

MES DATABASE UTILITY

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PURPOSE

The Database Utility is designed to simplify the creation and maintenance of Paper-Less MES SQL databases for one or more Paper-Less MES environments. The database utility allows you to: Save, Save-As, Restore, Delete, Rename, Create New, Compact and Upgrade the MES SQL databases.

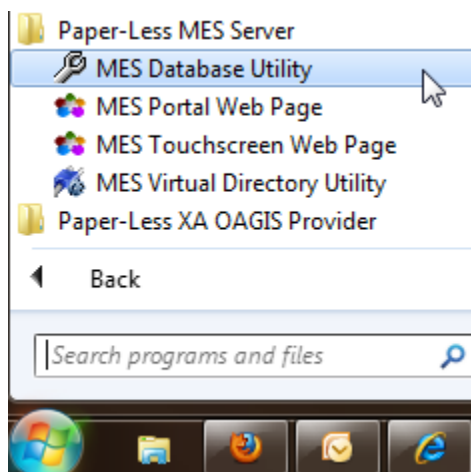
NOTES

IMPORTANT: When a new Paper-Less MES SQL database is created, it is highly recommended that a SQL Server database maintenance plan be created to automatically truncate the database transaction logs on a scheduled basis. **Failure to do this will result in the database transaction log growing indefinitely, consuming all available hard drive space.**

IMPORTANT: If a database transaction log grows too large (greater than 40 GB), **it can prevent the MES Suite Client from starting** because SQL Server is unable to expand the transaction log before a timeout is reached.

ACCESSING THE DATABASE UTILITY

The Paper-Less MES database Utility installs on the Paper-Less MES Server, under C:\All Programs\Paper-Less MES Server\MES Database Utility.



INITIALIZING

A splash screen will be displayed to indicate that the program is initializing. Once initialization is completed, the splash screen will automatically close.

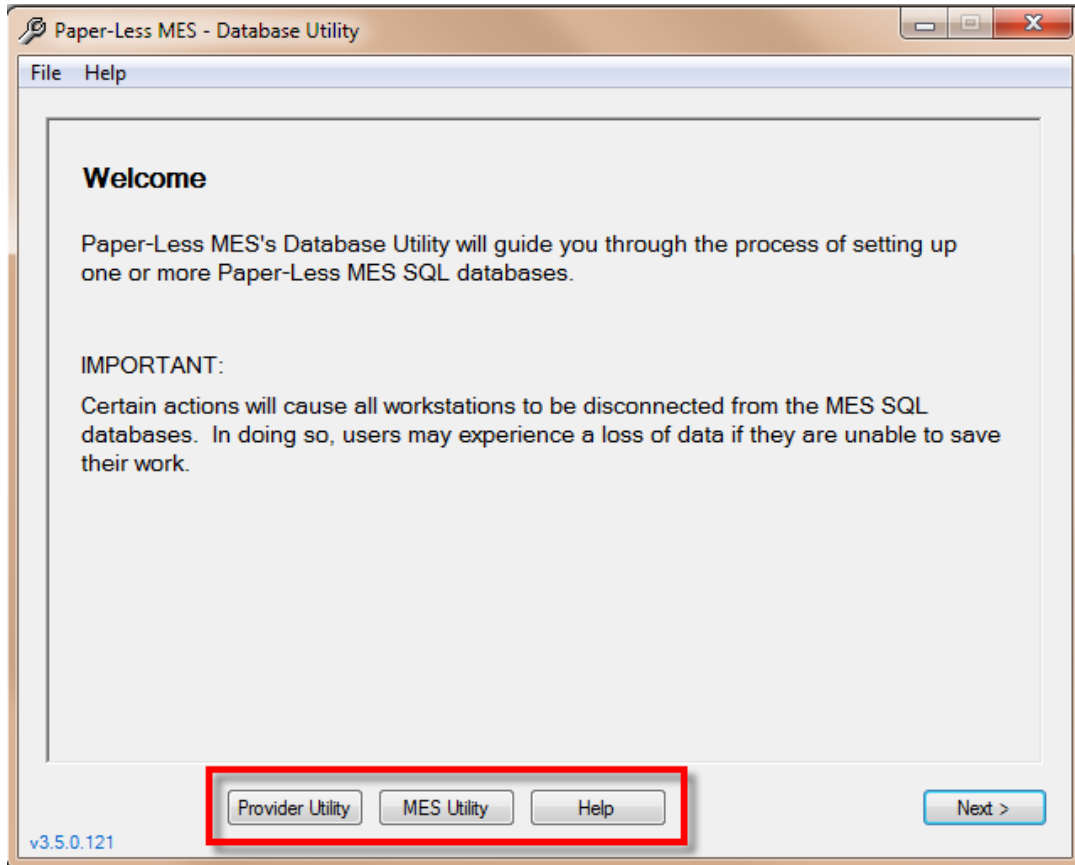
WELCOME

The Paper-less Database Utility will guide you through the process of setting up one or more Paper-Less MES SQL databases. On the bottom of the screen are three buttons that provide easy access to MES database configuration settings. These buttons will be available throughout the Database Utility to provide quick and easy navigation between utilities.

Provider Utility: Opens the user to the Provider Utility (OAGIS, for example). The Provider application must be installed.

MES Utility: Opens the user to the Virtual Directory Settings Utility for Paper-Less MES.

Help: Opens the Database Utility help documentation.



Click the Next button to continue.

SQL SERVER

The screenshot shows a Windows application window titled "Paper-Less MES - Database Utility". Inside, there's a "File Help" menu bar. The main area is titled "Specify the Connection to SQL Server." It contains a text box for "SQL Server:" with "(local)" entered. Below this is a "NOTE: You must connect as a SQL Server system administrator." and two radio buttons: "Use Windows Authentication" (selected) and "Use SQL Server Authentication". There are also text boxes for "Username" and "Password", with a note below them stating "Username and Password are NOT saved." and a "Test Connection" button. At the bottom, there's a section for "SQL Server Backup Folder" with a text box containing "C:\Program Files\Microsoft SQL Server\MSSQL10.MSSQLSERVER\MSSQL\Backup" and a browse button "...". Below this is a warning: "This folder must be located on the computer running SQL Server. Mapped drives, network shares and UNC paths are not supported." At the very bottom are buttons for "Provider Utility", "MES Utility", "Help", "< Back", and "Next >". The version "v3.5.0.121" is displayed in the bottom left corner.

SQL Server: The name of the SQL Server instance to connect to. If the Paper-Less MES Server is installed on this computer, the SQL Server name will be automatically filled in.

To connect to SQL Server on this computer, use (local) or the name of this computer.
To connect to SQL Server on another computer, use the name of the computer.
To connect to a named instance of SQL Server, include a backslash and instance name.

For example: ComputerName\InstanceName

Authentication: You must connect to SQL Server as a SQL Server system administrator.

Use Windows Authentication: The Windows user account (or one of the Windows groups that this Windows account is a member of). The user account must also be a SQL Server system administrator.

Use SQL Authentication: The SQL user account. The user account must be a SQL Server system administrator.

Username: Specify the SQL login's username.

Password: Specify the SQL login's password.

NOTE: The SQL login's username and password are not saved.

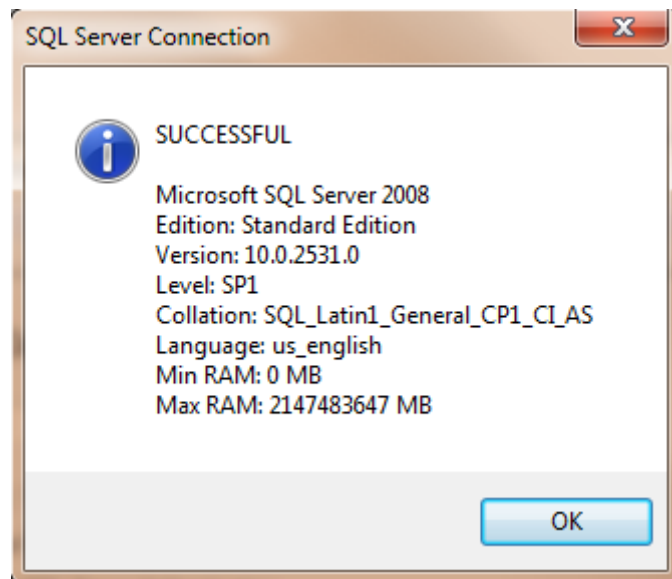
SQL Server Backup Folder: Several actions involve backing up the Paper-Less MES SQL databases. The folder specified here must exist on the computer running SQL Server. Mapped drives, network shares and UNC paths are not supported.

IMPORTANT: The SQL Server service runs under an account that must have sufficient privileges to access the SQL backup folder.

IMPORTANT: Depending on the action being performed, the Database Utility will delete and/or overwrite SQL backup files. It is highly recommended that you choose a different location than the folder used for normal backups and disaster recovery. At a minimum, create a subfolder (i.e. MES DBU) for exclusive use by the Database Utility.

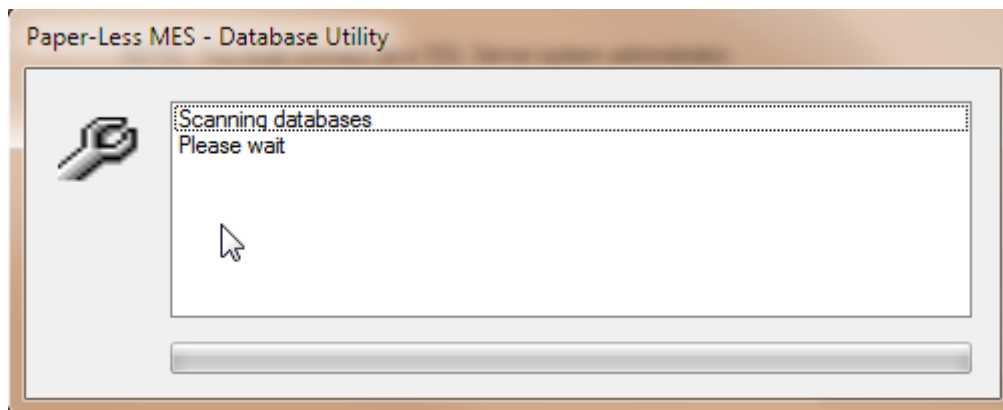
Test Connection: SQL Server connection information and backup folder location are automatically validated when the Next button is clicked. To see the validation results, click “Test Connection”.

If the SQL Server information is valid, the following screen will be displayed:



Click **OK**.

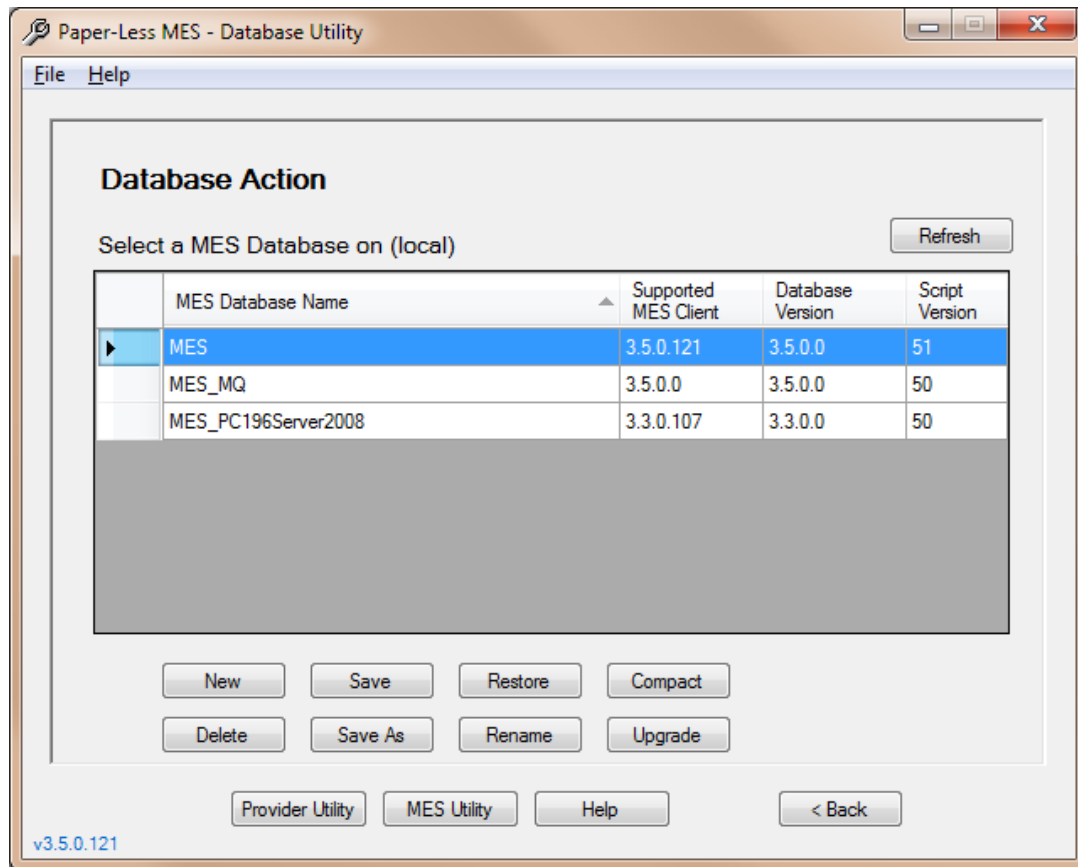
Click **Next** to continue.



Scanning the list of SQL databases can take several seconds to complete depending on the total number of SQL databases that are present in the instance of SQL Server being scanned.

When completed, this progress screen will automatically close.

DATABASE ACTION



Select one or more MES SQL databases.

Click the desired action—**New**, **Delete**, **Save**, **Save As**, **Restore**, **Rename**, **Compact** or **Upgrade**.

Follow the instructions to complete the action or click **Back** to return here.

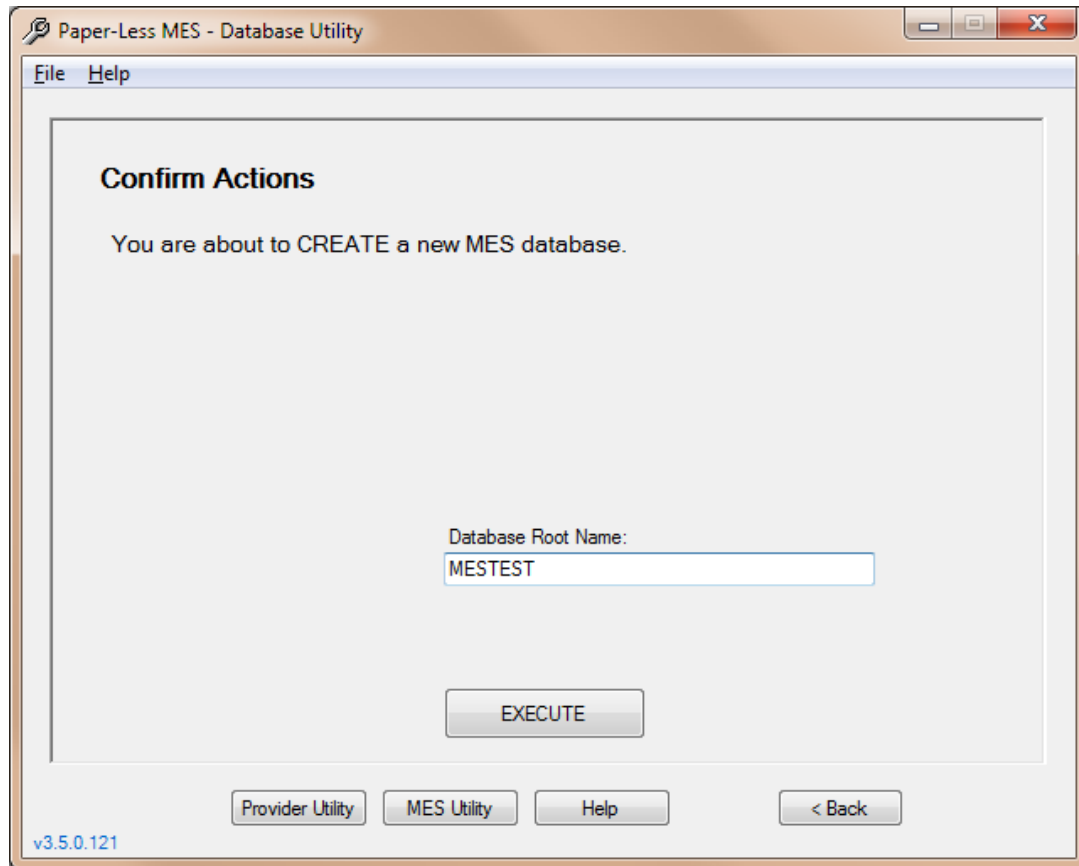
Click **Refresh** at any time to refresh the list of MES SQL databases.

If one or more of the selected MES SQL databases is at a release level that is not supported by this version of the Database Utility, a dialog will display.

If you have another installation of the MES Server at a higher release level, use that version of the Database Utility to work with the selected MES SQL databases. Otherwise, upgrade MES Server.

