

Software Procedure

SWP-0054 Creating a SQL Maintenance Plan

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Contents

Purpose	2
Audience	2
Scope	2
Creating a SQL Maintenance Plan Using SQL 2005	2

Purpose

The purpose of this document is to detail the steps necessary to create a SQL Maintenance Plan using SQL Server Management Studio (2005).

Audience

This document is written for IT technicians and system administrators who are responsible for building, configuring or maintaining a tConsult Server. It is assumed readers are familiar with intermediate-level computer terms and concepts.

Scope

As part of an effective business continuity plan, organizations should have a disaster recovery plan in place in the event of a partial or full loss of computer services.

A good maintenance plan not only includes a backup, but should also check database integrity, reorganize and rebuild indexes, and perform a cleanup on backup and transaction log files. By following the steps in this document, SQL Server 2005 should provide for disaster recovery as well as increase efficiency and performance.

Creating a SQL Maintenance Plan Using SQL 2005

This section details how to set up a SQL Maintenance Plan on a SQL 2005 server to back up a tConsult database (or databases if a multi-org server), check database integrity, shrink a database, cleanup old backups and transaction logs, and reorganize and rebuild database indexes.

1. With the Local Administrator account, log into the tConsult server that has SQL Server 2005 installed. In some cases, SQL Server 2005 may be located on a backend server separate from the front end tConsult Telehealth Server. In either scenario, the steps listed here are identical.
2. Open SQL Server Management Studio connecting to the Database Engine.
3. Expanding Object Explorer in the left pane, expand Management. Do a right mouse click on Management Plans and select Maintenance Plan Wizard as shown in Figure 1.

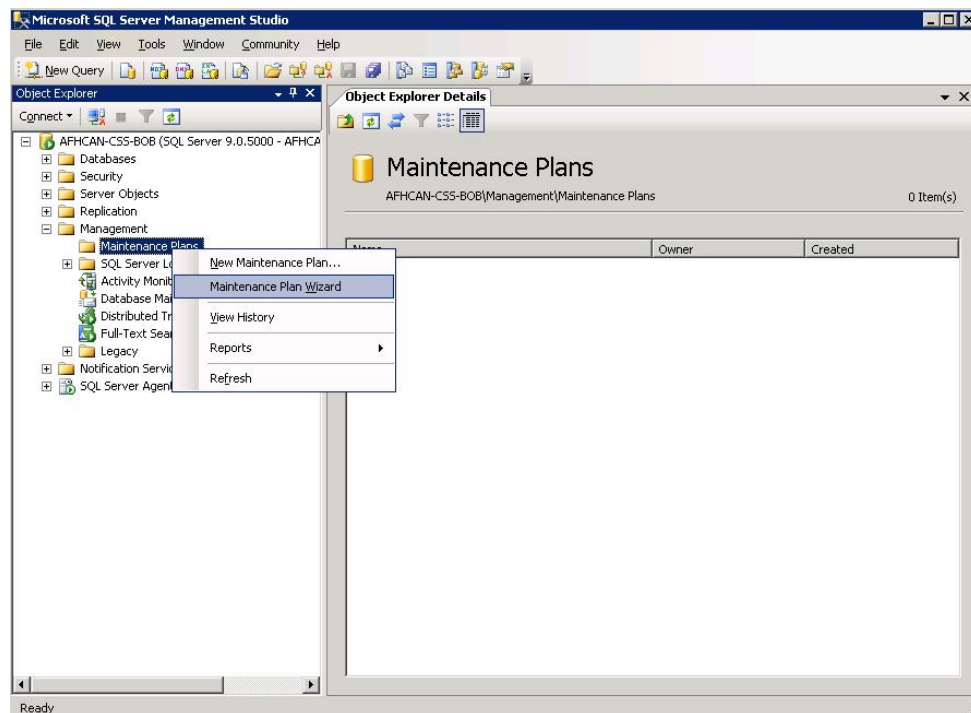


Figure 1 - Selecting Maintenance Plan Wizard

4. Click Next at the Startup Screen

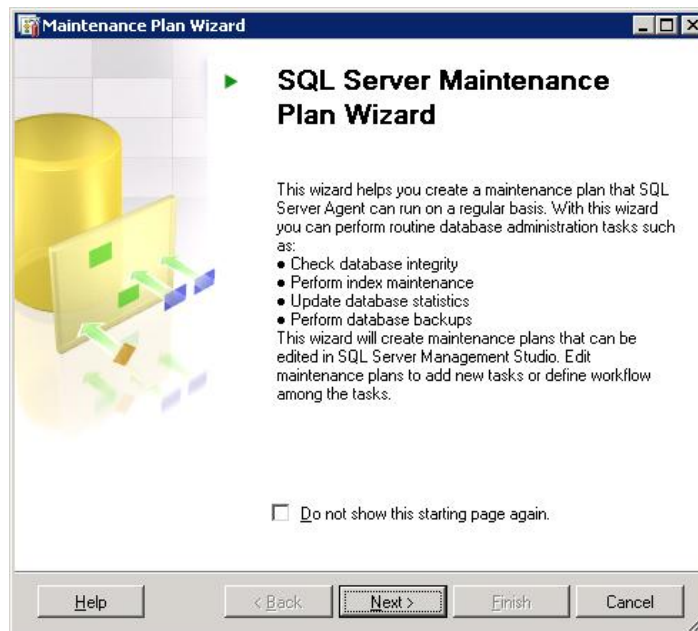


Figure 2 – Startup Page for SQL Server Maintenance Plan Wizard

5. Enter an appropriate name for the Maintenance Plan. A short description may be entered if desired.

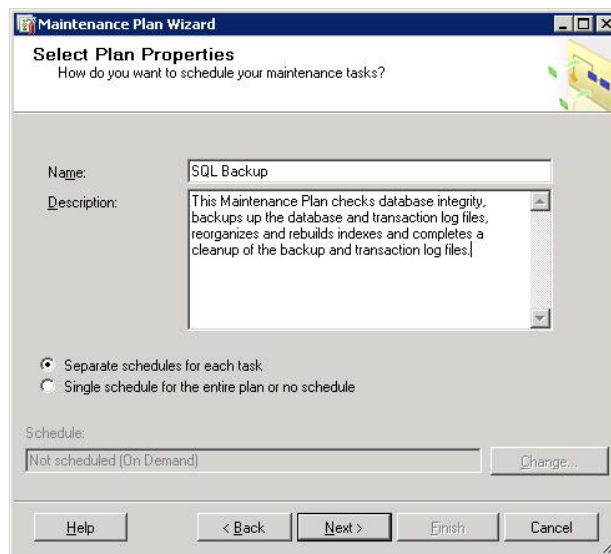


Figure 3 – Entering a Maintenance Plan Name and Description

6. Select the Following Maintenance Tasks as shown in Figure 4:
- Check Database Integrity
 - Shrink Database
 - Reorganize Index
 - Rebuild Index
 - Back Up Database (Full)
 - Back Up Database (Transaction Log)
 - Maintenance Cleanup Task

