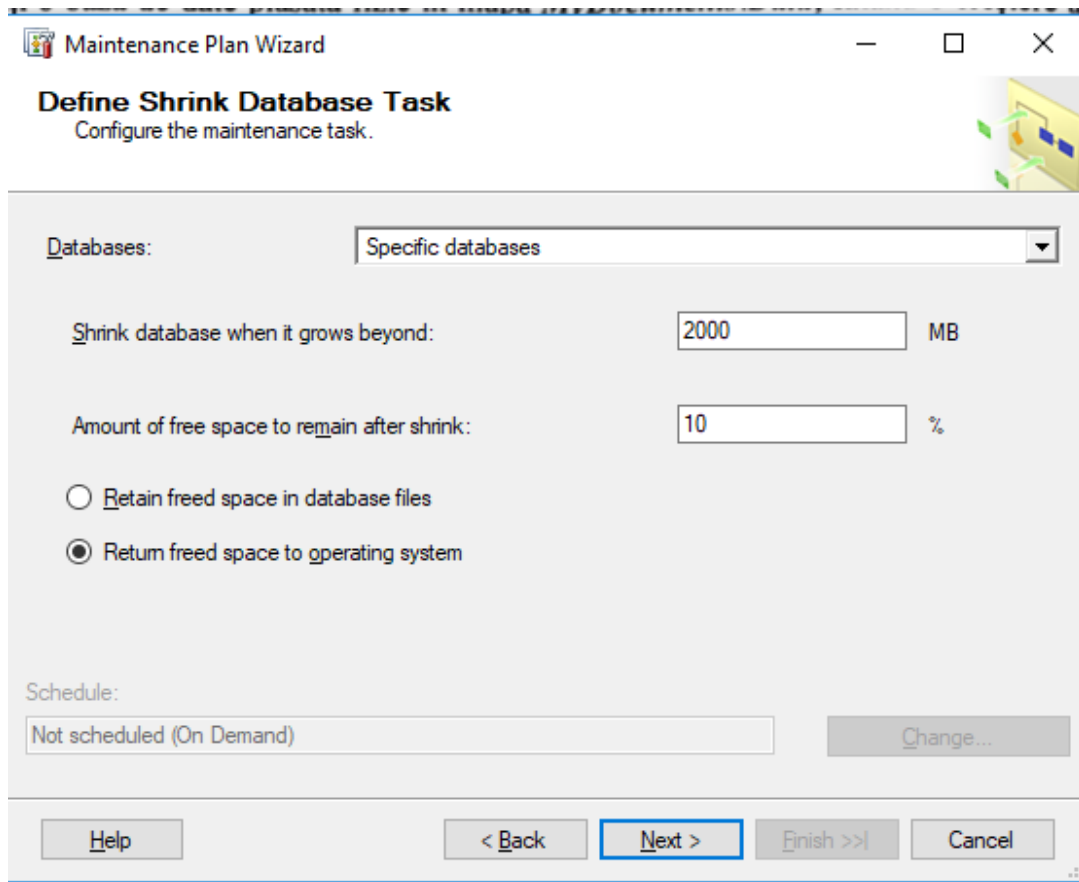


Figure 7: Defining Shrink Database Task

I set 2000 MB limit and 10 percent space remaining after shrink

**New Job Schedule**

Name:  Jobs in Schedule

Schedule type: Recurring ☒ Enabled

One-time occurrence

Date: 18.09.2018 Time: 10:46:52

Frequency

Occurs: Monthly

☐ Day 1 of every 1 month(s)

☒ The first Sunday of every 1 month(s)

Daily frequency

☒ Occurs once at: 0:00:00

☐ Occurs every: 1 hour(s) Starting at: 0:00:00 Ending at: 23:59:59

Duration

Start date: 18.09.2018 ☐ End date: 18.09.2018 ☒ No end date:

Summary

Description: Occurs every first Sunday of every 1 month(s) at 0:00:00. Schedule will be used starting on 18.09.2018.