DATABASE UTILITY ACTIONS

NEW

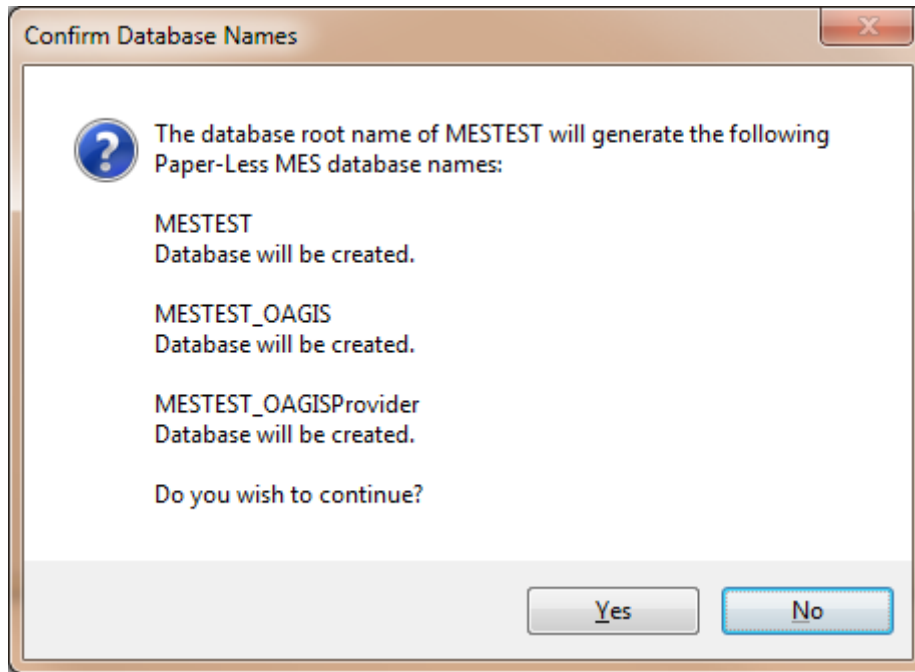


This action will create a new MES SQL database and its supporting SQL databases.

Database Root Name: Used to generate the names of the MES SQL databases.

If you enter a database root name of MES, the following SQL databases will be created:

- MESTEST
- MESTEST_OAGIS
- MESTEST_OAGISProvider



When you execute the action, the Database Utility will use the database root name to generate the Paper-Less MES SQL database names.

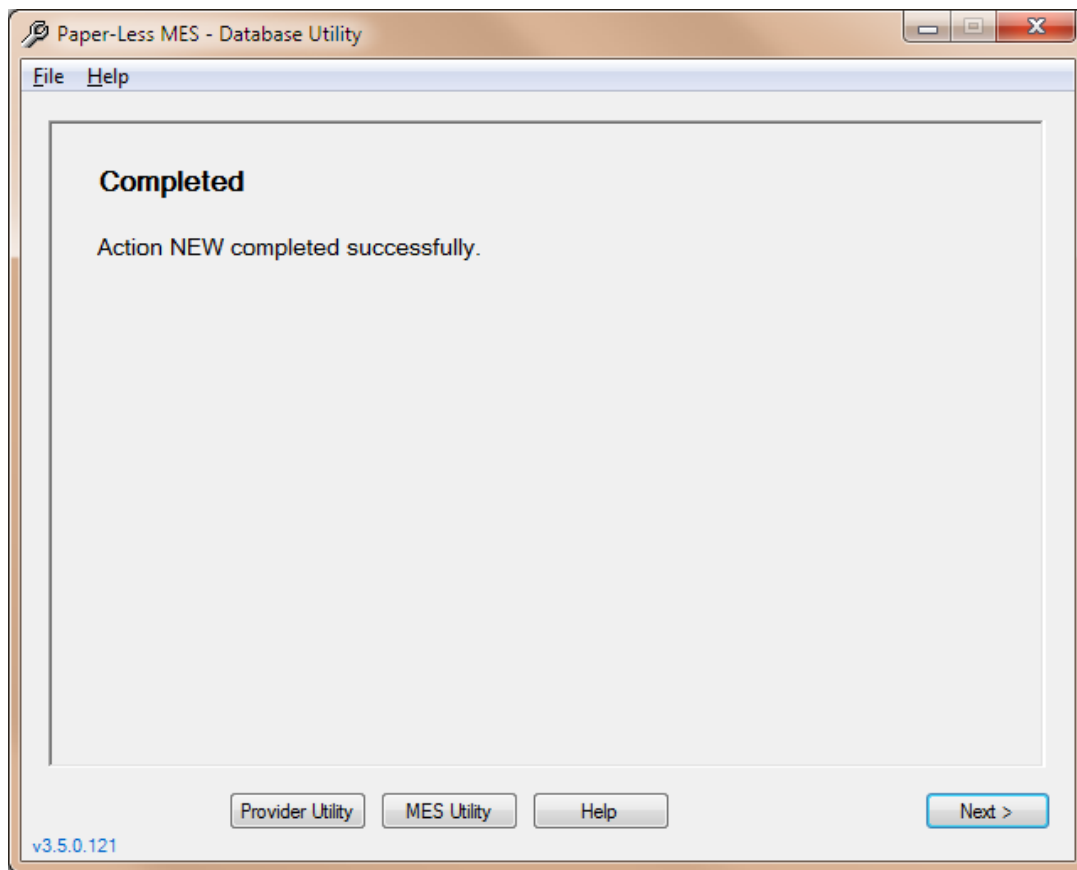
Then, it will check to see if the SQL databases already exist and/or any SQL backup files exist.

Click **Yes** to create the new database.

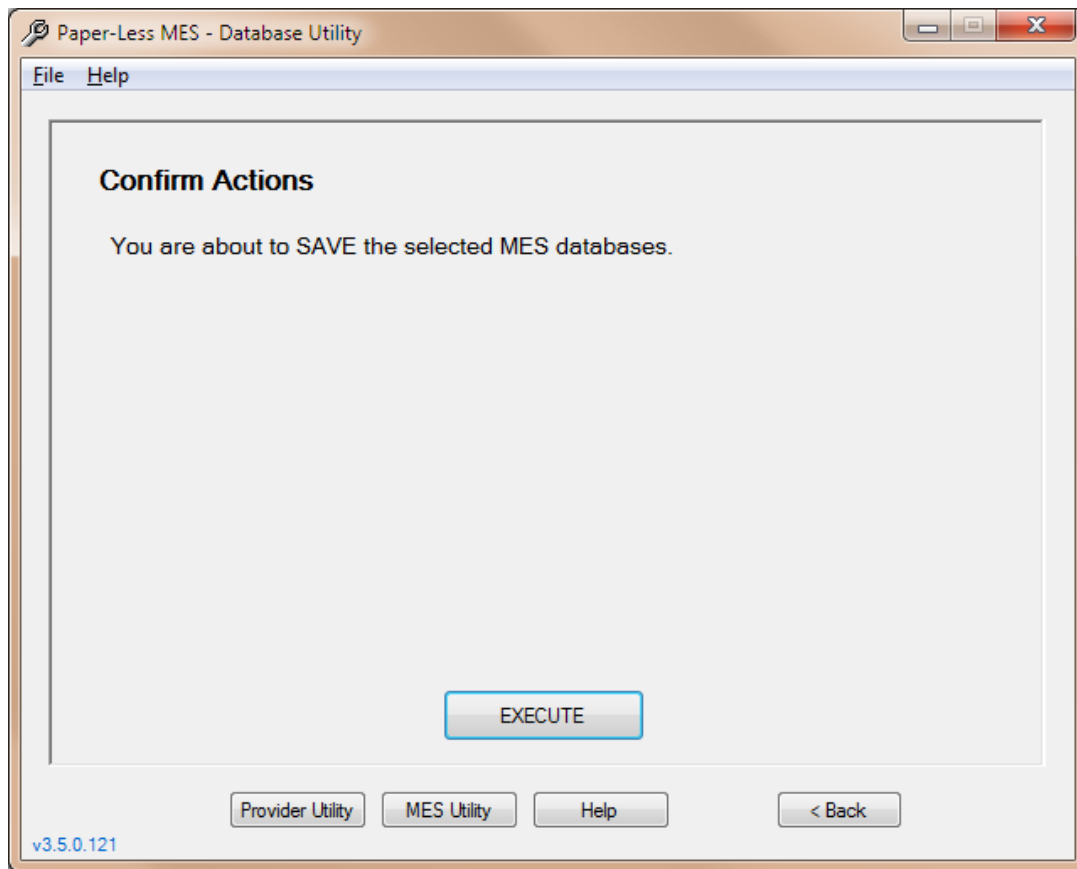
If the database names already exist, the database Utility will make you aware of it, asking you whether or not you'd like to continue and overwrite the existing ones.

Click **Yes** to continue.

A message will display once the new database has been completed successfully. Press Next to return to the Database Utility main page.



SAVE



This action will backup the selected Paper-Less MES SQL databases and their supporting SQL databases.

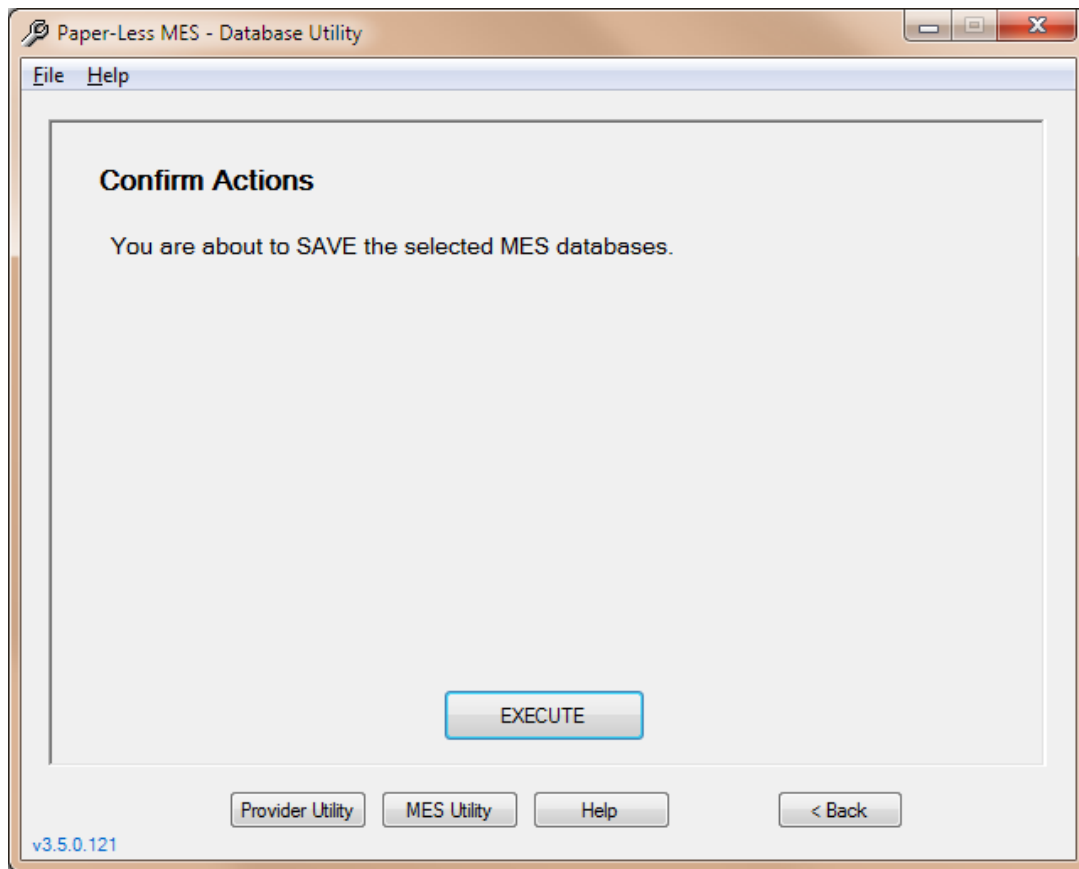
A folder is automatically created with the same name as the database root name.

For simplicity, a SQL backup file will contain only one backup set. Multiple copies of the same MES SQL databases are not supported. Therefore, any existing SQL backup files with the same names in the specified folder are overwritten.

For example:

C:\Program Files\Microsoft SQL Server\MSSQL\BACKUP	← SQL Backup Folder
\MES	← Database Root Name Folder
MESTEST.BAK	← Main MES SQL database
MESTEST_OAGIS.BAK	← Supporting MES SQL database
MESTEST_OAGISProvider.BAK	← Supporting MES SQL database

RESTORE



This action will restore the selected Paper-Less MES SQL databases and their supporting SQL databases.

No-one should be connected to Paper-Less MES when a SQL database is restored.

If a Paper-Less MES connection is left open and is working with data, unpredictable results can occur when it attempts to make use of the data it has in memory.

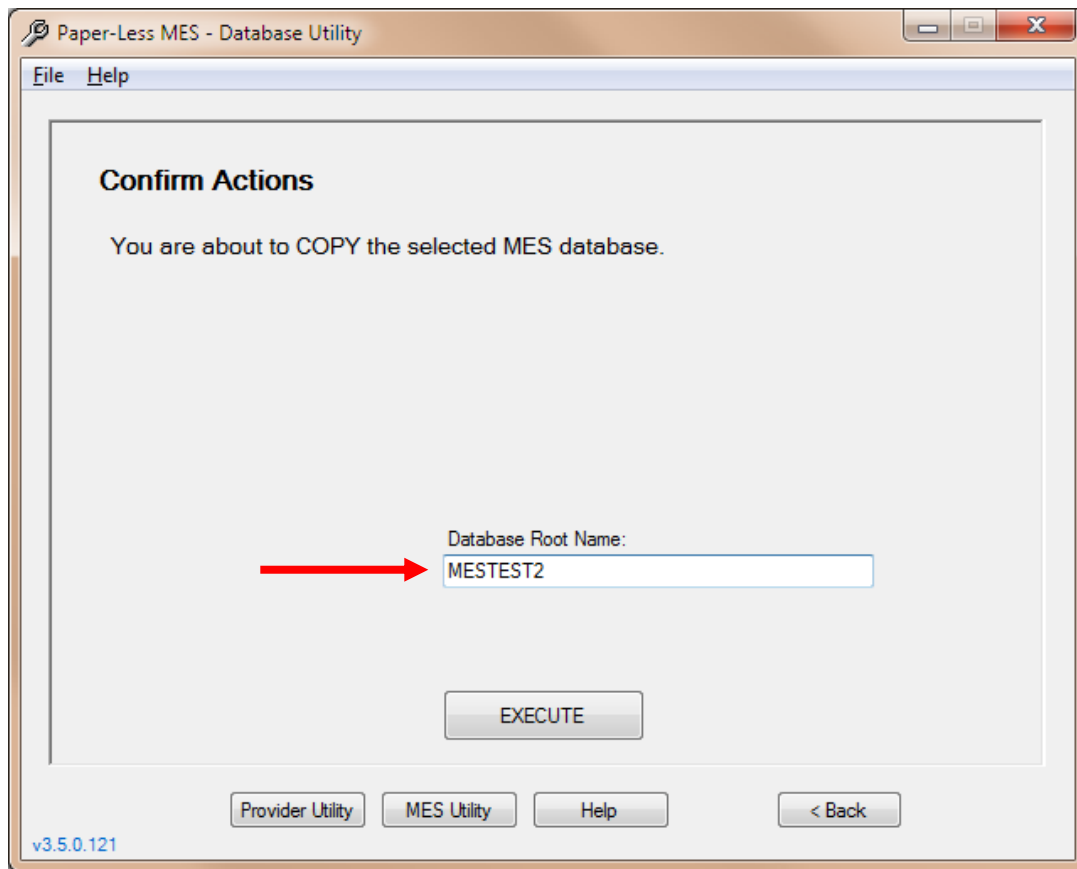
For example, test results are being entered in test entry for a specific manufacturing order. After the SQL databases are restored, the manufacturing order as well as the test header information may no longer exist causing the test entry screen to display an error message. Simply restart the Paper-Less MES session.

In order to restore a database, SQL Server must be able to obtain an exclusive lock on the database which means that no other users can be connected to the database. Therefore, all users will be disconnected from the selected SQL databases so that the databases can be restored successfully.

NOTE: If the SQL backup files are missing or inaccessible, a dialog will be displayed.

Ensure that the SQL backup files are located in the correct folder with the correct filename. The full path and filename are shown in the dialog. Remember, the folder shown here must exist on the computer running SQL Server.