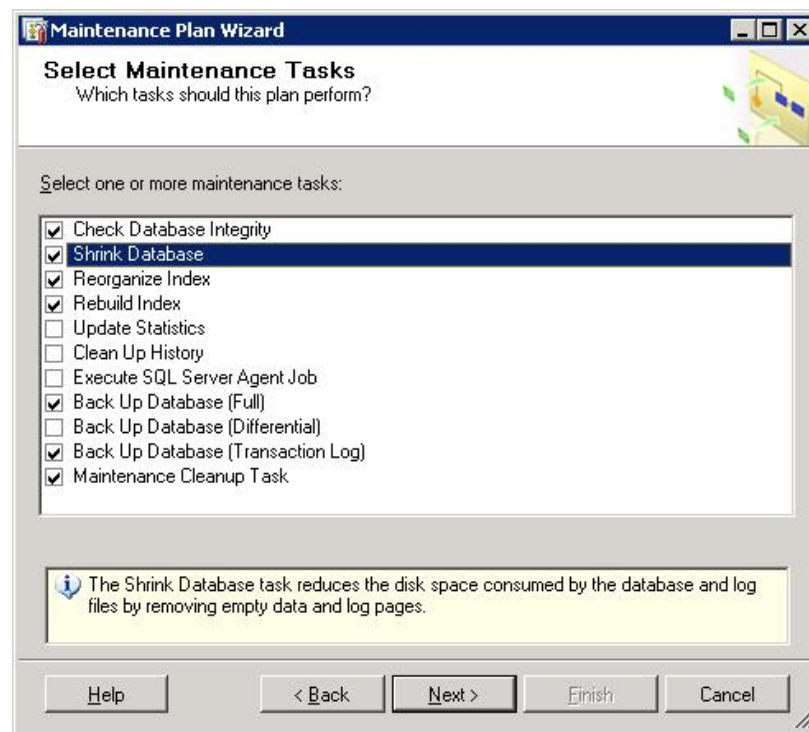


Figure 4 – Selecting Maintenance Tasks

7. The default task order that is displayed in Figure 5 is acceptable. Click on Next.

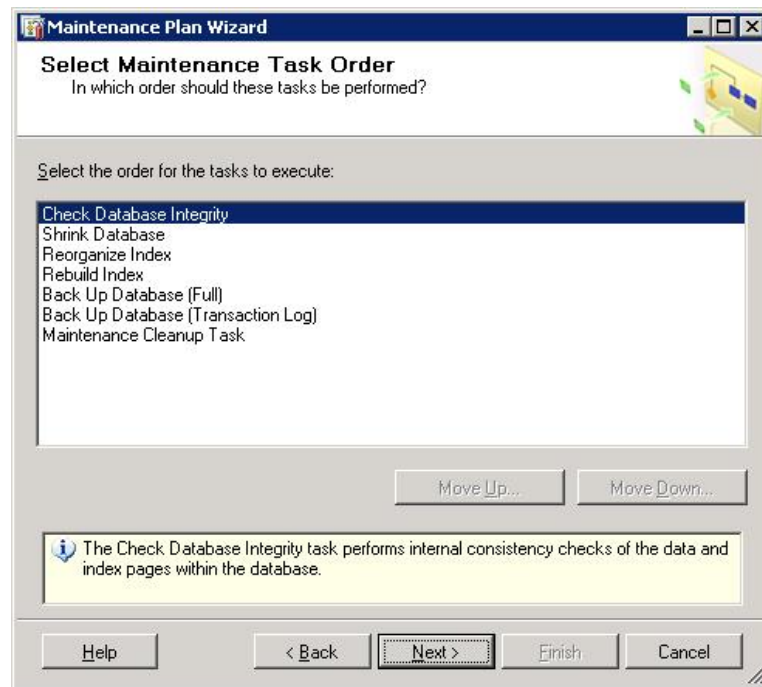


Figure 5 – Maintenance Task Order Screen

8. Select the Databases that Integrity Task will check by clicking on the drop-down arrow to the right of Databases. If there are multiple tConsult databases on the server, select all of them. Click on OK to return to the Define Database Check Integrity Task dialog screen.

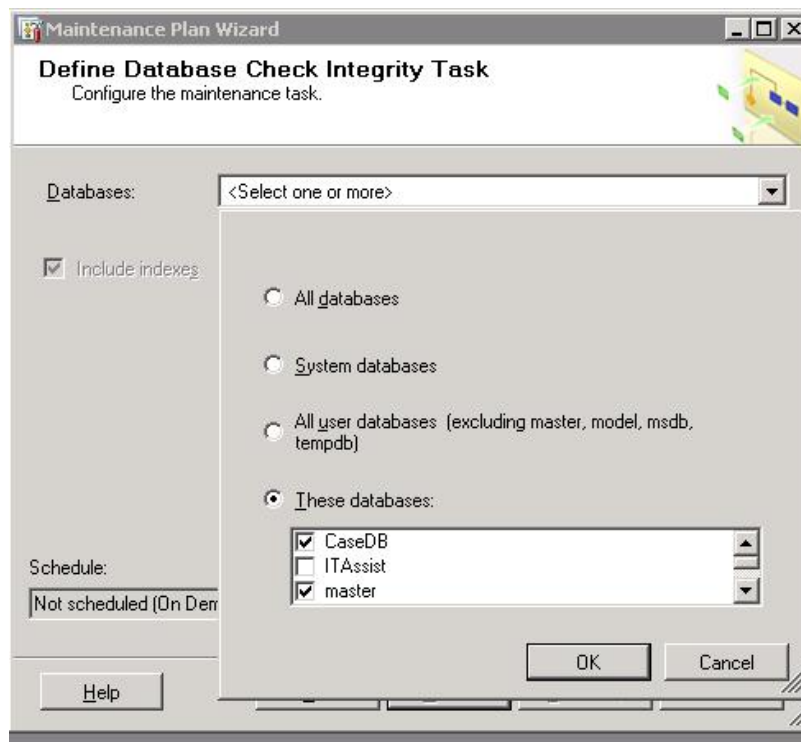


Figure 6 – Selecting Databases

9. Click on the Change button by Schedule to set the time the Integrity Task should be completed. This is generally a task that needs to only run once a week. Click OK to return to the dialog screen, and then click on Next.

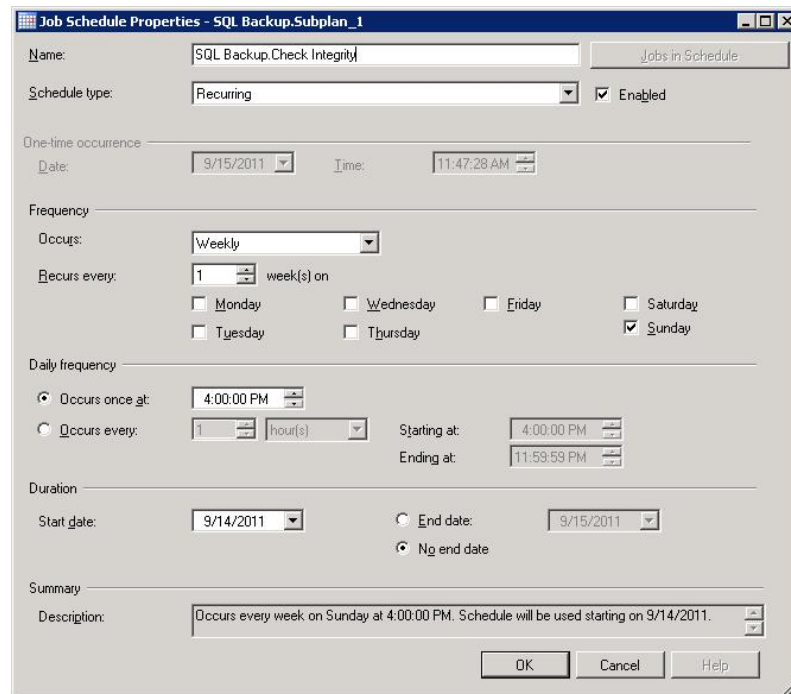


Figure 7 – Setting the Check Integrity Task Schedule

10. The next task is to Shrink the Database. As in Step 8, select the tConsult database(s), then click OK to return to the Define Shrink Database Task dialog screen.

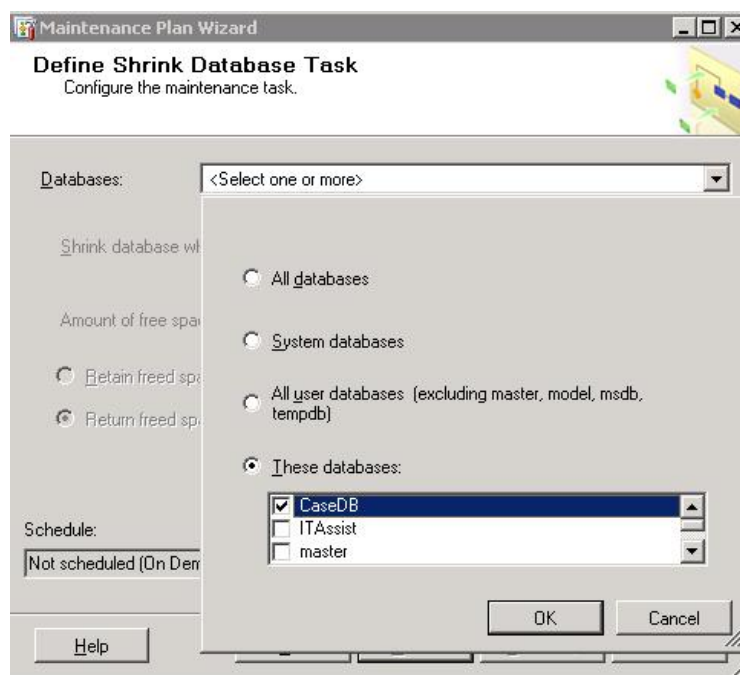


Figure 8 – Selecting Databases to Shrink

11. Being organization dependent, only the administrator of an organization can determine a safe size for their database. Some organizations are intensive users of the tConsult software and create hundreds of cases; they will have a large database size. In this guide, 1000 Mb is selected (1 GB) which is ideal for most small – medium organizations. This value may be increased if the organization is large and the database is normally larger than 1 GB.