OK Cancel Help

Figure 8: The Schedule for 2nd database

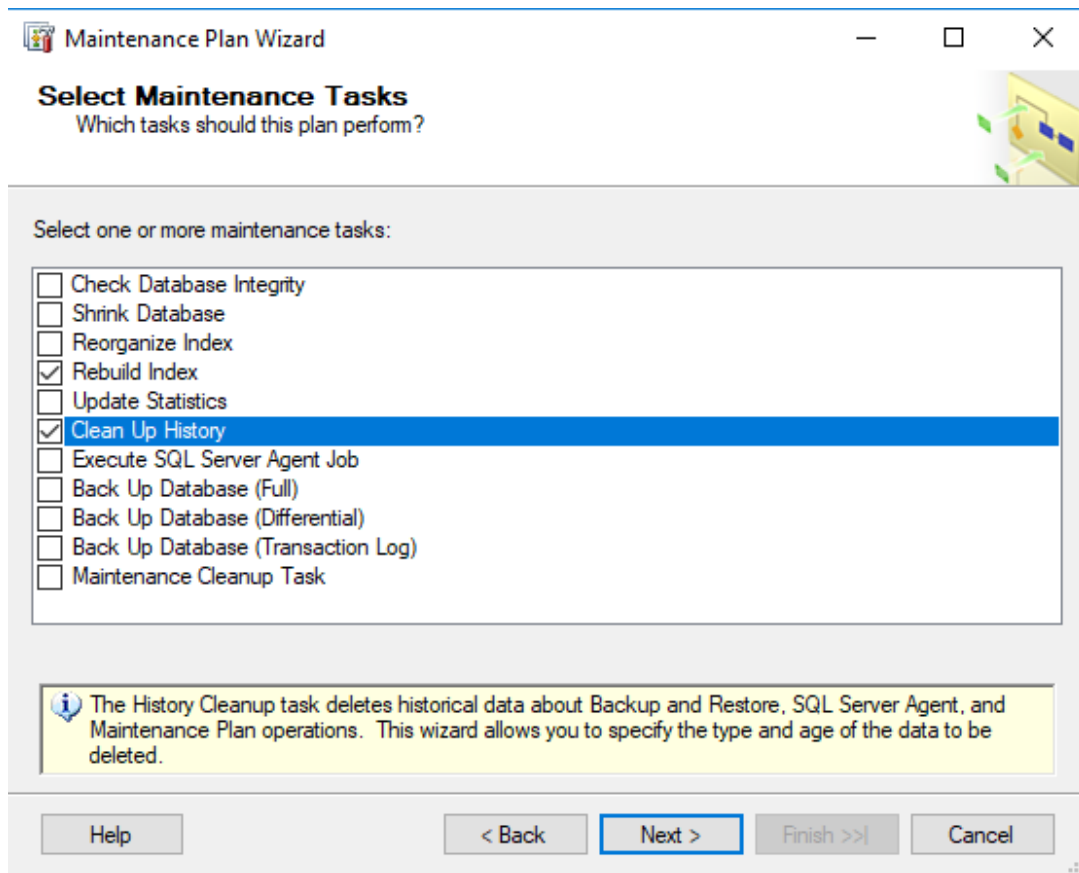
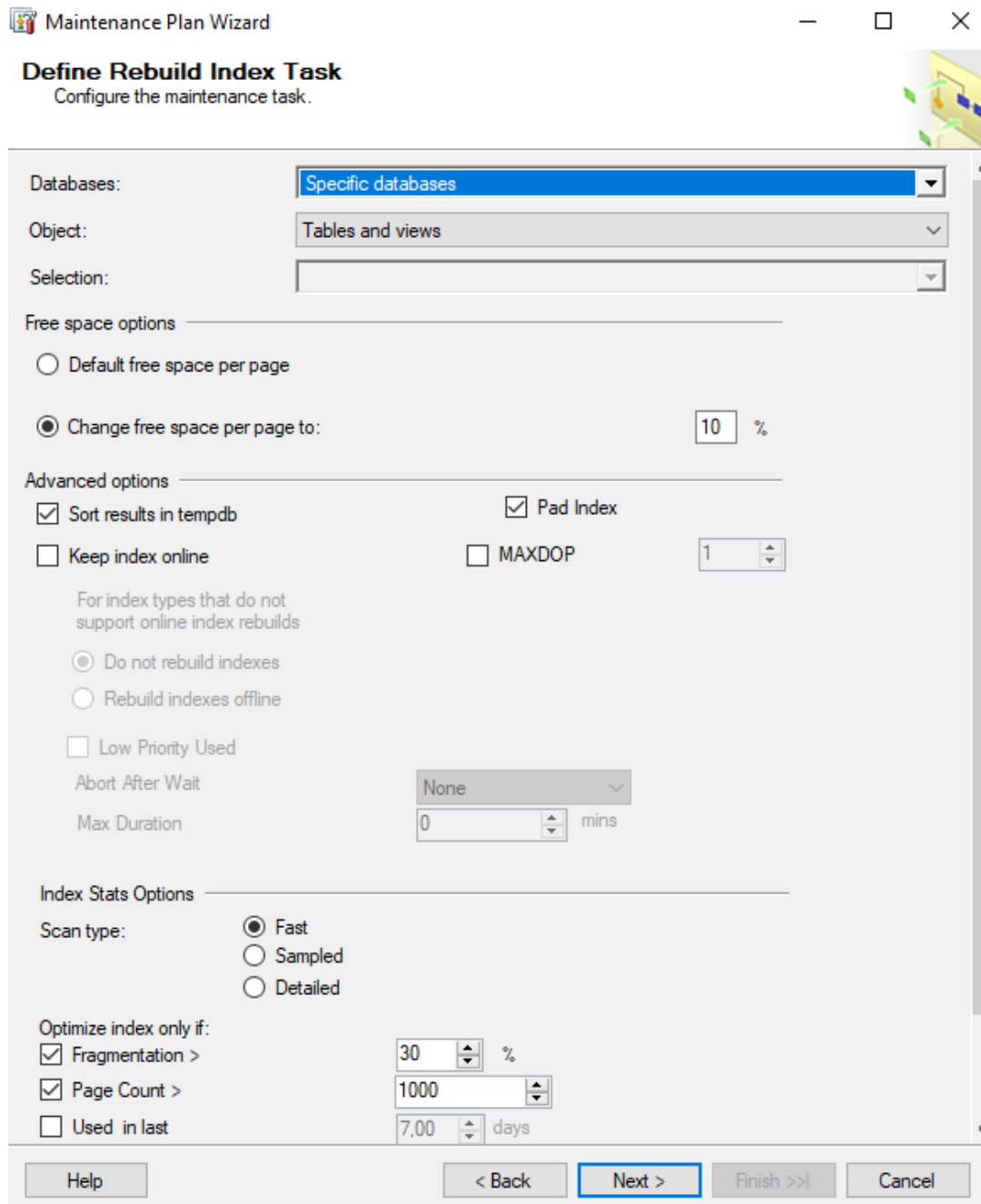


Figure 9: Maintenance Tasks for 2nd DB



**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 tempdb ☒ Pad Index

☐ Keep index online ☐ MAXDOP **1**

For index types that do not support online index rebuilds

☒ Do not rebuild indexes

☐ Rebuild indexes offline

☐ Low Priority Used

Abort After Wait **None**

Max Duration **0** mins

Index Stats Options

Scan type: ☒ Fast ☐ Sampled ☐ Detailed

Optimize index only if:

☒ Fragmentation > **30** %

☒ Page Count > **1000**

☐ Used in last **7.00** days

Help < Back **Next >** Finish >> Cancel

Figure 10: Defining rebuild Index

## Conclusion

During This lab work i find out how to run SQL server on PC. And I learned how to configure a Data Base, and to create and set the scheduled plans such a Maintenance. So i Understood that Sql Server Management Studio is Powerful tool to manage Databases. [\[1\]](#)

## References

- [1] SQL Server Management Studio, Tutorials for Lab 1 and 2