SAVE-AS

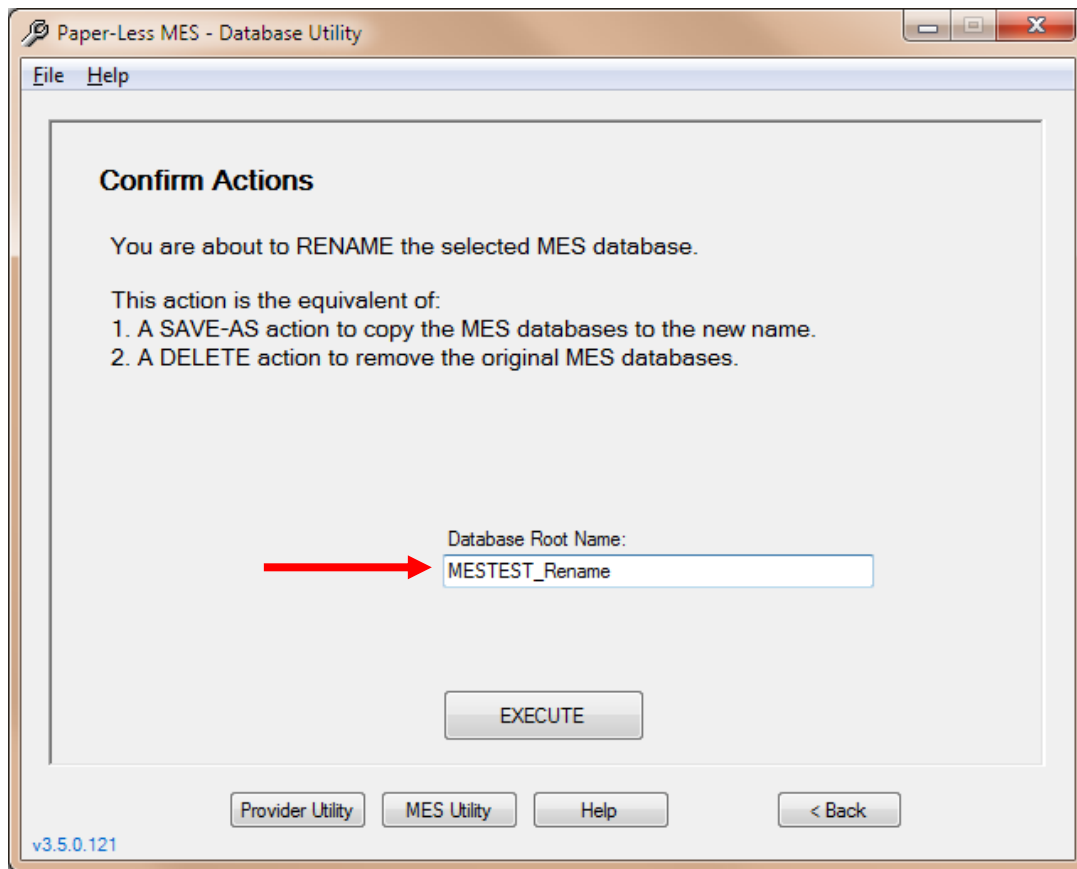


This action will copy the selected MES SQL database and it's supporting SQL databases.

The Database Utility will perform a SAVE action using the new database root name followed by a RESTORE action.

Database Root Name: Refer to the NEW action.

RENAME

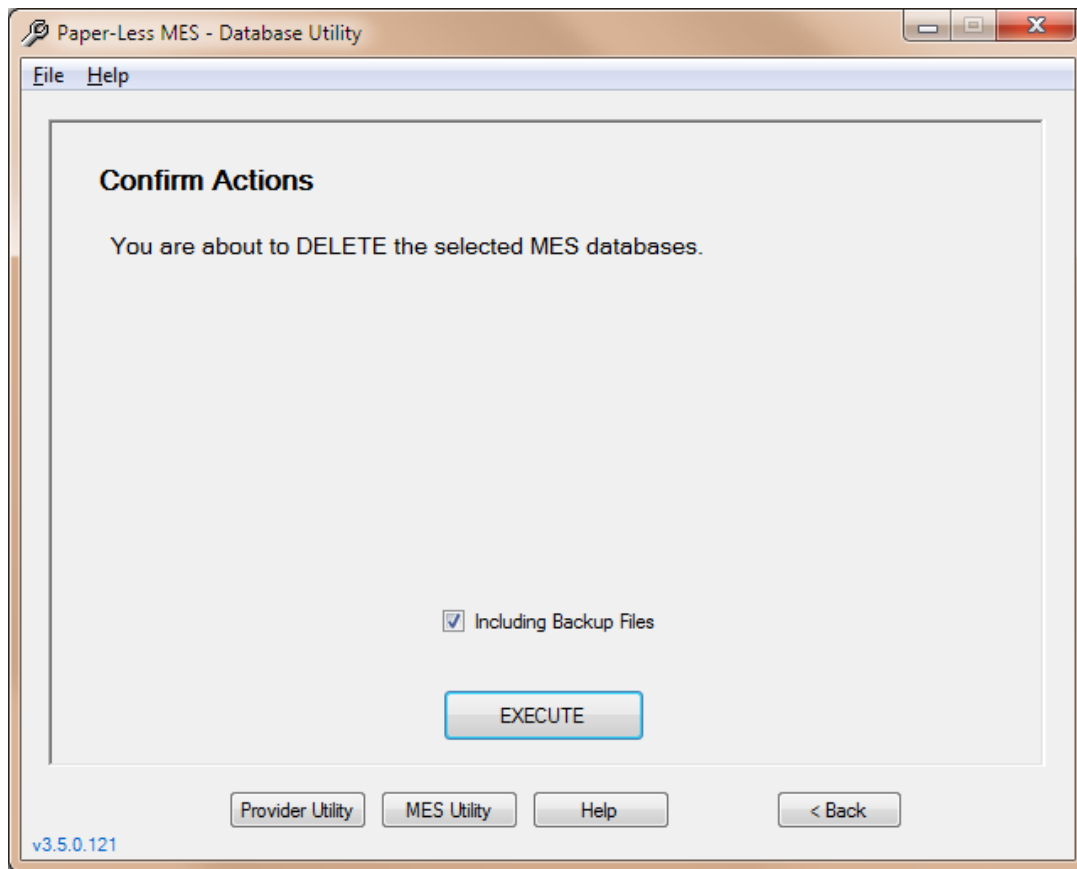


This action will rename the selected MES database and it's supporting SQL databases.

The Database Utility will perform a SAVE-AS action using the new database root name followed by a DELETE action.

Database Root Name: Refer to the NEW action.

DELETE



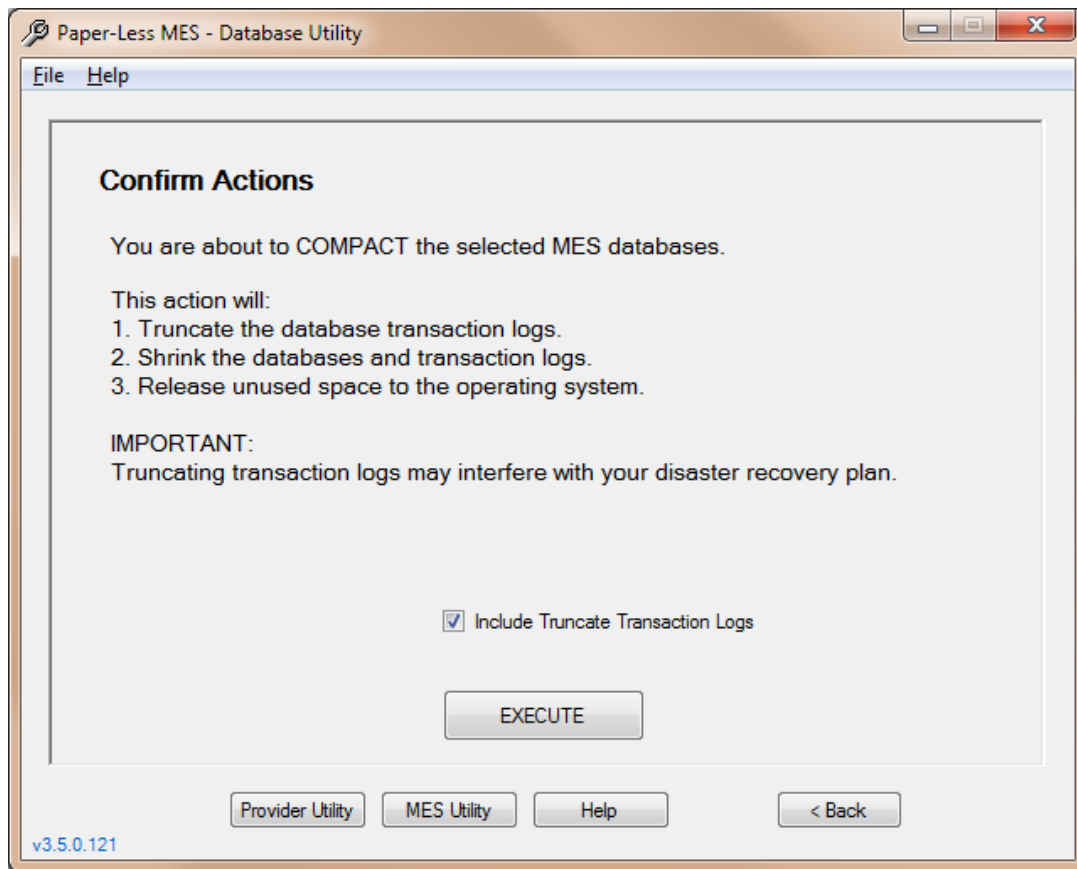
This action will delete the selected MES SQL databases and their supporting SQL databases.

Including Backup Files: Select this option to delete any backup files that are present in the SQL backup folder that was specified when connecting to SQL Server.

IMPORTANT: Any file that ends with a BAK extension will be deleted from the folder. If the folder is empty, the folder will be deleted.

IMPORTANT: It is highly recommended that you choose a different location than the folder used for normal backups and disaster recovery. At a minimum, create a subfolder (i.e. MES DBU) for exclusive use by the Database Utility.

COMPACT

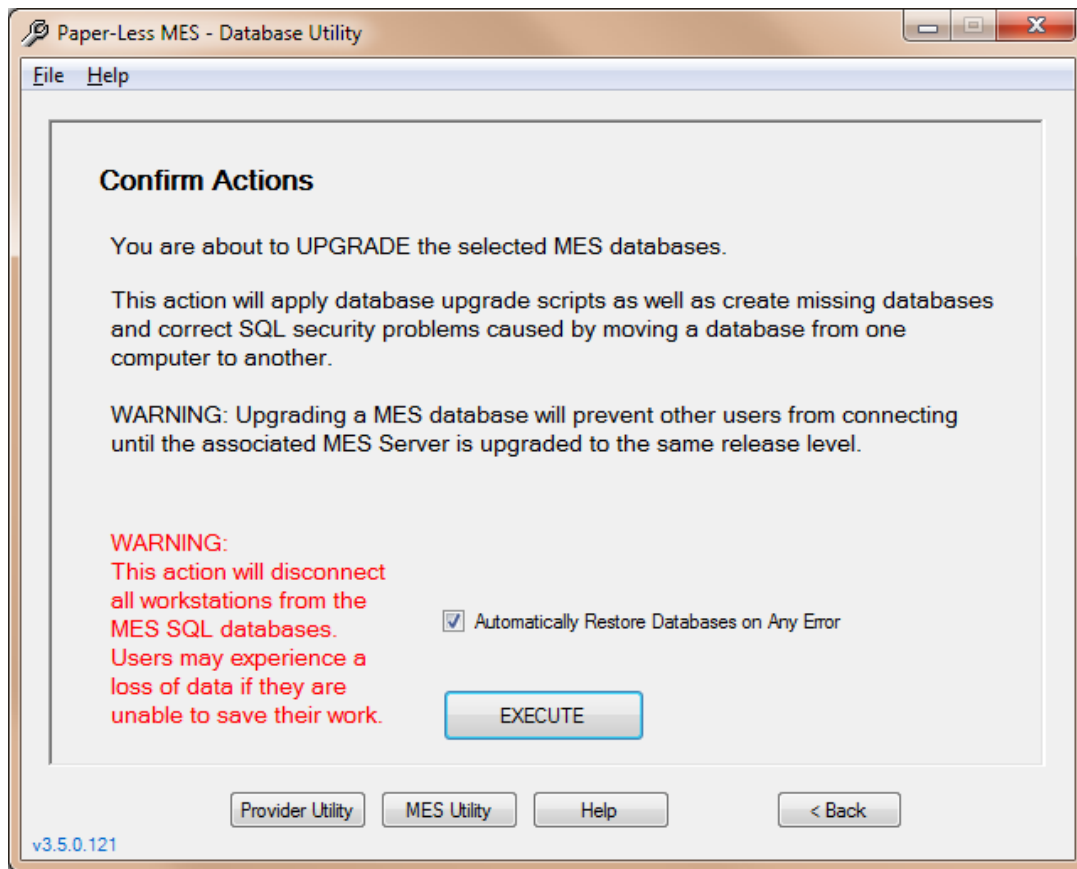


This action will compact the selected MES SQL databases and their supporting SQL databases.

Include Truncate Transaction Logs: Select this option to include the truncation of the database transaction logs.

IMPORTANT: Choosing to truncate the database transaction logs has consequences. It will free the most hard drive space but could leave the MES databases exposed to data loss in the event of a hardware failure, etc. It is highly recommended that a **SAVE** action be done immediately afterwards and the backup files be relocated to another computer or media as soon as possible. Ideally, these SQL backup files should be placed with the normal database backups as they become the primary means of restoring the MES SQL databases until the next regularly scheduled backup is completed.

UPGRADE



This action will upgrade the selected MES SQL databases and their supporting SQL databases. The MES SQL databases will be upgraded to the same release level as the MES Server.

TIP: After a successful upgrade, it is highly recommended that a **SAVE** action is performed so that a future **RESTORE** action does not revert the MES SQL databases to an earlier release level. If this happens, simply perform the **UPGRADE** action again.

IMPORTANT: The MES SQL databases are automatically backed up before any upgrade is done. The SQL backup files are stored in the same folder location as a **SAVE** action. However, they are named differently so as to not to interfere with the normal **SAVE** and **RESTORE** actions of the Database Utility.

The SQL backup filenames for an **UPGRADE** action are prefixed with a date and timestamp.

For example:

2009-06-05_09.24.28_MES.BAK
2009-06-05_09.24.28_MES_OAGIS.BAK
2009-06-05_09.24.28_MES_OAGISProvider.BAK

DATABASE MAINTENANCE PLANS

OVERVIEW

It is crucial that you incorporate a regularly scheduled backup strategy for the MES SQL databases. Without this, you are placing your MES data at risk. Your company's IT Department, IS Department or SQL Server DBA is the recommended authority to put this strategy in place. It is strongly recommended that a database professional be used to implement this critical operation. In the absence of this, we have provided a guide that will get you started.

The purpose of this tutorial is to configure SQL Server to backup the Paper-Less MES SQL databases. This tutorial is intended for customers that do not have a SQL Server database administrator to configure a backup policy.

The following tutorial assumes that you have used the default "MES" Database Root Name. Substitute your Database Root Name for "MES" if you have used a different Database Root Name.

Note: Only Microsoft SQL Server 2005 & 2008 are currently supported. Microsoft SQL Server 2000 is no longer supported.

IMPORTANT:

1. The Database Maintenance Plans illustrated here are not designed to be your sole backup strategy or disaster recovery plan. Refer to SQL Server Books Online and other third party reference materials for assistance in developing a backup strategy and disaster recovery plan.
2. If you are using third party backup software that meets your backup strategy and disaster recovery planning, the backup portion of plan 1 may be skipped. However, the other portions of plan 1 that deal with reorganization, integrity checking and database shrinking should be implemented to keep the MES SQL databases optimized.
3. **Plan 2 must be implemented to prevent the database transaction logs from consuming all available hard drive space and/or shutting down the MES Suite due to the inability of SQL Server to expand the database transaction log.**
For example: If a database transaction log is 50GB and is set to grow automatically by 10 percent, then SQL Server would need 5GB of hard drive space the next time the database transaction log is expanded.