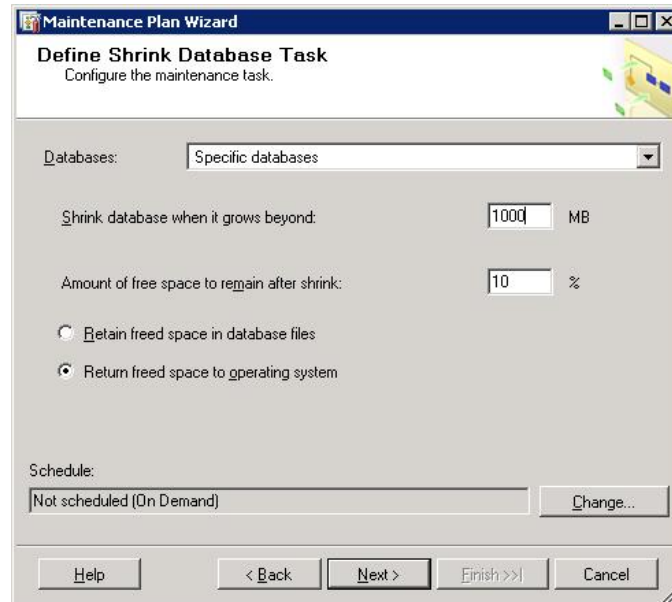


Figure 8 – Selecting Databases to Shrink

12. The Shrink Database Task does not need to be run daily or weekly. It is recommended to run this task monthly. Set the Schedule by clicking on Change and setting the schedule to occur monthly. Click OK to return to the dialog screen, and then click on Next.

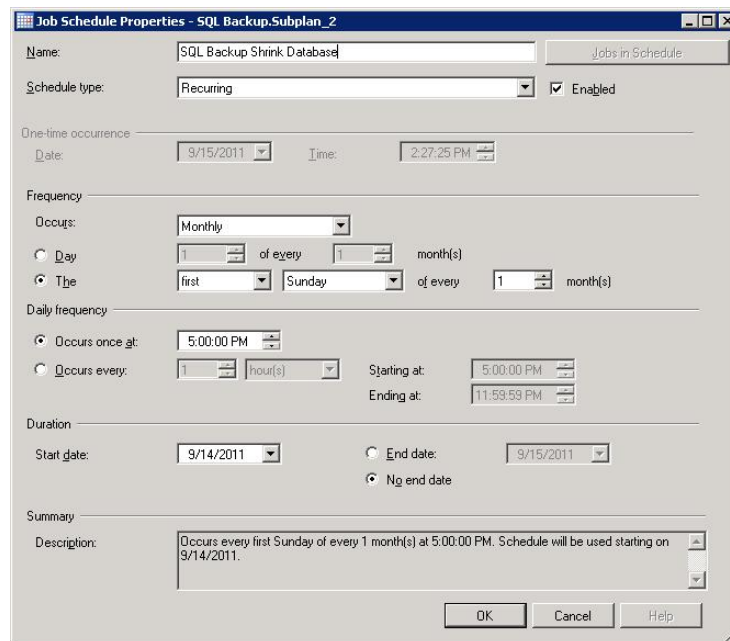


Figure 9 – Setting the Schedule to Shrink a Database

13. The next task that will display is to Reorganize the Index. Again, select the tConsult database(s). Once selected, click on OK to return to the Reorganize Index Task dialog screen.

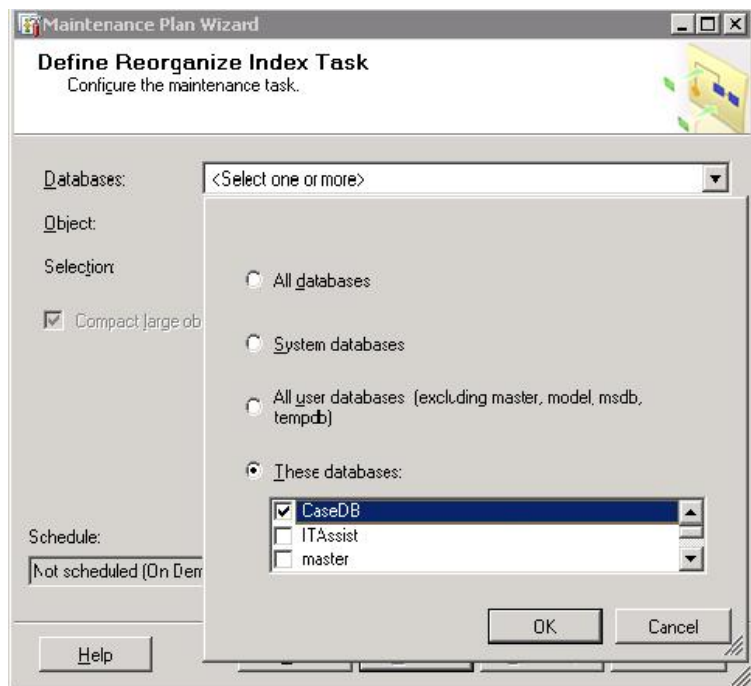


Figure 10 – Selecting Database(s) to Reorganize Index

14. Schedule this task to run once a week. Click on OK to return to the dialog screen, and then click on Next.

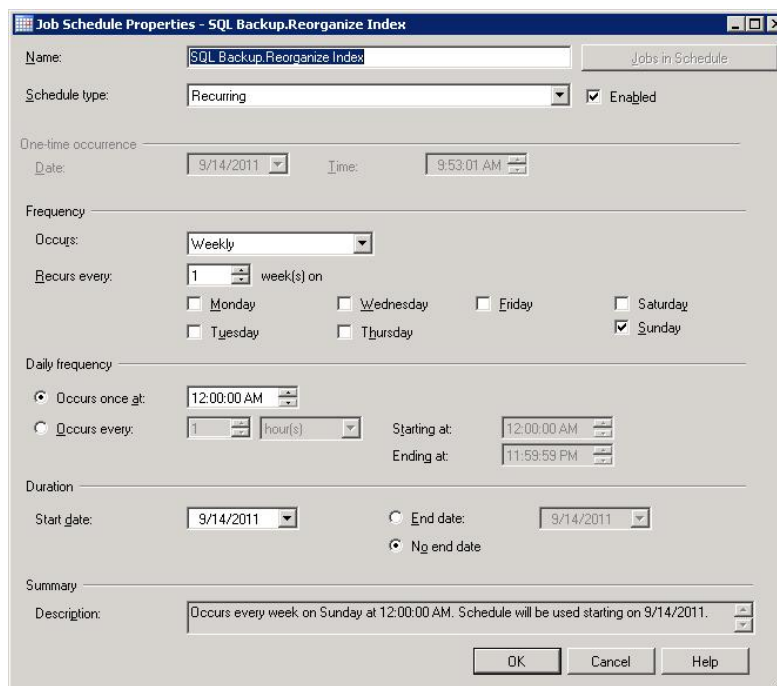


Figure 11 – Scheduling Database(s) to Reorganize Index

15. Once the Index has been reorganized, it should be rebuilt. Select the tConsult database(s) to rebuild the index, and then click OK to return to the dialog screen.