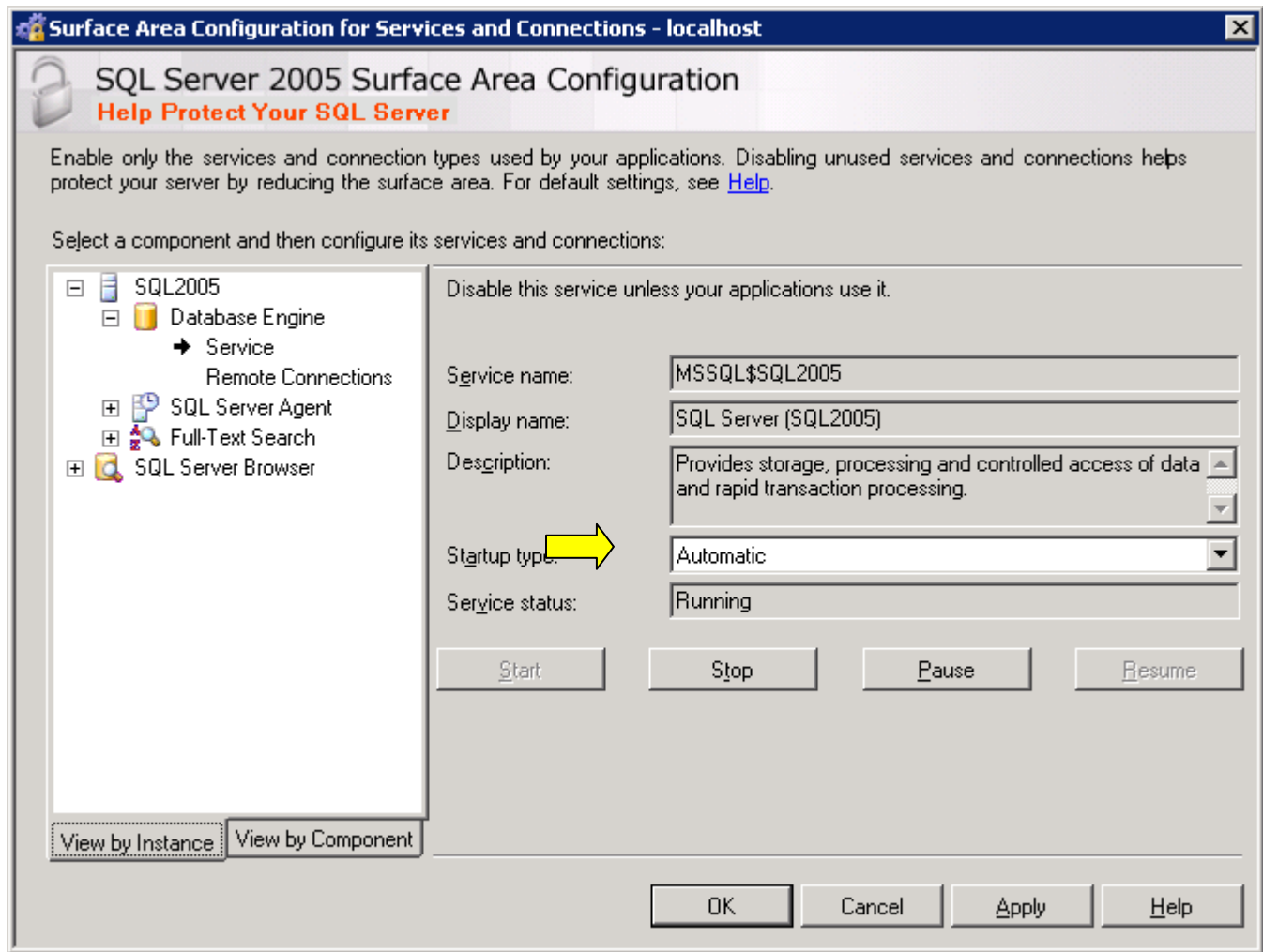
SQL SERVER 2005 AND SQL SERVER AGENT

Database maintenance plans as well as other SQL Server jobs are executed by the SQL Server Agent. You must ensure that SQL Server and the SQL Server Agent are running and set to automatically start with the operating system.

In SQL Server 2005 Surface Area Configuration:



Click **Surface Area Configuration for Services and Connections**.



Select **Service** under the **Database Engine** component.

Select **Automatic** for the Startup Type.

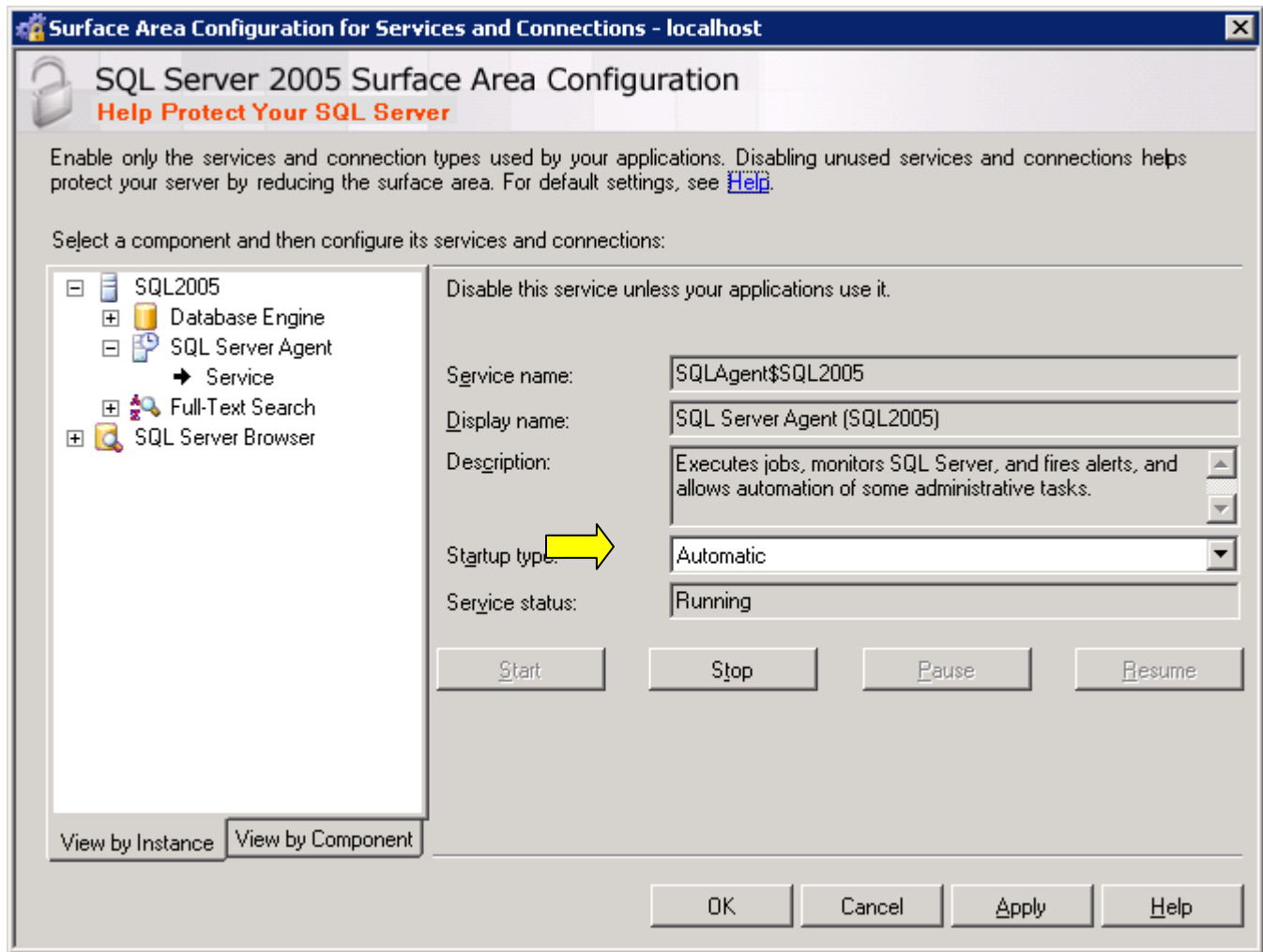
If the database engine is not running, click **Start**.

NOTE: The name of the SQL Server 2005 computer does vary.

The default instance of SQL Server running on this computer is (local) or the name of the computer.

The default instance of SQL Server running on another computer is the name of the computer.

A named instance of SQL Server is ComputerName\InstanceName.



Select **Service** under the **SQL Server Agent** component.

Select **Automatic** for the Startup Type.

If the SQL Server Agent is not running, click **Start**.

Click **OK**.

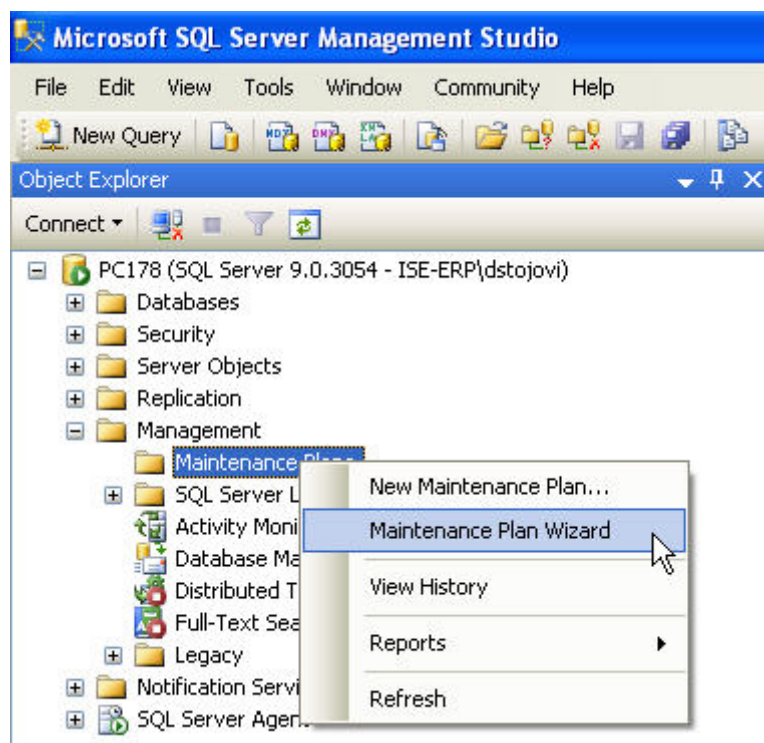
Both SQL Server and SQL Server Agent are now set to automatically start with the operating system.

PLAN 1 – BACKUP, RE-ORGANIZE AND INTEGRITY CHECK

The purpose of this database maintenance plan is to provide general backup, data and index page reorganization, and integrity checking of the MES SQL databases.

- Every day at 12:00 AM
 1. Check Database Integrity
 2. Rebuild Index
 3. Shrink Database
 4. Update Statistics
 5. Back Up Database (Full)
 6. Clean Up History

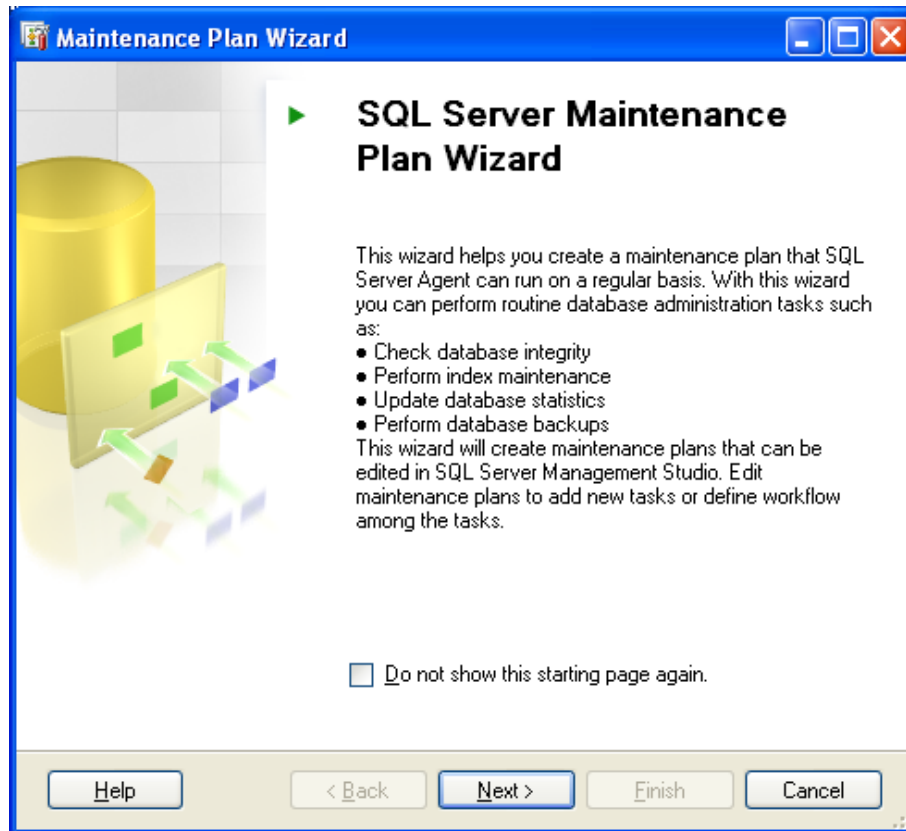
NOTE: This is not designed to be your sole backup strategy or disaster recovery plan.



In Microsoft SQL Server Management Studio:

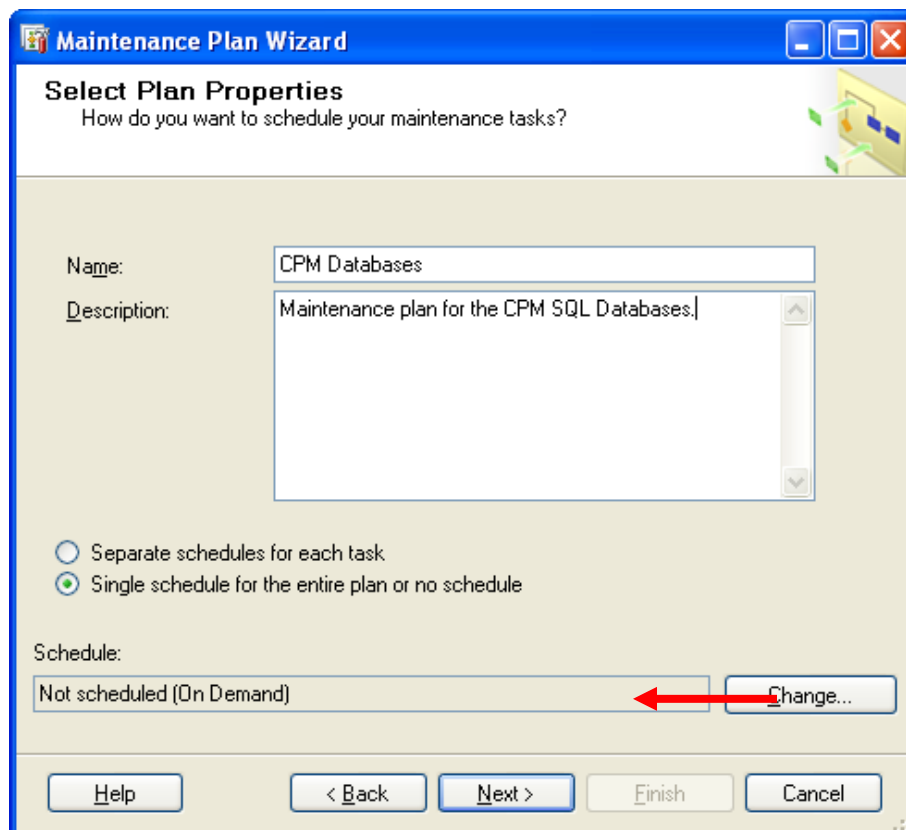
Expand the **Management** folder.

Right-click on **Maintenance Plans** and select **Maintenance Plan Wizard**. This will start the **SQL Server Maintenance Plan Wizard**.

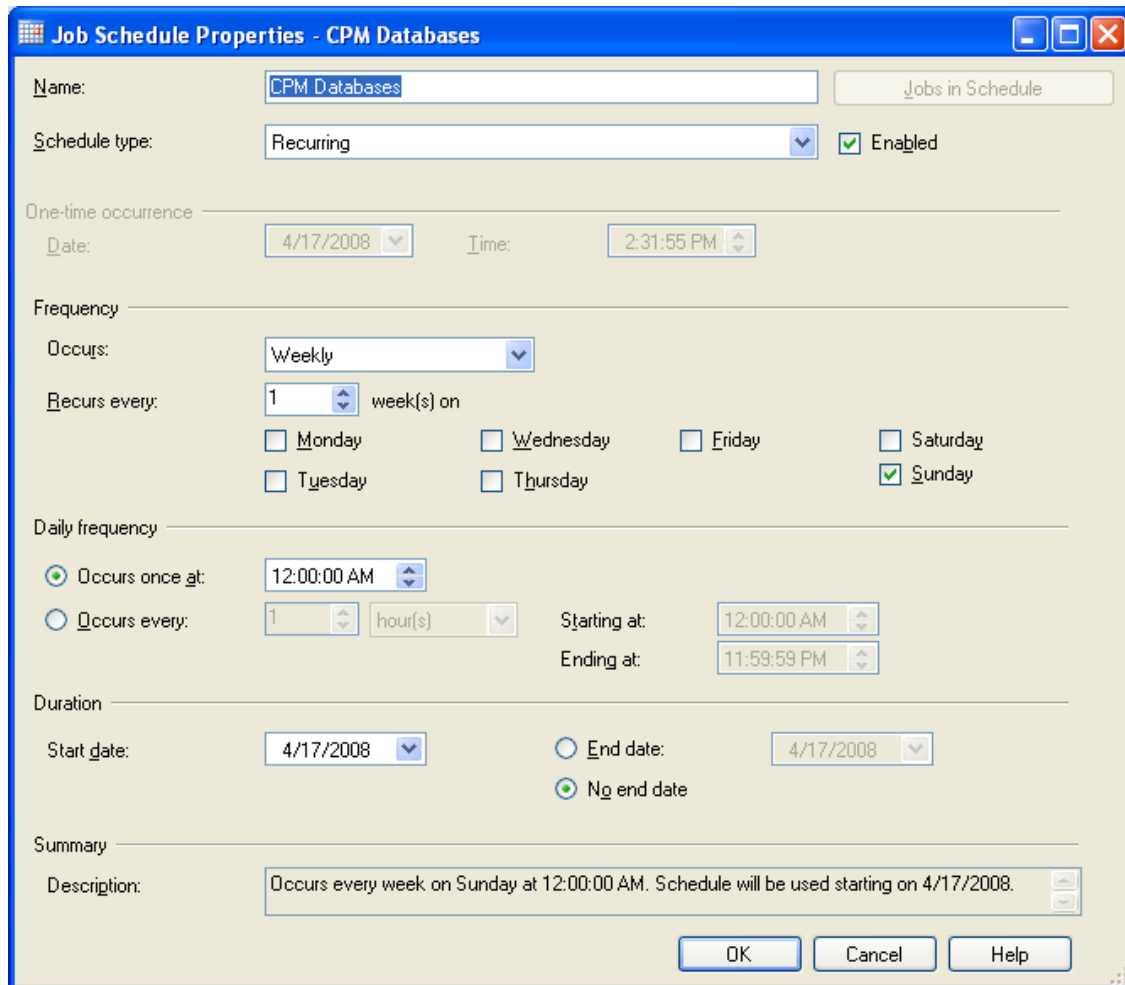


Click **Next**.

Enter a **Name**. For example: MES Databases.
Enter a **Description**.



Click on the Change button to open the Job Schedule Properties and make changes.

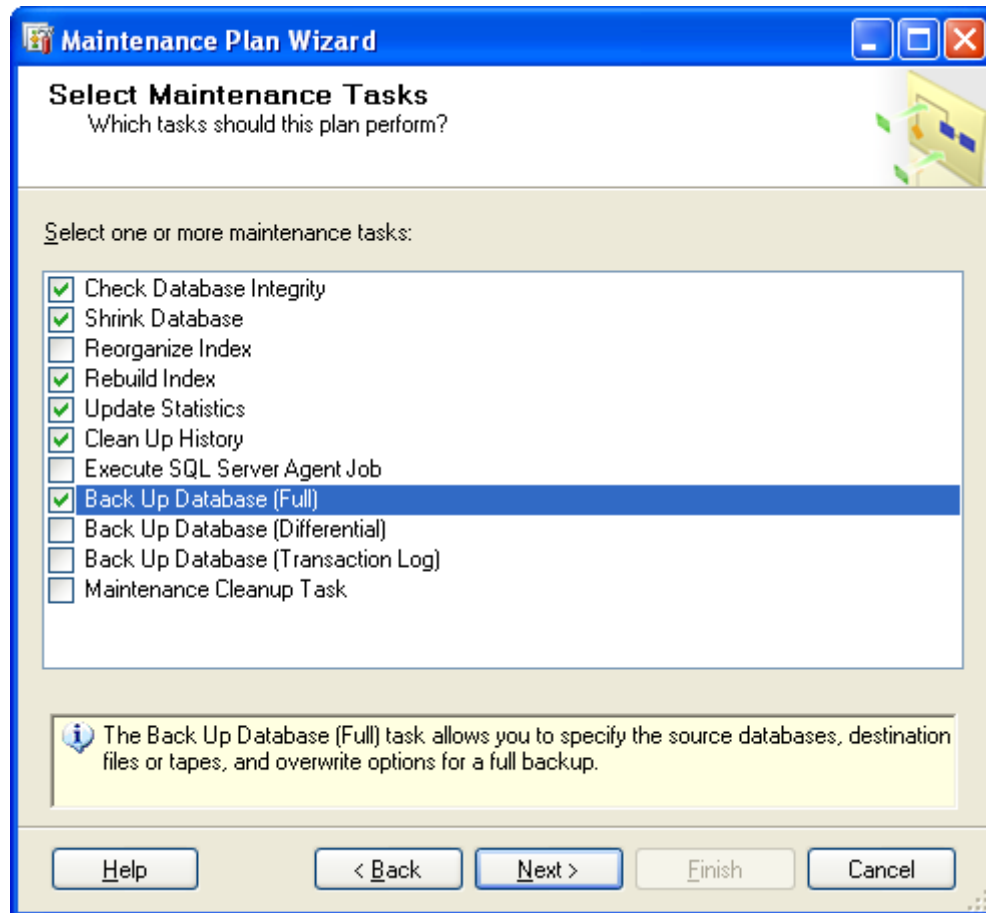


The image shows a Windows-style dialog box titled "Job Schedule Properties - CPM Databases". It contains several sections for configuring a job schedule:

- Name:** A text box containing "CPM Databases". To its right is a button labeled "Jobs in Schedule".
- Schedule type:** A dropdown menu set to "Recurring". To its right is a checked checkbox labeled "Enabled".
- One-time occurrence:** A section that is currently collapsed.
- Frequency:**
 - Occurs:** A dropdown menu set to "Weekly".
 - Recurs every:** A spinner box set to "1" followed by the text "week(s) on".
 - Days:** A grid of checkboxes for the days of the week: Monday, Wednesday, Friday, Saturday, Tuesday, Thursday, and Sunday. The "Sunday" checkbox is checked.
- Daily frequency:** A section that is currently collapsed.
- Duration:**
 - Occurs once at:** A radio button that is selected, followed by a time spinner set to "12:00:00 AM".
 - Occurs every:** An unselected radio button, followed by a spinner set to "1" and a dropdown set to "hour(s)".
 - Starting at:** A time spinner set to "12:00:00 AM".
 - Ending at:** A time spinner set to "11:59:59 PM".
- Summary:**
 - Start date:** A date spinner set to "4/17/2008".
 - End date:** An unselected radio button followed by a date spinner set to "4/17/2008".
 - No end date:** A selected radio button.
 - Description:** A text box containing the text: "Occurs every week on Sunday at 12:00:00 AM. Schedule will be used starting on 4/17/2008." To the right of the text box are two small arrows for expanding/collapsing the text.

At the bottom right of the dialog are three buttons: "OK", "Cancel", and "Help".

Once the schedule has been set, click **Next**.



Select the desired Maintenance Tasks.

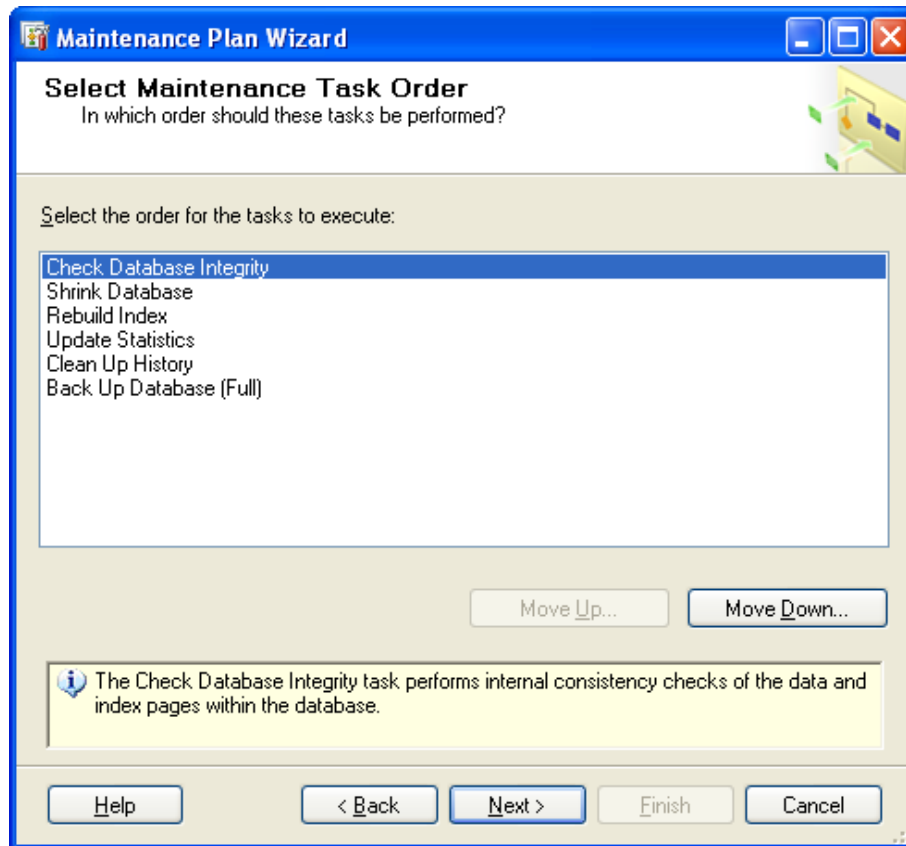
It is highly recommended that the following Maintenance Tasks be performed:

- Check Database Integrity
- Shrink Database
- Rebuild Index
- Update Statistics
- Clean Up History
- Back Up Database (Full)

NOTE: For simplicity, all of the maintenance tasks are done in one maintenance plan. Each situation is different and when combined with company policies, it is quite common to divide the Maintenance Tasks and create several database maintenance plans on different schedules and frequencies.

For example: In a large database, rebuilding the indexes may be done once per week or month while reorganize index is done daily. It may be desirable to shrink the database less frequently and/or choose to retain the extra free space to eliminate database file fragmentation on the hard disk drive.

Click **Next**.

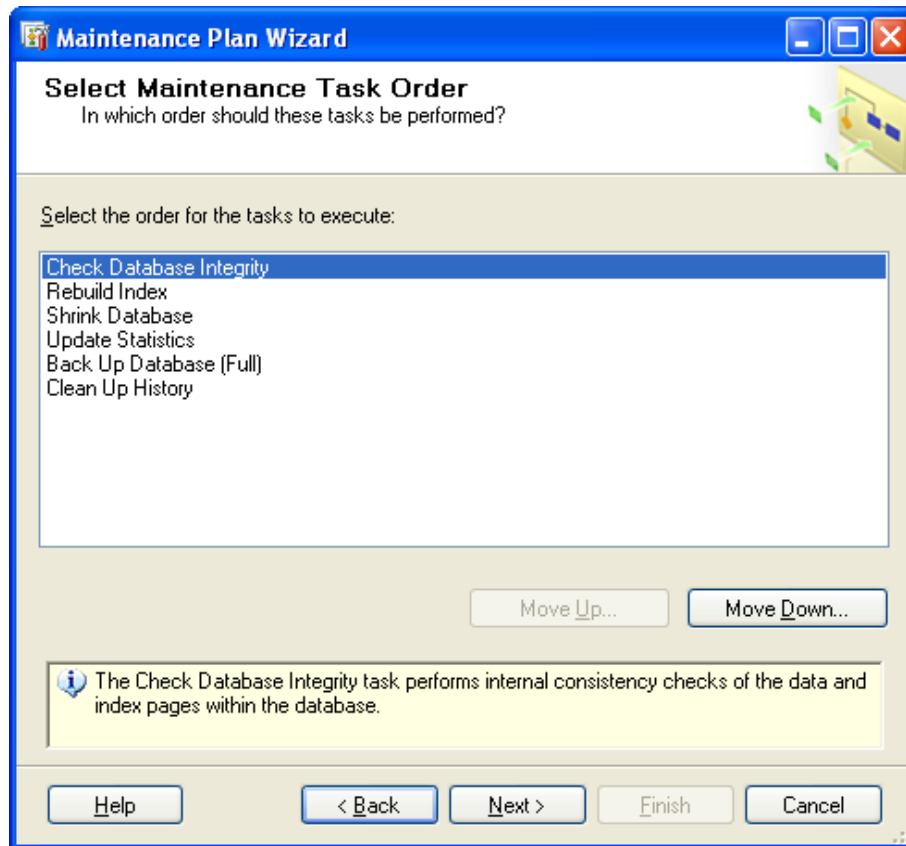


Select a Maintenance Task.

Click **Move Up** and **Move Down** to change the maintenance task order.

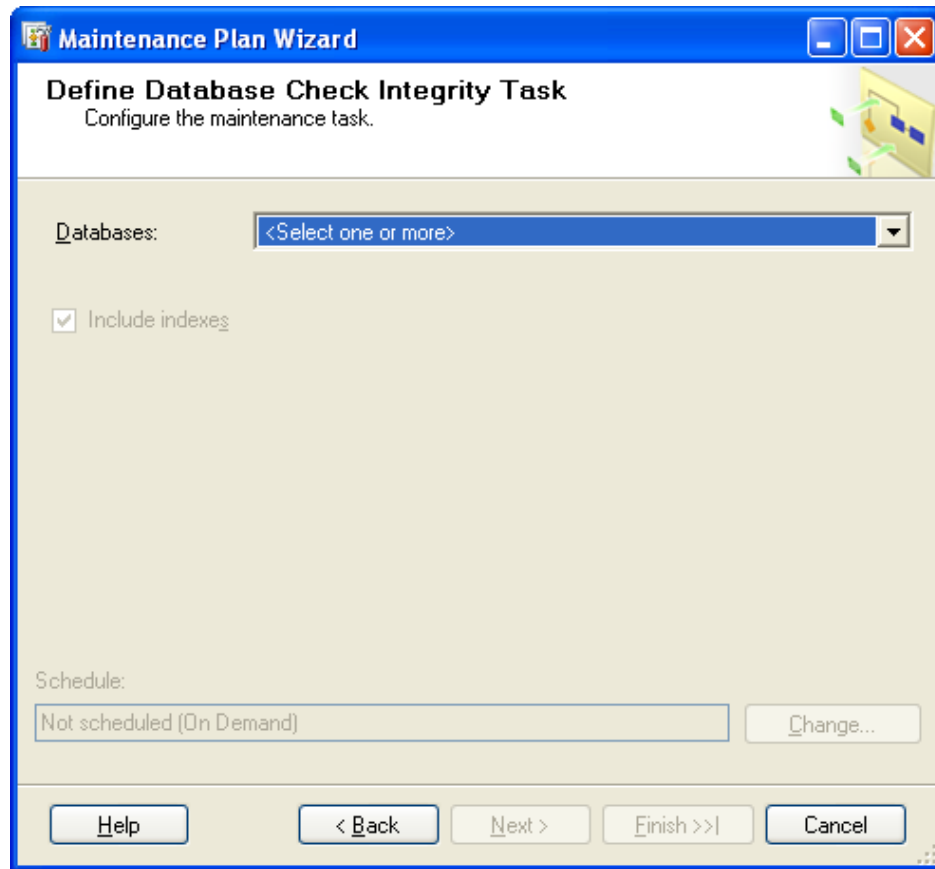
It is recommended that the Maintenance Tasks be done in the following order:

1. Check Database Integrity
2. Rebuild Index
3. Shrink Database
4. Update Statistics
5. Back Up Database (Full)
6. Clean Up History

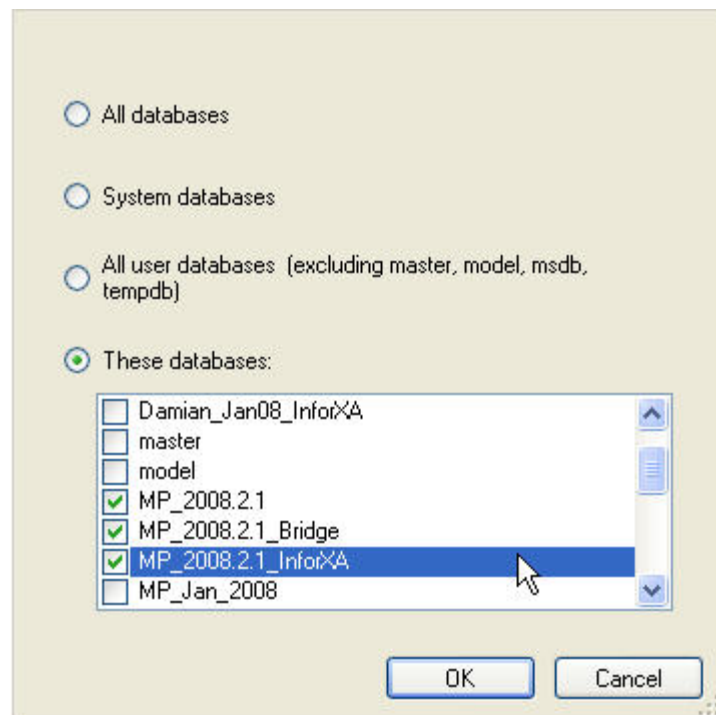


NOTE: For simplicity, all of the maintenance tasks are done in one maintenance plan. Each situation is different and when combined with company policies, it is quite common to change the order of the Maintenance Tasks.

Click **Next**.



Click **<Select one or more>** databases.