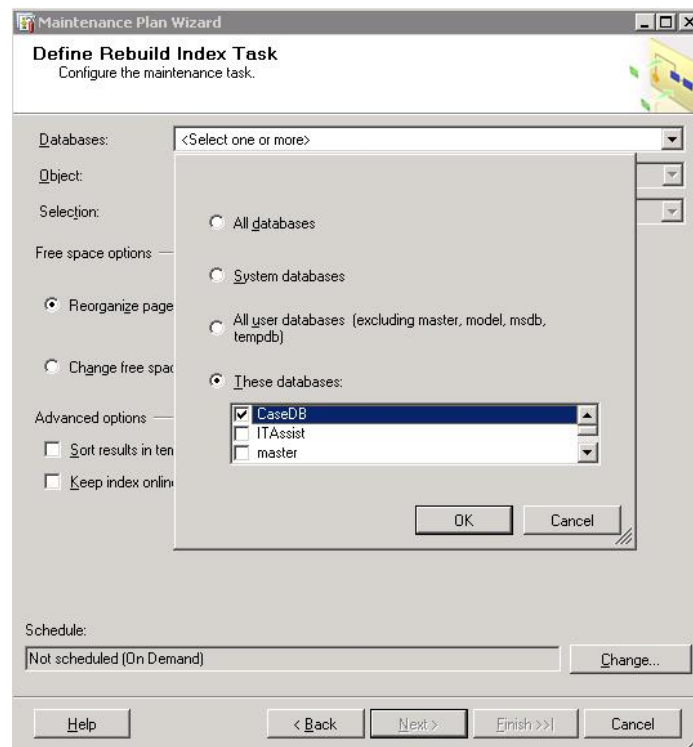


Figure 12 – Selecting Database(s) to Rebuild Index Task

16. Leave the default settings and set the Schedule to rebuild the index once a week. Click on OK to return to the dialog screen, and then click on Next.

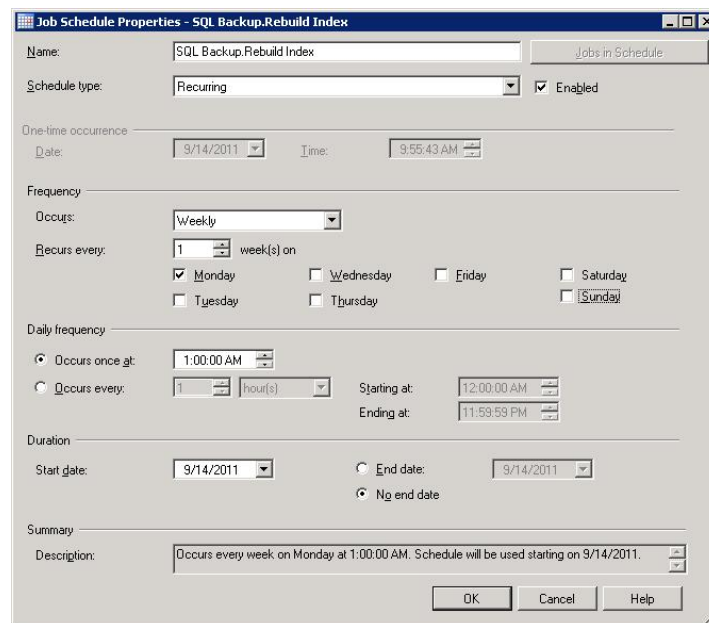


Figure 13 – Scheduling Database(s) to Rebuild Index

17. Though it is highly recommended to backup each and every tConsult database prior to any upgrades, a daily backup should be part of the overall disaster recovery management plan.

Many organizations use VERITAS Backup Exec with SQL Agent or other third party vendor software to capture a backup of the various databases.

Setting a daily backup within this maintenance plan will provide a redundant layer and stores the database to the D:\MSSQL\Backup folder.

Select the tConsult database(s) to be backed up. Click on OK to return to the Backup dialog screen.

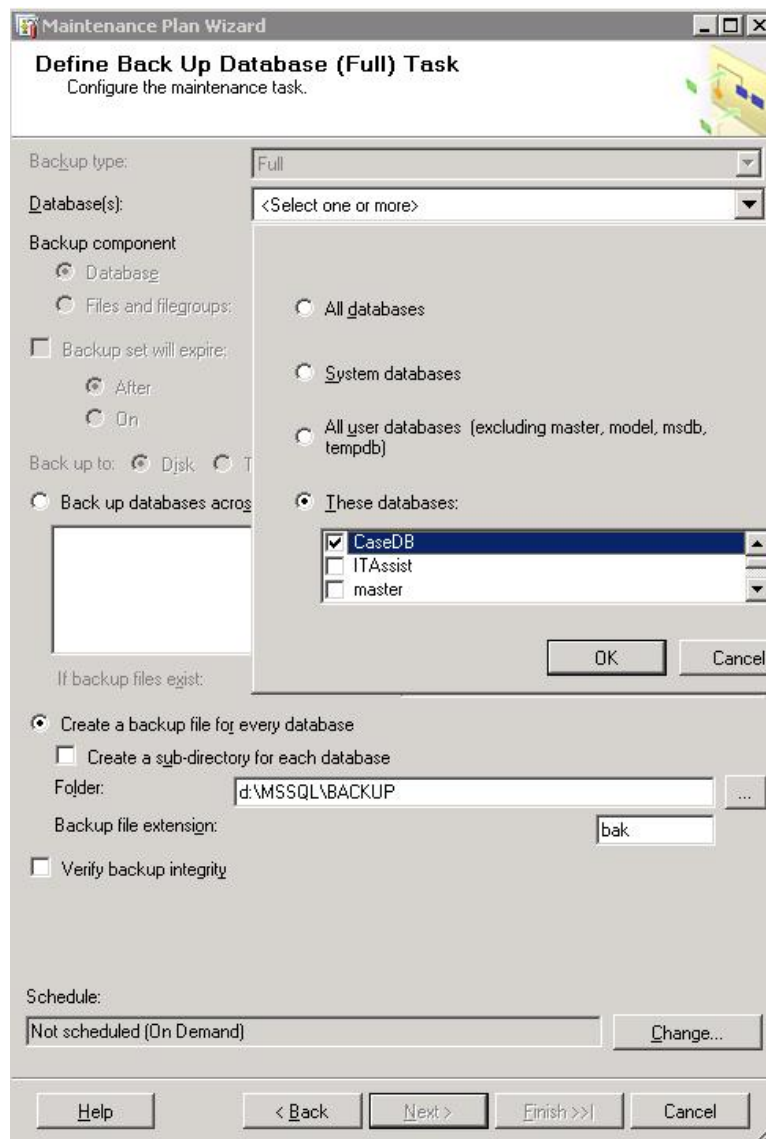


Figure 14 – Selecting the Database(s) to be Backed Up

18. Set the options by placing a checkmark in the checkbox or clicking on the Radio button in front of the following parameters:

- a. Backup set should expire after 7 days.
- b. Backup to Disk
- c. Create a backup file for every database
- d. Create a sub-directory for each database
- e. Backup file extensions: Enter bak **Do NOT enter a (.) period before bak**
- f. Verify backup integrity

Maintenance Plan Wizard
Define Back Up Database (Full) Task
 Configure the maintenance task.

Backup type: Full

Database(s): Specific databases

Backup component

Database

Files and filegroups: []

Backup set will expire:

After 7 days

On 9/28/2011

Back up to: Disk Tape

Back up databases across one or more files:

[] Add... Remove Contents

If backup files exist: Append

Create a backup file for every database

Create a sub-directory for each database

Folder: d:\MSSQL\BACKUP

Backup file extension: bak

Verify backup integrity

Schedule: Not scheduled (On Demand) Change...

Help < Back Next > Finish >> Cancel

Figure 15 – Setting the Backup Options

19. Schedule the backups of the database(s) on a daily schedule. Once the schedule is set, click on OK to return to the dialog screen, and then click on Next.

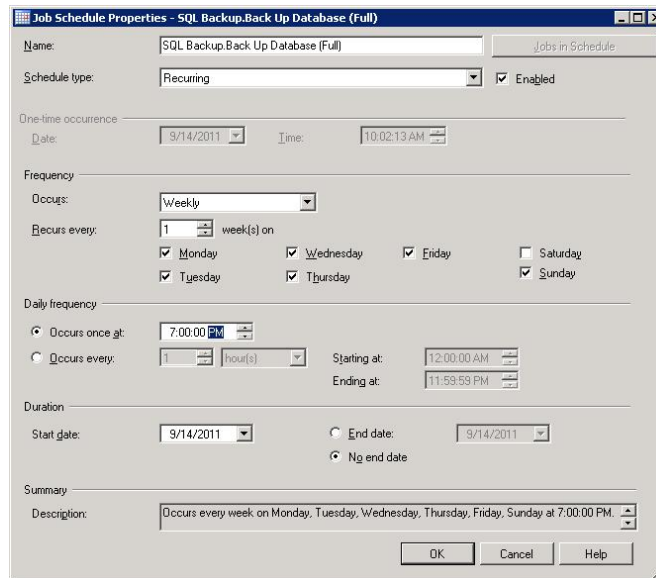


Figure 16 – Scheduling the Database(s) Back Ups

20. Similar to the Full Database backup, the Transaction Log backup task is almost identical. Begin by selecting the database(s), then click OK to return to the dialog screen.

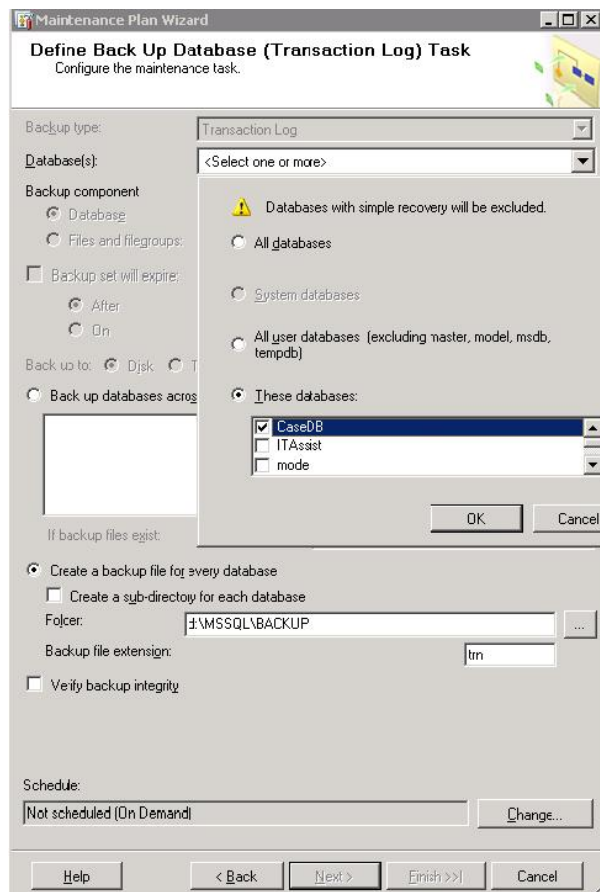


Figure 17 – Selecting the Database(s) for Transaction Log Backups

21. Set the options by placing a checkmark in the checkbox or clicking on the Radio button in front of the following parameters:
- Backup set should expire after 7 days.
 - Backup to Disk
 - Create a backup file for every database
 - Create a sub-directory for each database
 - Backup file extensions: Enter `trn` ***Do NOT enter a (.) period before trn***
 - Verify backup integrity

The screenshot shows the 'Maintenance Plan Wizard' dialog box, specifically the 'Define Back Up Database (Transaction Log) Task' step. The dialog is titled 'Define Back Up Database (Transaction Log) Task' and includes the instruction 'Configure the maintenance task.' The following options are visible and configured:

- Backup type:** Transaction Log
- Database(s):** Specific databases
- Backup component:**
 - Database
 - Files and filegroups: [Empty field]
- Backup set will expire:**
 - Backup set will expire:
 - After: 7 days
 - On: 9/28/2011
- Back up to:** Disk Tape
- Back up databases across one or more files: [Empty list box with Add, Remove, Contents buttons]
- If backup files exist:** Append
- Create a backup file for every database
- Create a sub-directory for each database
- Folder:** d:\MSSQL\BACKUP
- Backup file extension:** trn
- Verify backup integrity
- Schedule:** Not scheduled (On Demand) [Change... button]

Navigation buttons at the bottom include: Help, < Back, Next >, Finish >>, and Cancel.

Figure 18 – Setting the Transaction Log Backup Options

22. Schedule the backups of the transaction logs on a daily schedule. Once the schedule is set, click on OK to return to the dialog screen, and then click on Next.

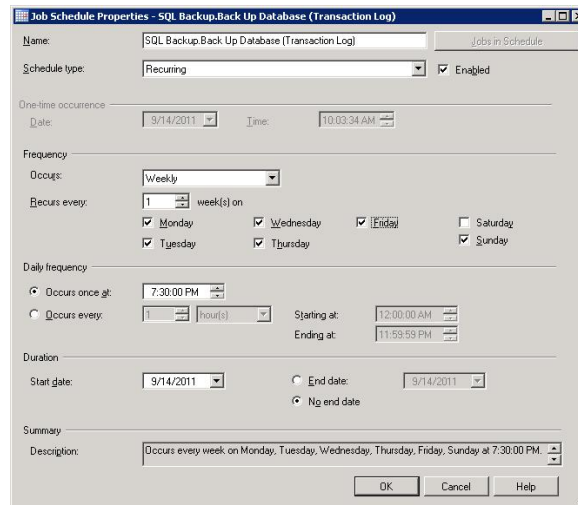


Figure 19 – Scheduling the Transaction Log Back Ups

23. The last task within this maintenance plan is to Cleanup old backup files. Set this task to Search folder and delete files based on an extension. Click on the elliptical button next to Folder.