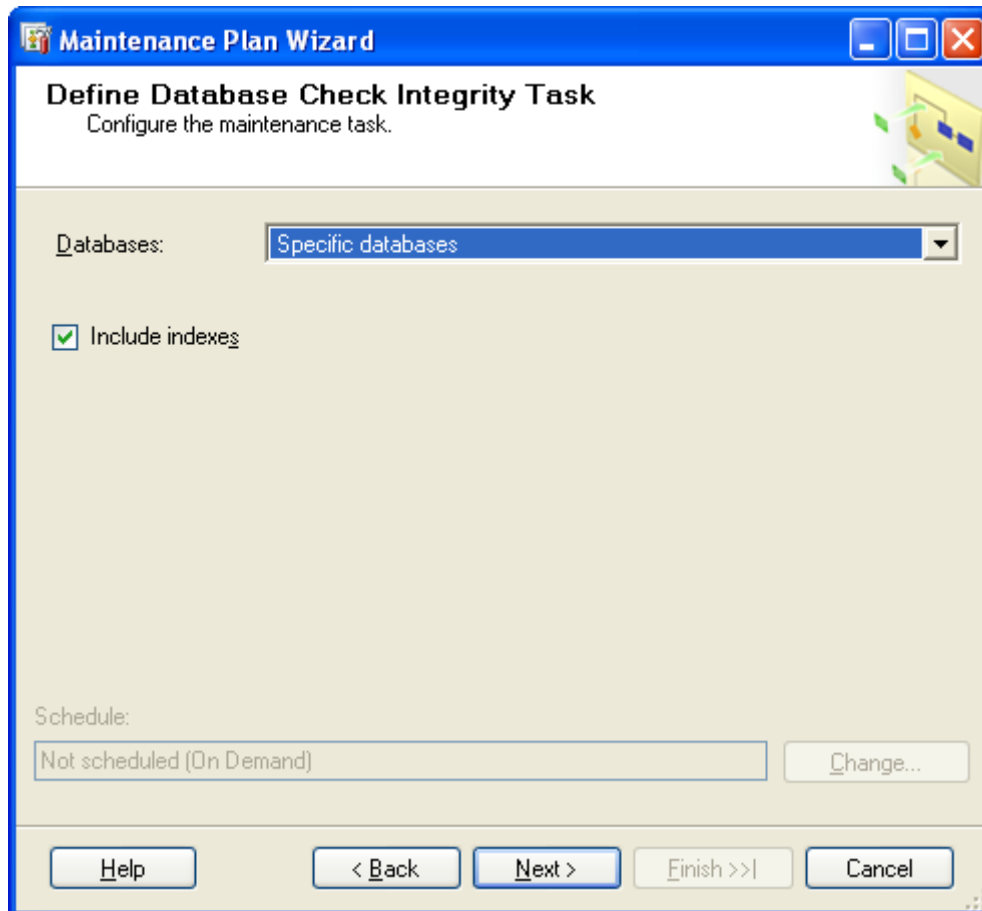


Select **These databases**.
Select the MES SQL databases.

NOTE: The names of your MES SQL databases may be different than shown above.

NOTE: If you have multiple environments, select all MES SQL databases.

Click **OK**.



The screenshot shows the 'Maintenance Plan Wizard' window, specifically the 'Define Database Check Integrity Task' step. The window has a blue title bar with the text 'Maintenance Plan Wizard' and standard Windows window controls. Below the title bar, the main heading is 'Define Database Check Integrity Task' with the subtitle 'Configure the maintenance task.' To the right of the heading is a small icon showing a folder with a checkmark. The main area of the window is light beige. It contains a 'Databases:' label followed by a dropdown menu currently showing 'Specific databases'. Below this is a checkbox labeled 'Include indexes' which is checked. At the bottom of the main area is a 'Schedule:' label followed by a text box containing 'Not scheduled (On Demand)' and a 'Change...' button. At the very bottom of the window is a row of five buttons: 'Help', '< Back', 'Next >', 'Finish >>|', and 'Cancel'.

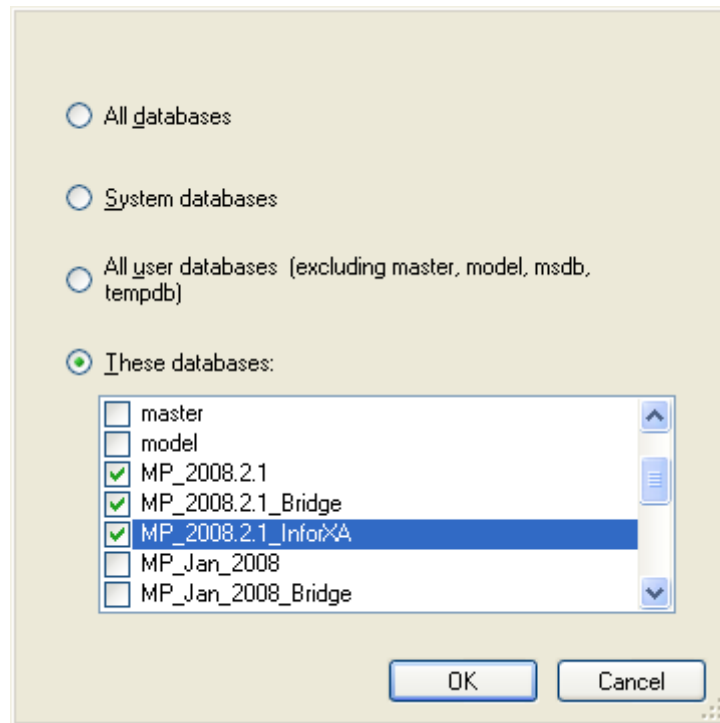
Click **Next**.

The screenshot shows the 'Maintenance Plan Wizard' window with the title 'Define Rebuild Index Task'. Below the title is the instruction 'Configure the maintenance task.' and a small icon of a folder with arrows. The window contains several input fields and options:

- Databases:** A dropdown menu with the text '<Select one or more>'.
- Object:** An empty text box.
- Selection:** An empty dropdown menu.
- Free space options:** A section with two radio buttons:
 - ☒ Reorganize pages with the default amount of free space
 - ☐ Change free space per page percentage to: [] %
- Advanced options:** A section with two checkboxes:
 - ☐ Sort results in tempdb
 - ☐ Keep index online while reindexing
- Schedule:** A text box containing 'Not scheduled (On Demand)' and a 'Change...' button to its right.

At the bottom of the window are five buttons: 'Help', '< Back', 'Next >', 'Finish >>', and 'Cancel'.

Click **<Select one or more>** databases.



Select **These databases**.

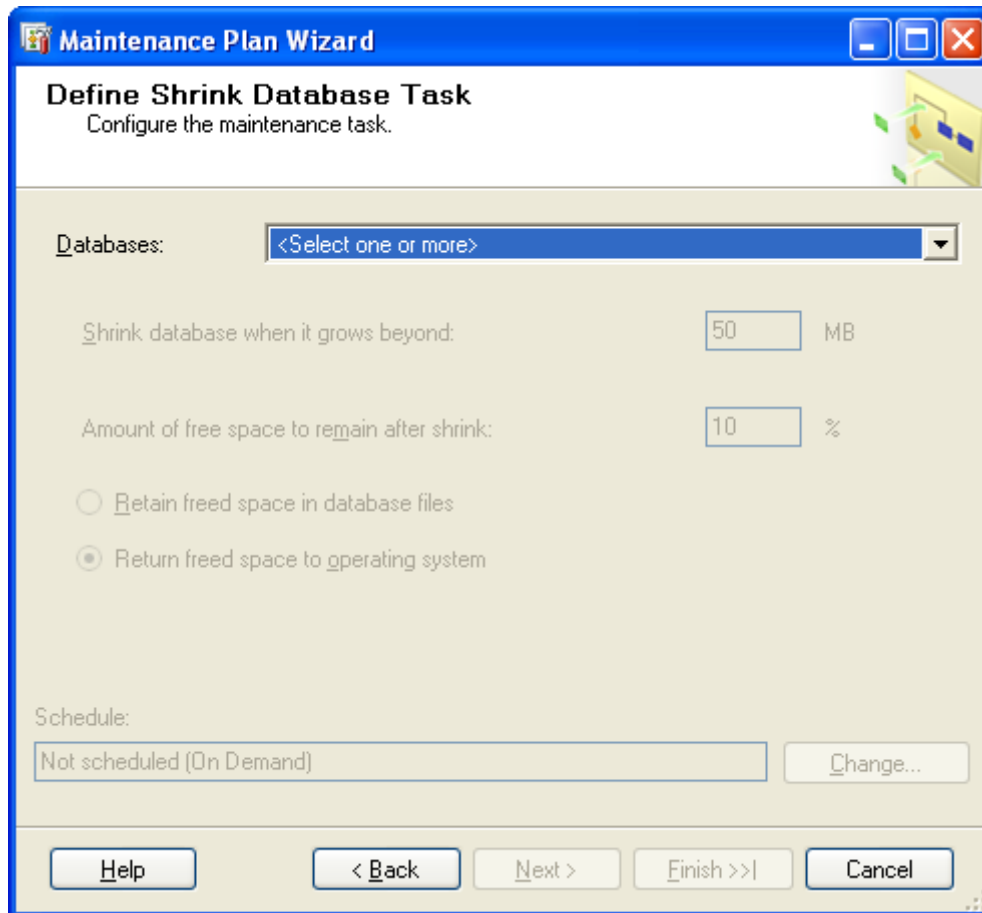
Select the MES SQL databases.

NOTE: The names of your MES SQL databases may be different than shown above.

NOTE: If you have multiple environments, select all MES SQL databases.

Click **OK**.

Click **Next**.



Maintenance Plan Wizard

Define Shrink Database Task
Configure the maintenance task.

Databases: <Select one or more>

Shrink database when it grows beyond: 50 MB

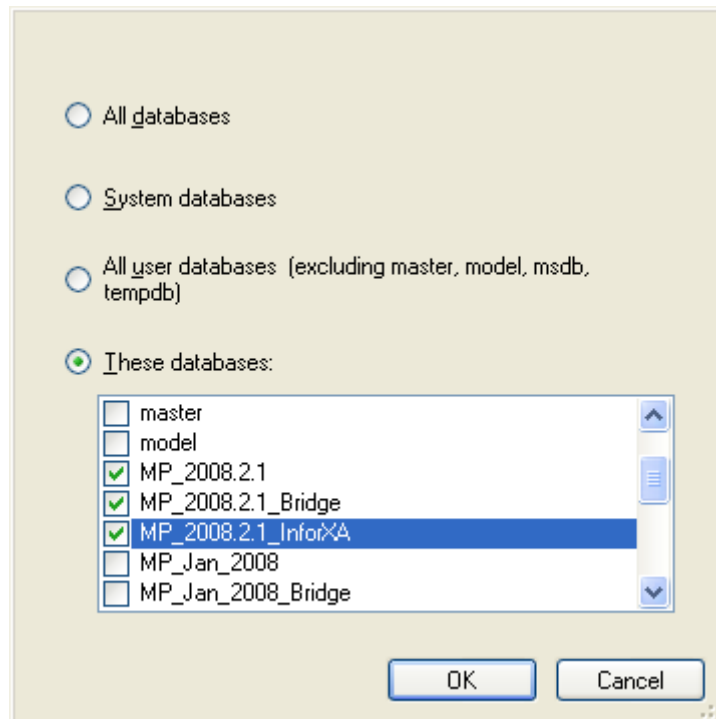
Amount of free space to remain after shrink: 10 %

☐ Retain freed space in database files
☒ Return freed space to operating system

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

Help < Back Next > Finish >>| Cancel

Click **<Select one or more>** databases.



☐ All databases
☐ System databases
☐ All user databases (excluding master, model, msdb, tempdb)
☒ These databases:

<input type="checkbox"/>	master
<input type="checkbox"/>	model
<input checked="" type="checkbox"/>	MP_2008.2.1
<input checked="" type="checkbox"/>	MP_2008.2.1_Bridge
<input checked="" type="checkbox"/>	MP_2008.2.1_InforXA
<input type="checkbox"/>	MP_Jan_2008
<input type="checkbox"/>	MP_Jan_2008_Bridge

OK Cancel

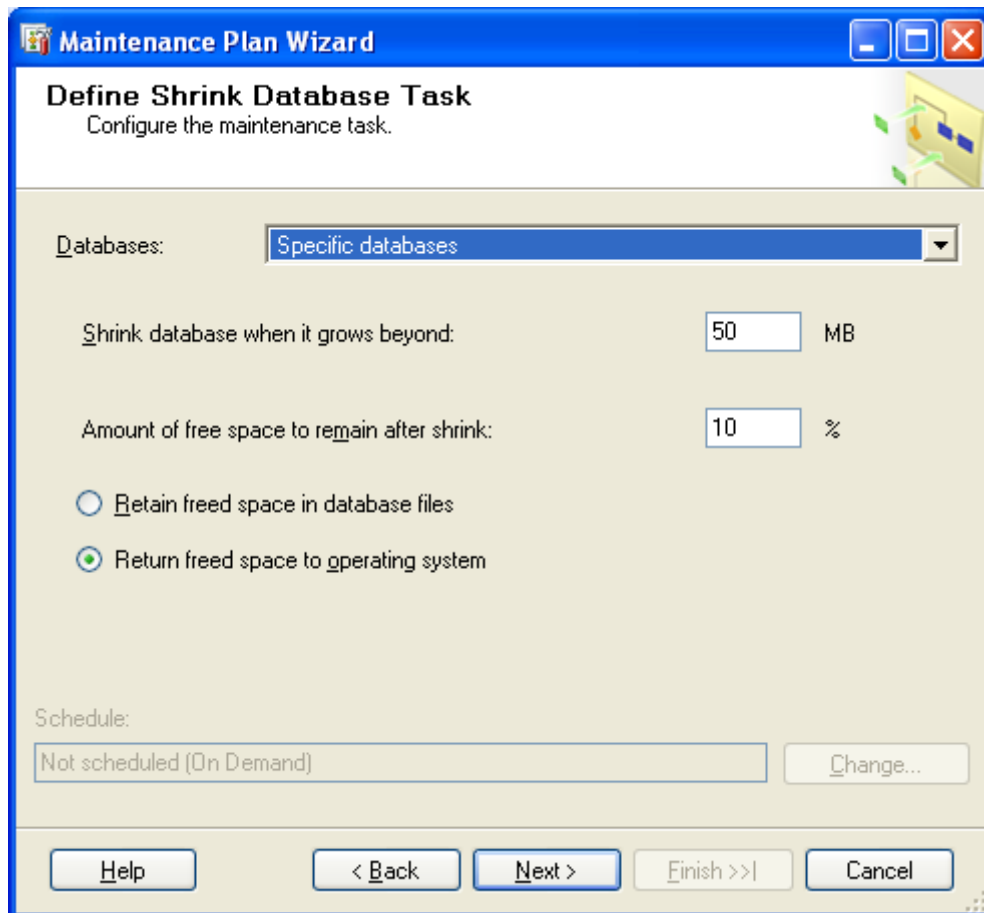
Select **These databases**.

Select the MES SQL databases.

NOTE: The names of your MES SQL databases may be different than shown above.

NOTE: If you have multiple environments, select all MES SQL databases.

Click **OK**.

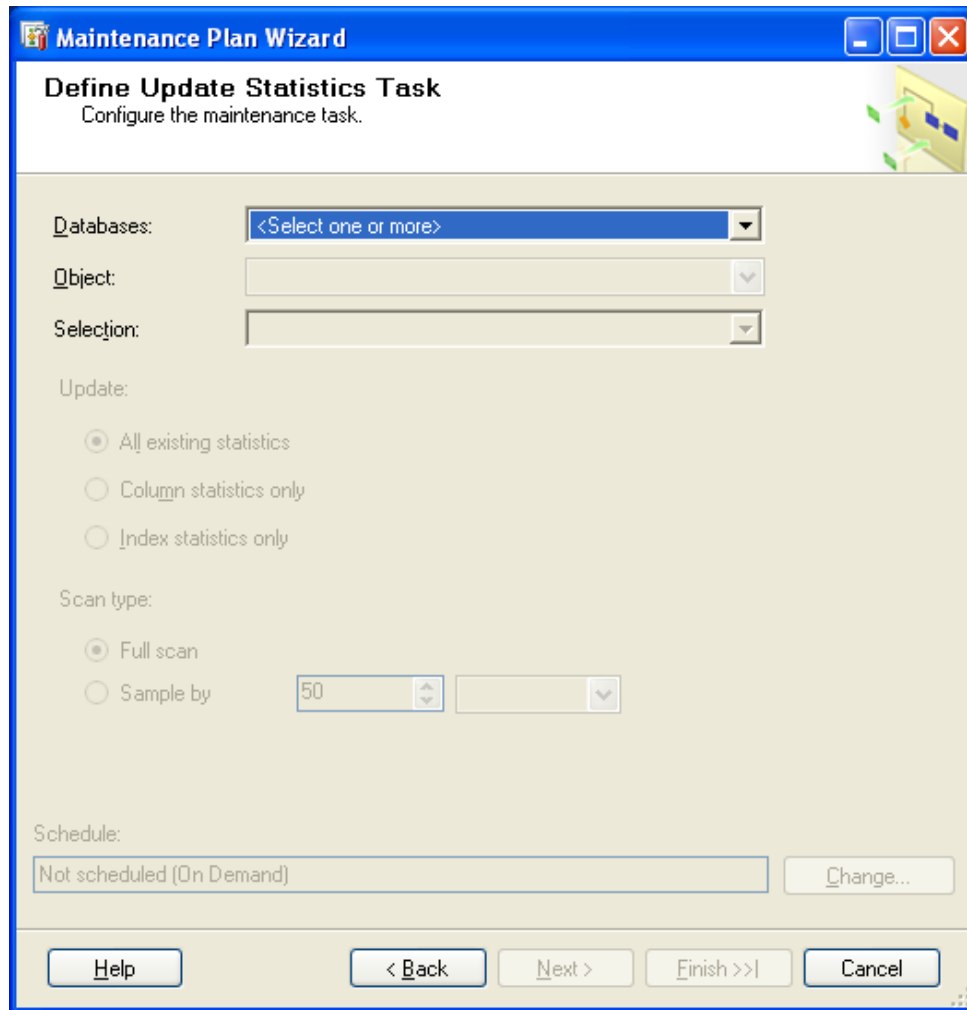


The screenshot shows the 'Maintenance Plan Wizard' window, specifically the 'Define Shrink Database Task' step. The window has a blue title bar with the text 'Maintenance Plan Wizard' and standard Windows window controls. Below the title bar, the main heading is 'Define Shrink Database Task' with the subtitle 'Configure the maintenance task.' To the right of the subtitle is a small icon showing a folder with arrows. The main area is light beige and contains the following elements: A 'Databases:' label followed by a dropdown menu currently set to 'Specific databases'. Two input fields: 'Shrink database when it grows beyond:' with the value '50' and the unit 'MB', and 'Amount of free space to remain after shrink:' with the value '10' and the unit '%'. Two radio buttons: 'Retain freed space in database files' (unselected) and 'Return freed space to operating system' (selected). A 'Schedule:' label followed by a text box containing 'Not scheduled (On Demand)' and a 'Change...' button to its right. At the bottom, there are five buttons: 'Help', '< Back', 'Next >', 'Finish >>', and 'Cancel'.