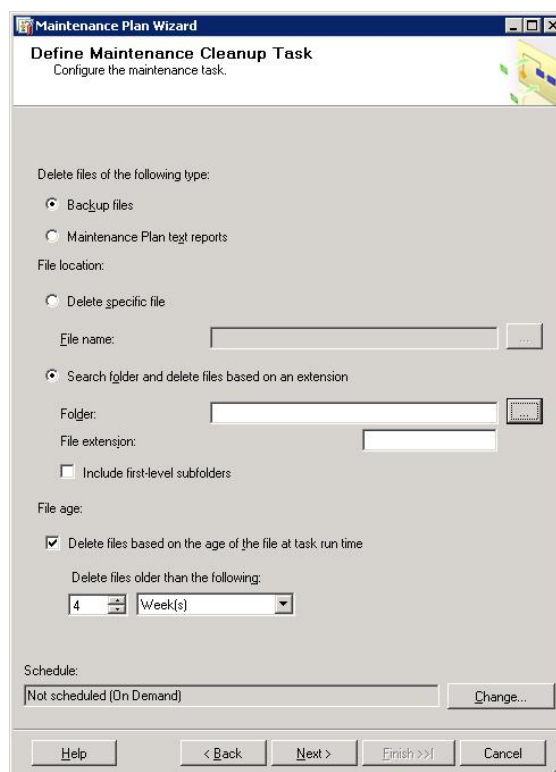


Figure 20 – Setting the Cleanup of Old Backups

24. Select D:\MSSQL\Backup, and then click on OK.

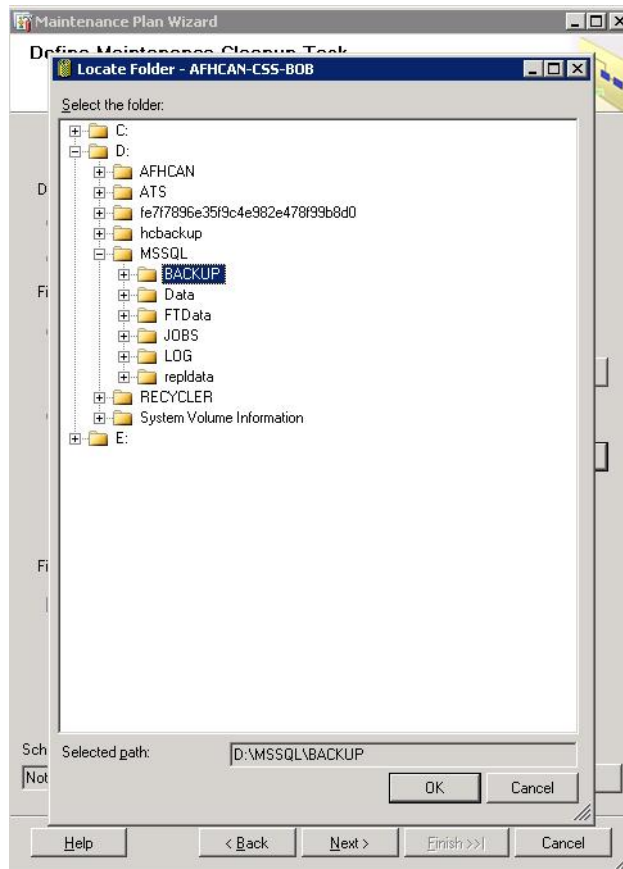


Figure 21 – Selecting the Folder

25. Enter bak (no periods) in the File extension, and place a checkmark in front of Include first-level subfolders as shown in Figure 22. Change the File age to one (1) week.

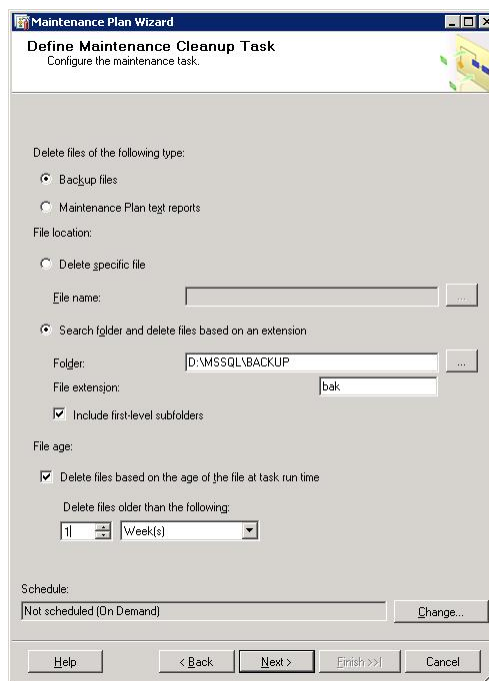
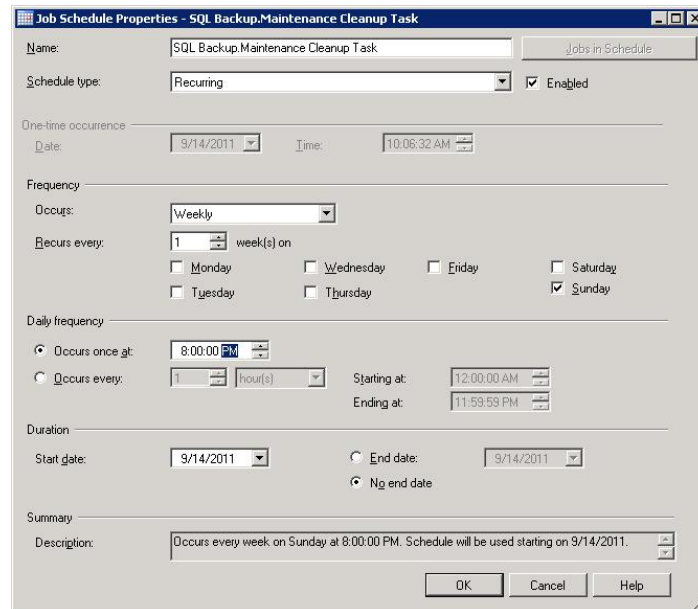


Figure 22 – Setting the Parameters

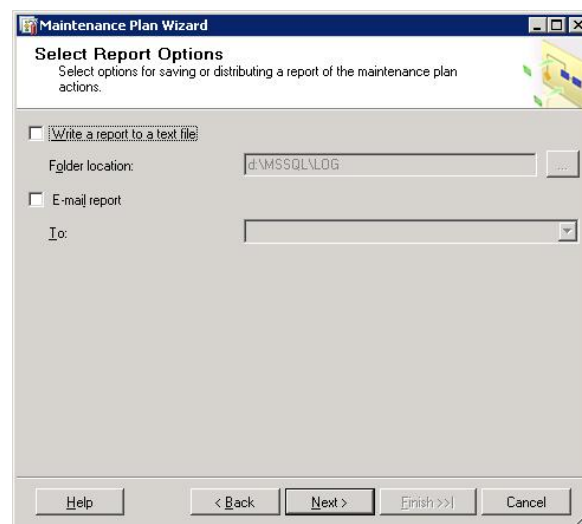
26. Click on Change to set the Schedule. This should be done once per week. Then click on OK to return to the dialog screen, then Next.



The screenshot shows the 'Job Schedule Properties - SQL Backup Maintenance Cleanup Task' dialog box. The 'Name' field contains 'SQL Backup Maintenance Cleanup Task'. The 'Schedule type' is set to 'Recurring' and is checked as 'Enabled'. Under 'One-time occurrence', the 'Date' is '9/14/2011' and the 'Time' is '10:06:32 AM'. The 'Frequency' section is set to 'Weekly' with 'Occurs every' set to '1' week(s) on 'Sunday'. The 'Daily frequency' section has 'Occurs once at' set to '8:00:00 PM'. The 'Duration' section has 'Start date' set to '9/14/2011' and 'No end date' selected. The 'Summary' section has a description: 'Occurs every week on Sunday at 8:00:00 PM. Schedule will be used starting on 9/14/2011.' Buttons for 'OK', 'Cancel', and 'Help' are at the bottom.

Figure 23 – Scheduling the Cleanup of Back Ups

27. Remove the checkmark from in front of Write a report to a text file.



The screenshot shows the 'Maintenance Plan Wizard' dialog box, 'Select Report Options' step. The title is 'Select Report Options' with the instruction 'Select options for saving or distributing a report of the maintenance plan actions.' There are two unchecked checkboxes: 'Write a report to a text file' and 'E-mail report'. The 'Folder location' for the text file is 'd:\MSSQL\LOG'. The 'E-mail report' section has an empty 'To:' field. Buttons for 'Help', '< Back', 'Next >', 'Finish >>', and 'Cancel' are at the bottom.

Figure 24 – Setting the Report Options

28. Click on Finish at the Complete the Wizard screen.

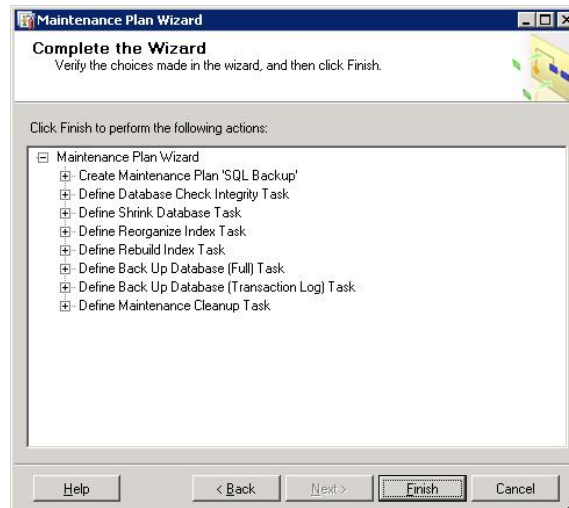


Figure 25 – Completing the Maintenance Wizard

29. The Maintenance Plan Wizard will now setup the plan. When it is finished click on Close.

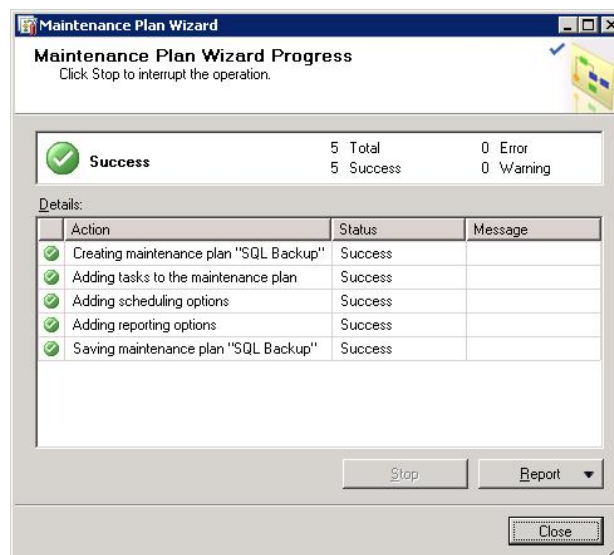


Figure 26 – Maintenance Plan Wizard Progress Window

30. The Maintenance Plan Wizard does not allow an individual to set more than one cleanup task. It is necessary to clean up the transaction logs files in addition to the backup files. To accomplish this, do a right mouse click on Maintenance Plans and select New Maintenance Plan.

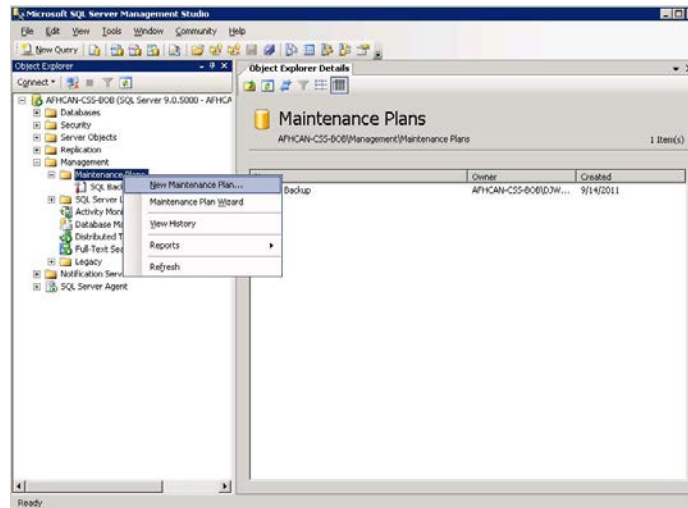


Figure 27 – Setting up a Maintenance Plan Manually

31. Enter an appropriate name then click on OK.

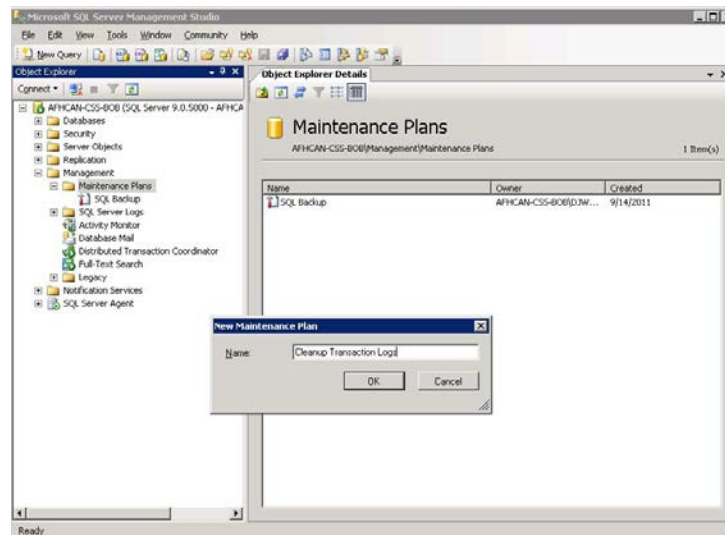


Figure 28 – Naming the New Maintenance Plan

32. Under the Toolbox, in the left pane, drag Maintenance Cleanup Task to the cream colored area as shown in Figure 29.

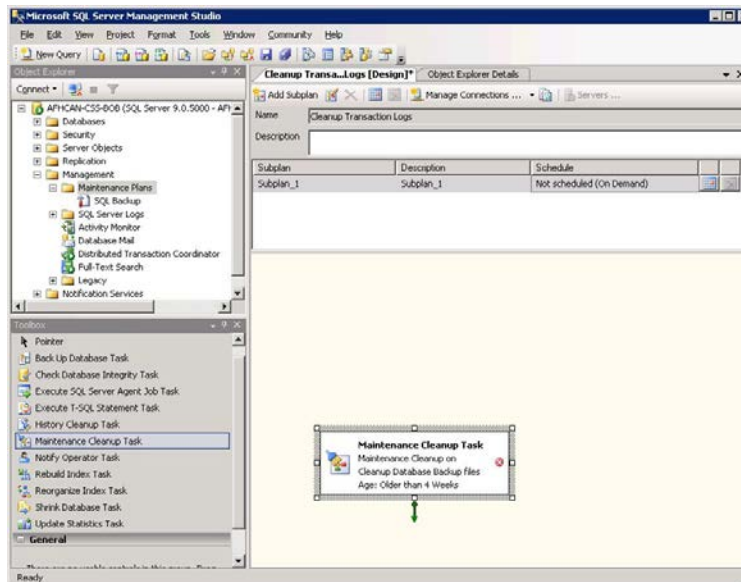


Figure 29 – Dragging the Maintenance Cleanup Task

33. Do a right mouse click on the task and choose Edit. When the Maintenance Cleanup Task dialog window opens set this task to Search folder and delete files based on an extension. Click on the elliptical button next to Folder.

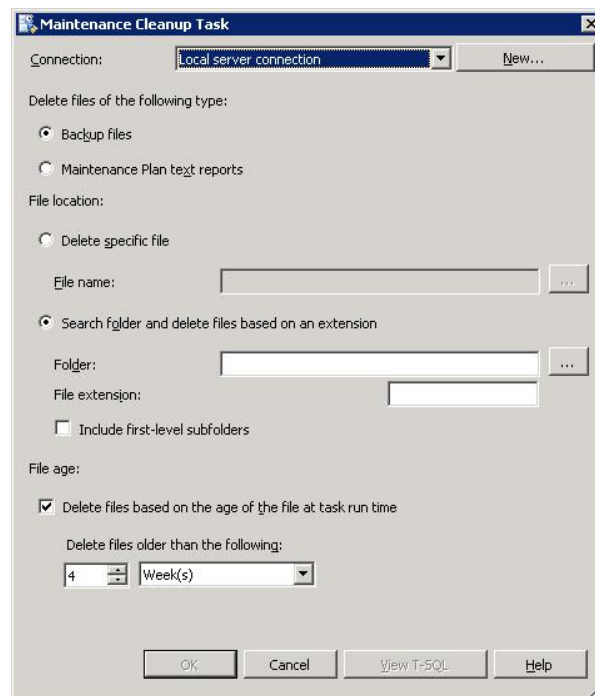


Figure 30 – Setting the Folder to Search

34. Select D:\MSSQL\Backup, and then click on OK.

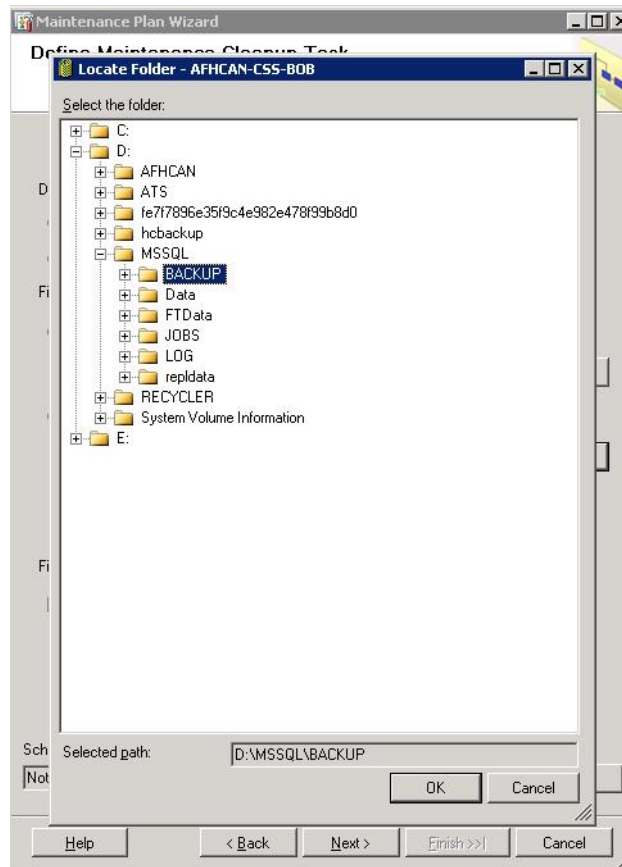


Figure 31 – Selecting the Folder

35. Enter `trn` (no periods) in the File extension, and place a checkmark in front of Include first-level subfolders as shown in Figure 22. Change the File age to one (1) week, and then click on OK.