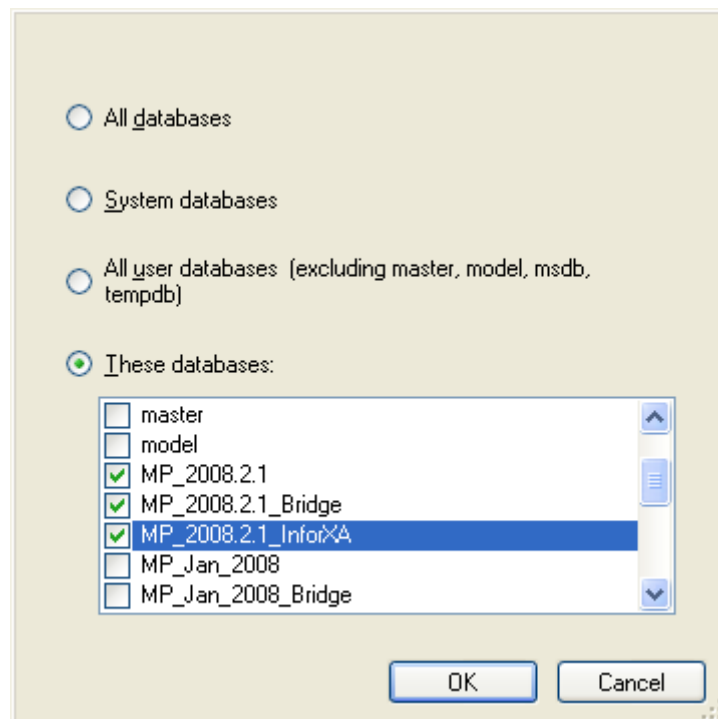
If desired, change the amount of free space to remain after shrink.

Choose whether to retain the freed space or return the freed space to the operating system.

Click **Next**.



Click **<Select one or more>** databases.



Select **These databases**.

Select the MES SQL databases.

NOTE: The names of your MES SQL databases may be different than shown above.

NOTE: If you have multiple environments, select all MES SQL databases.

Click **OK**.

Click **Next**.

The screenshot shows the 'Maintenance Plan Wizard' window, specifically the 'Define Back Up Database (Full) Task' step. The window has a blue title bar and standard Windows window controls. The main area is light beige. At the top, it says 'Define Back Up Database (Full) Task' and 'Configure the maintenance task.' with a small icon of a folder and arrows. The settings are as follows: 'Backup type' is set to 'Full'; 'Database(s)' is a dropdown menu showing '<Select one or more>'; 'Backup component' has 'Database' selected with a radio button; 'Files and filegroups' is empty with a text box and an ellipsis button; 'Backup set will expire' is unchecked; 'After' is selected with a radio button, set to '14' days; 'On' is unselected with a radio button, set to '5/ 1/2008'; 'Back up to' has 'Disk' selected with a radio button; 'Back up databases across one or more files' is unselected with a radio button; there is an empty list box with 'Add...', 'Remove', and 'Contents' buttons; 'If backup files exist' is set to 'Append'; 'Create a backup file for every database' is selected with a radio button; 'Create a sub-directory for each database' is unchecked; 'Folder' is 'C:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\Bac' with an ellipsis button; 'Backup file extension' is 'bak'; 'Verify backup integrity' is unchecked; 'Schedule' is 'Not scheduled (On Demand)' with a 'Change...' button. At the bottom are buttons for 'Help', '< Back', 'Next >', 'Finish >>', and 'Cancel'.

Maintenance Plan Wizard

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

Backup type: Full

Database(s): <Select one or more>

Backup component

☒ Database

☐ Files and filegroups:

☐ Backup set will expire:

☒ After 14 days

☐ On 5/ 1/2008

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: C:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\Bac

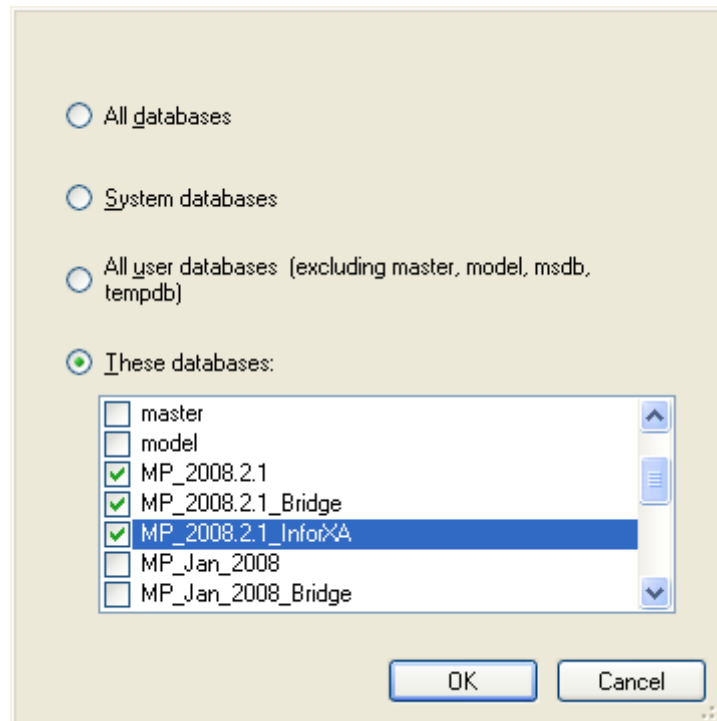
Backup file extension: bak

☐ Verify backup integrity

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

Help < Back Next > Finish >> Cancel

Click **<Select one or more>** databases.



Select **These databases**.

Select the MES SQL databases.

NOTE: The names of your MES SQL databases may be different than shown above.

NOTE: If you have multiple environments, select all MES SQL databases.

Click **OK**.

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 14 days

☐ On 5/ 1/2008

Back up to: ☒ Disk ☐ Tape

☐ Back up databases across one or more files:

If backup files exist: Append

☒ Create a backup file for every database

☐ Create a sub-directory for each database

Folder: C:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\Bac

Backup file extension: bak

☐ Verify backup integrity

Schedule: Not scheduled (On Demand)

Buttons: Help, < Back, Next >, Finish >>, Cancel

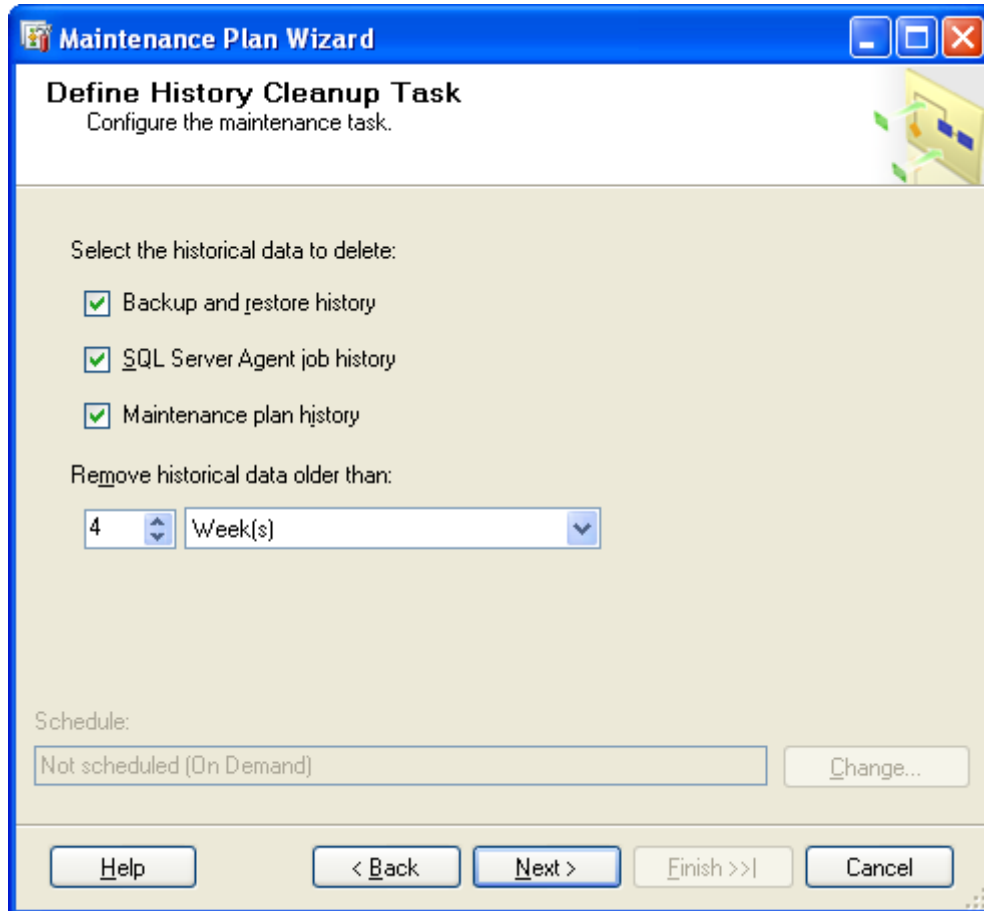
Select the backup destination—**Disk** or **Tape**.

Specify the appropriate information for either a disk or tape backup.

For easier organization, select **Create a sub-directory for each database**.

Select **Verify backup integrity** to ensure the database can be restored from the media.

Click **Next**.



The screenshot shows the 'Maintenance Plan Wizard' window, specifically the 'Define History Cleanup Task' step. The window has a blue title bar with the text 'Maintenance Plan Wizard' and standard Windows window controls. Below the title bar, the main heading is 'Define History Cleanup Task' with the subtitle 'Configure the maintenance task.' To the right of the heading is a small icon of a folder with arrows. The main content area is light beige and contains the following elements:

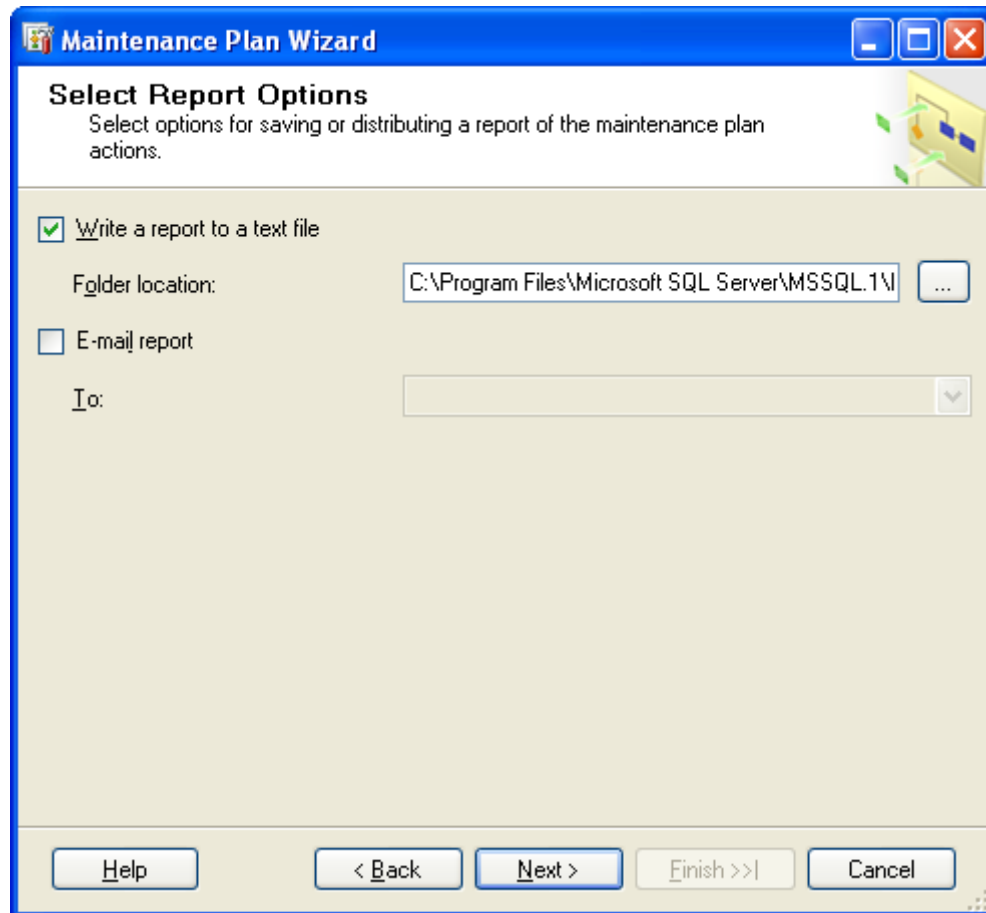
- A label 'Select the historical data to delete:' followed by three checked checkboxes:
 - ☒ Backup and restore history
 - ☒ SQL Server Agent job history
 - ☒ Maintenance plan history
- A label 'Remove historical data older than:' followed by a numeric spinner box set to '4' and a dropdown menu set to 'Week(s)'.
- A label 'Schedule:' followed by a text box containing 'Not scheduled (On Demand)' and a 'Change...' button.

At the bottom of the window is a row of five buttons: 'Help', '< Back', 'Next >', 'Finish >>', and 'Cancel'.

Select the desired historical data to delete.

Select the desired retention period.

Click **Next**.



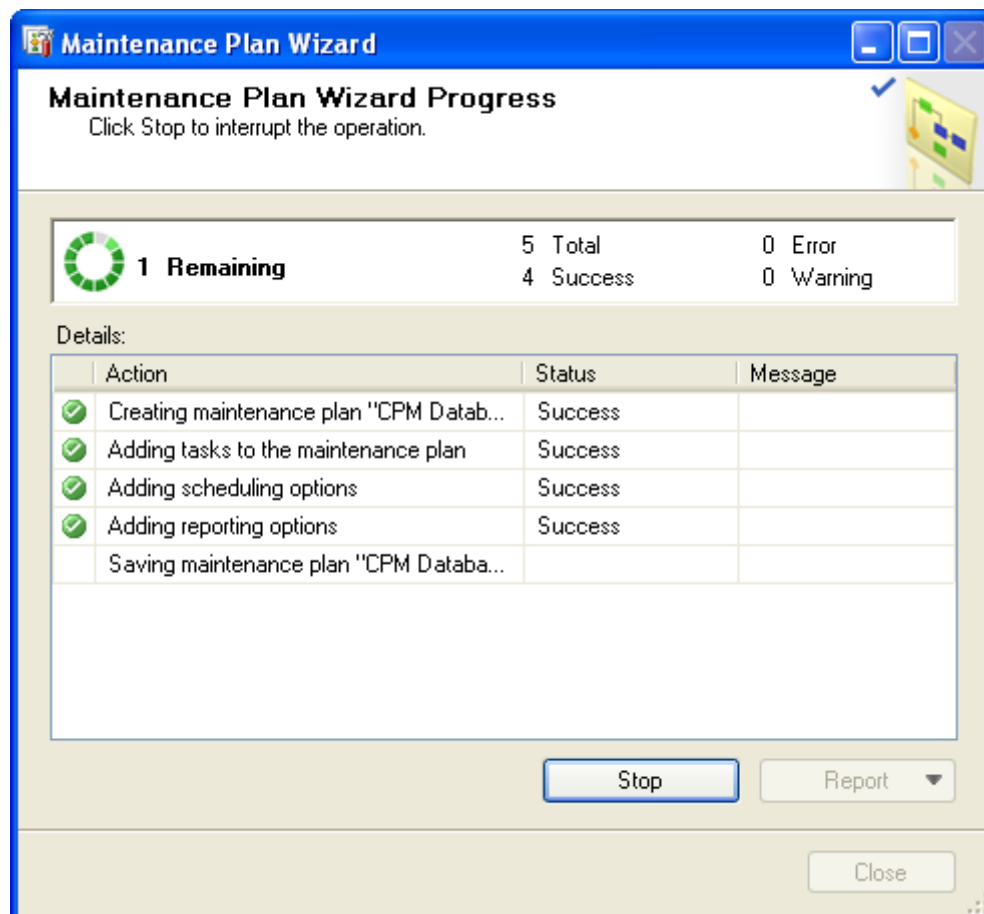
If you wish to Write a report to a text file, define the folder location.