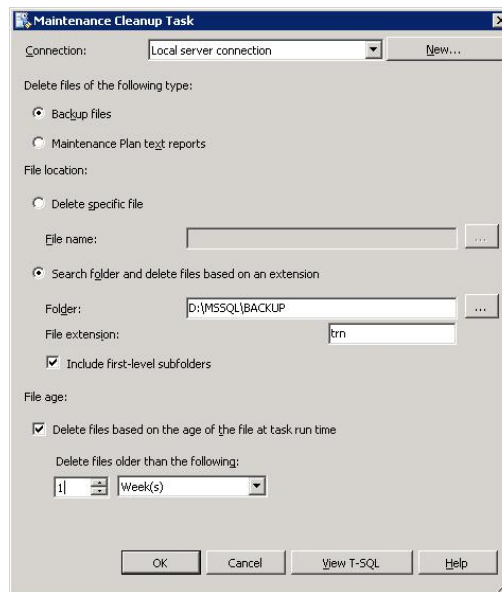


Figure 32 – Setting the Parameters

36. Double-click on Subplan_1. It will open the Subplan properties box.

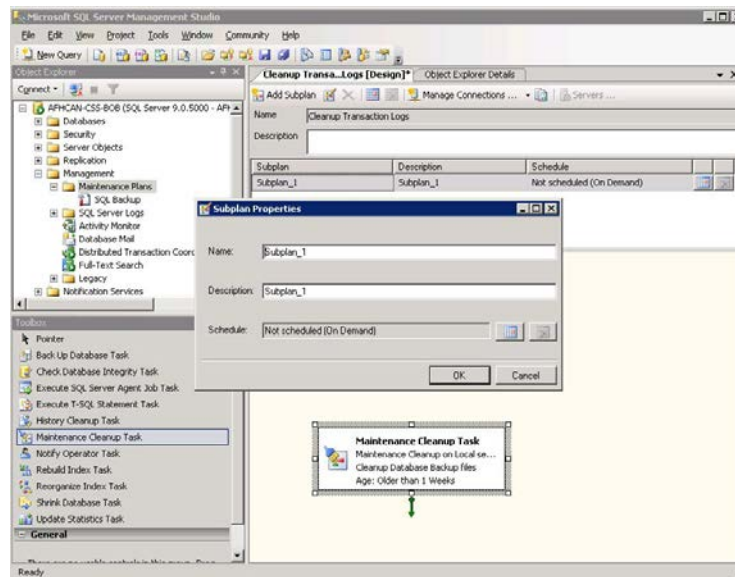


Figure 33 – Displaying Subplan Properties

37. Enter an appropriate name for this Subplan, then click on the calendar to Schedule a time for this task to occur. Once the schedule has been set, click on OK.

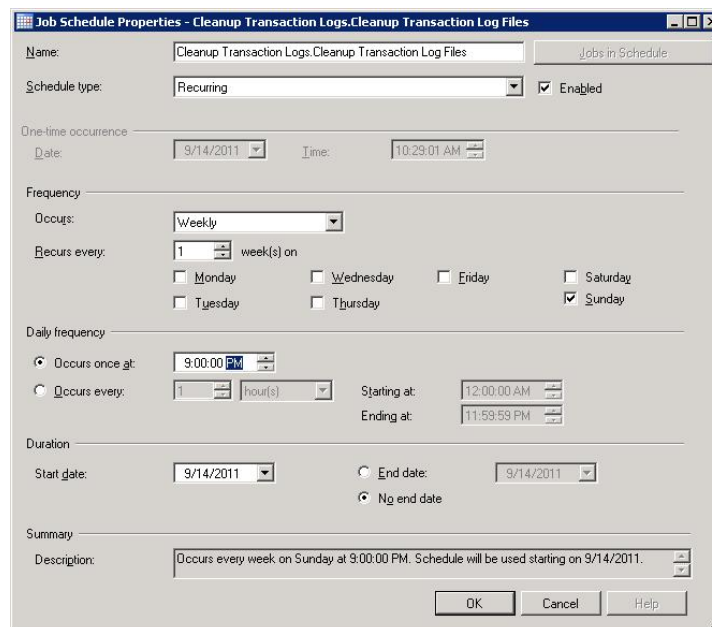


Figure 34 – Scheduling the Deletion of Transaction Log Files

38. The Maintenance Plan needs to be saved. Click on the Floppy Disk Icon in the menu bar as shown in Figure 35.

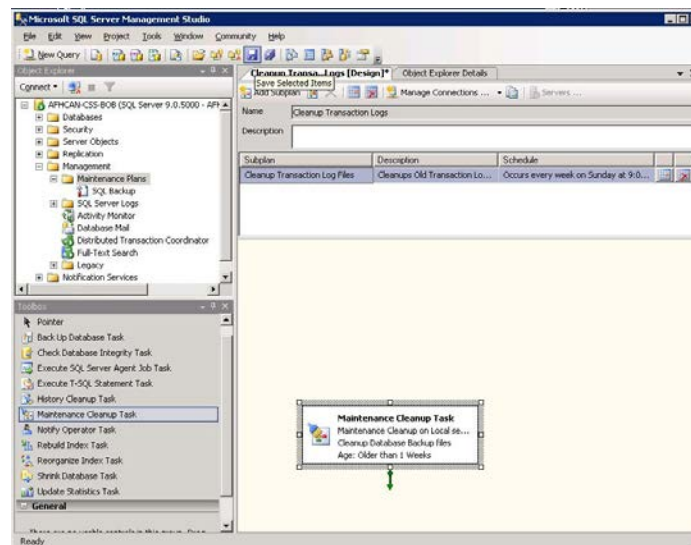


Figure 35 – Saving the New Maintenance Plan

39. Verify that SQL Server Agent is running. A quick check under Jobs will display all of the maintenance tasks that have been set up and scheduled.

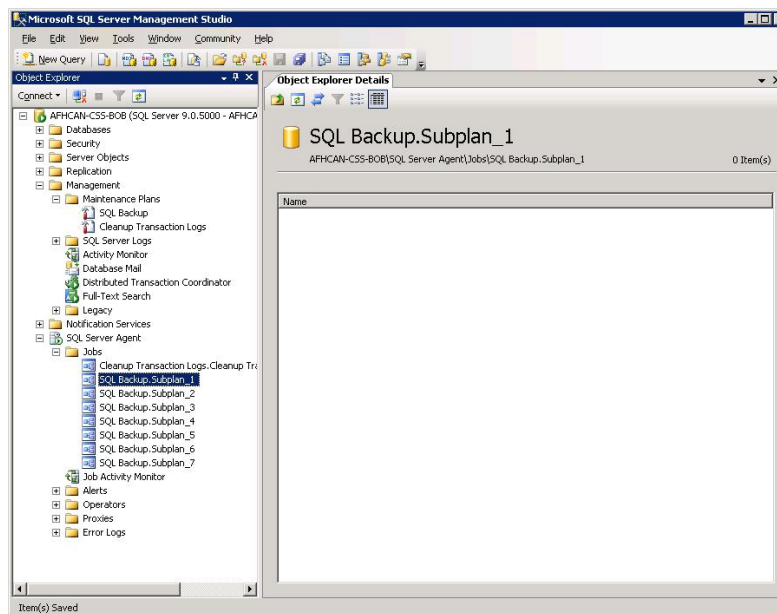


Figure 36 – Verifying Jobs

40. To test the maintenance tasks, select one of the jobs, do a right mouse and select Start job.
41. Exit SQL Server Management Studio.

End of procedure.