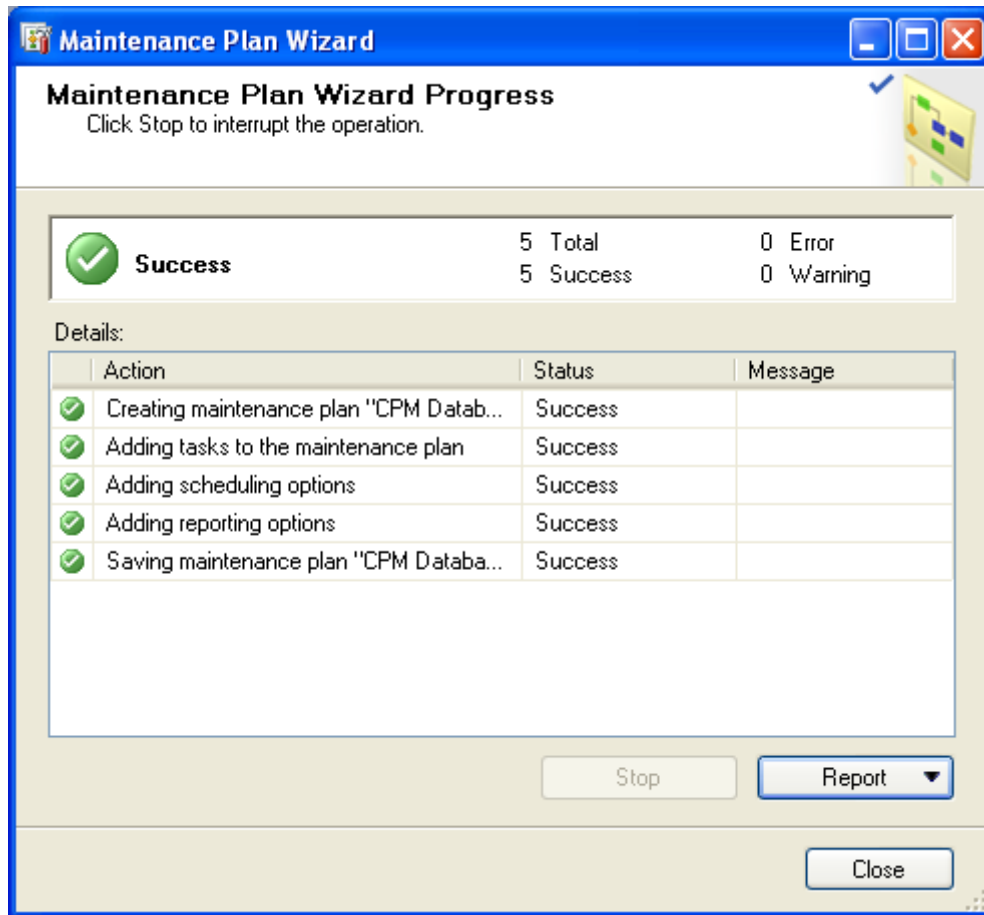
Select the report options as desired.

TIP: To send an e-mail report, configure SQL Server 2005's Database Mail and a SQL Server Agent Operator first. Refer to SQL Server 2005 Books Online.

Click **Next**.

On the **Complete the Wizard** screen, review the Maintenance Plan.
Click **Finish**.





Click **Close**.

This maintenance plan will create one SQL Server Agent Job.

To view the SQL Server Agent Jobs:

1. Expand **SQL Server Agent**.
2. Click **Jobs**.
3. If the jobs do not appear, right-click in the right pane and select **Refresh**.

NOTE: SQL Server Agent must be running for the scheduled jobs to execute.

TIP: Refer to **Backing Up and Restoring Databases** in SQL Server 2005 Books Online for additional information.

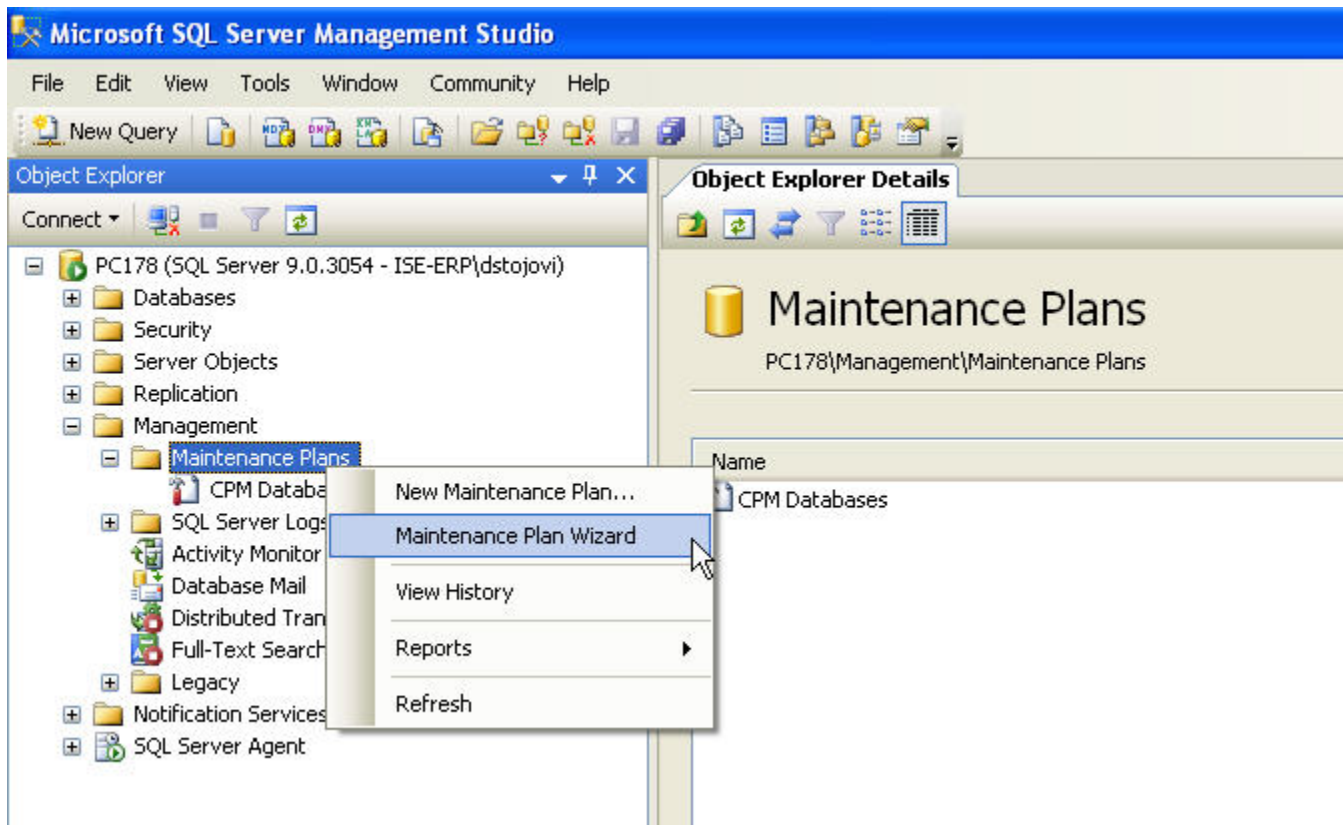
PLAN 2 – TRANSACTION LOG BACKUP

The purpose of this database maintenance plan is to provide a transaction log backup of all MES SQL databases.

- Every Sunday at 2:00 AM, Transaction Log Backup.

NOTE: This is not designed to be your sole backup strategy or disaster recovery plan.

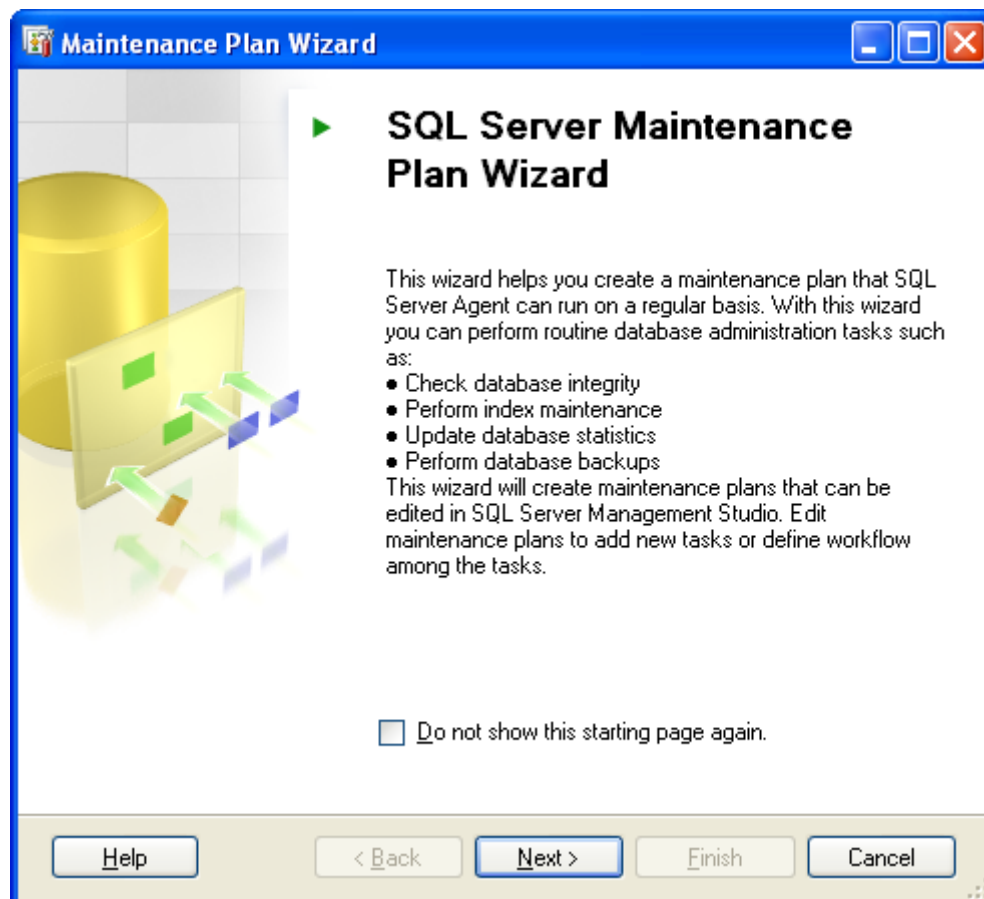
In Microsoft SQL Server Management Studio:



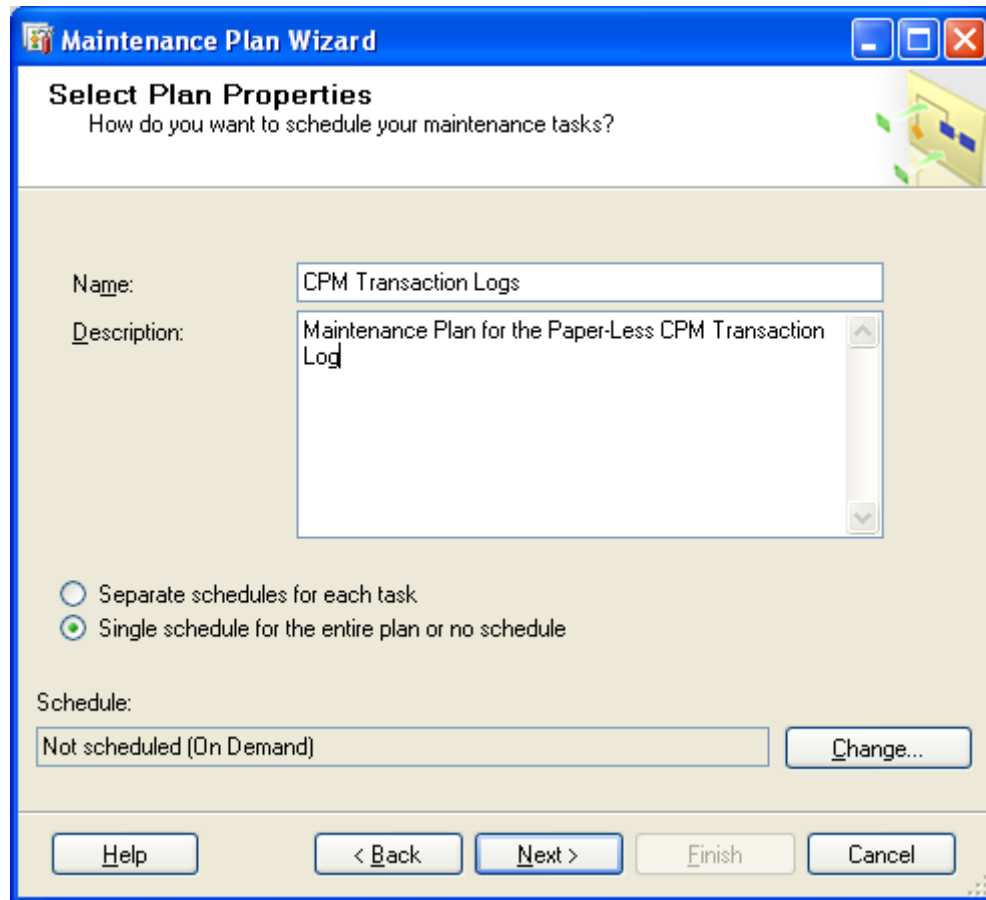
Expand the **Management** folder.

Right-click on **Maintenance Plans** and select **Maintenance Plan Wizard**.

This will start the **SQL Server Maintenance Plan Wizard**.



Click **Next**.



The image shows a Windows-style dialog box titled "Maintenance Plan Wizard" with a subtitle "Select Plan Properties" and a question "How do you want to schedule your maintenance tasks?". The dialog has a blue title bar with standard window controls. The main area is light beige. It contains a "Name:" label followed by a text box containing "CPM Transaction Logs". Below it is a "Description:" label followed by a text box containing "Maintenance Plan for the Paper-Less CPM Transaction Log". There are two radio buttons: "Separate schedules for each task" (unselected) and "Single schedule for the entire plan or no schedule" (selected). Below the radio buttons is a "Schedule:" label followed by a text box containing "Not scheduled (On Demand)" and a "Change..." button. At the bottom are five buttons: "Help", "< Back", "Next >", "Finish", and "Cancel".

Maintenance Plan Wizard

Select Plan Properties
How do you want to schedule your maintenance tasks?

Name: CPM Transaction Logs

Description: Maintenance Plan for the Paper-Less CPM Transaction Log

☐ Separate schedules for each task

☒ Single schedule for the entire plan or no schedule

Schedule: Not scheduled (On Demand) [Change...](#)

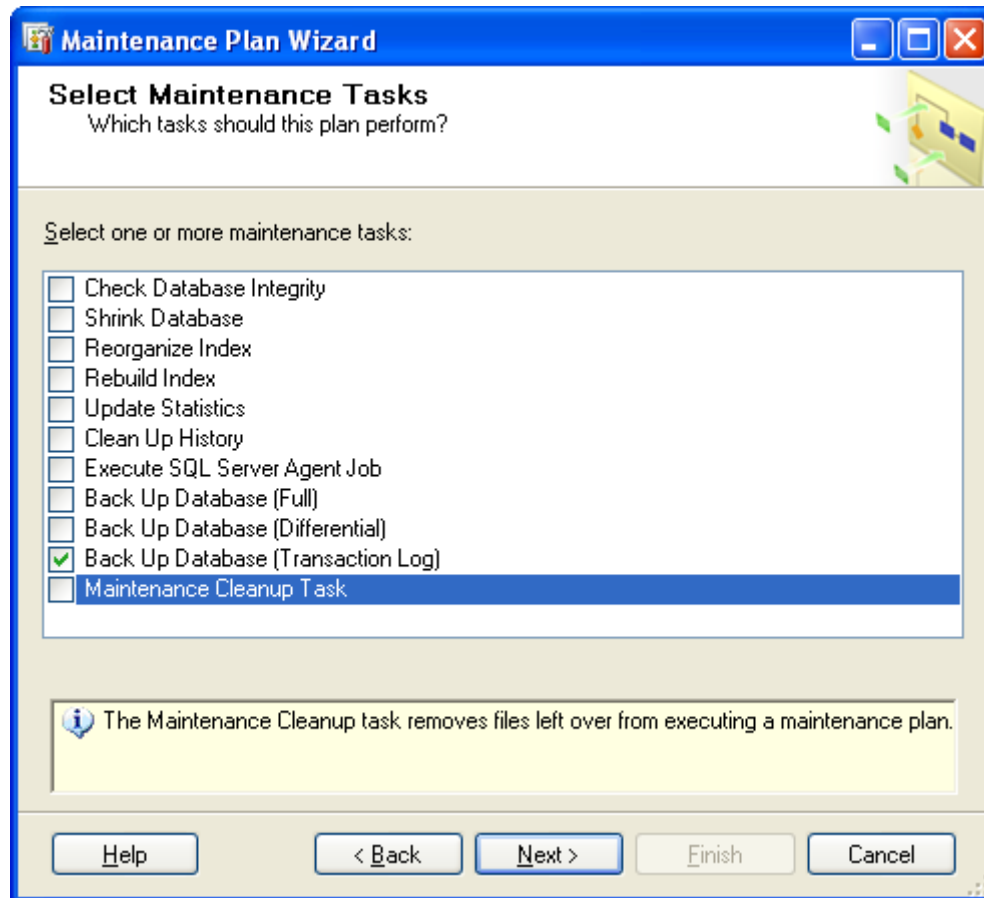
[Help](#) [< Back](#) [Next >](#) [Finish](#) [Cancel](#)

Enter a **Name**. For example: MES Transaction Logs.

Enter a **Description**.

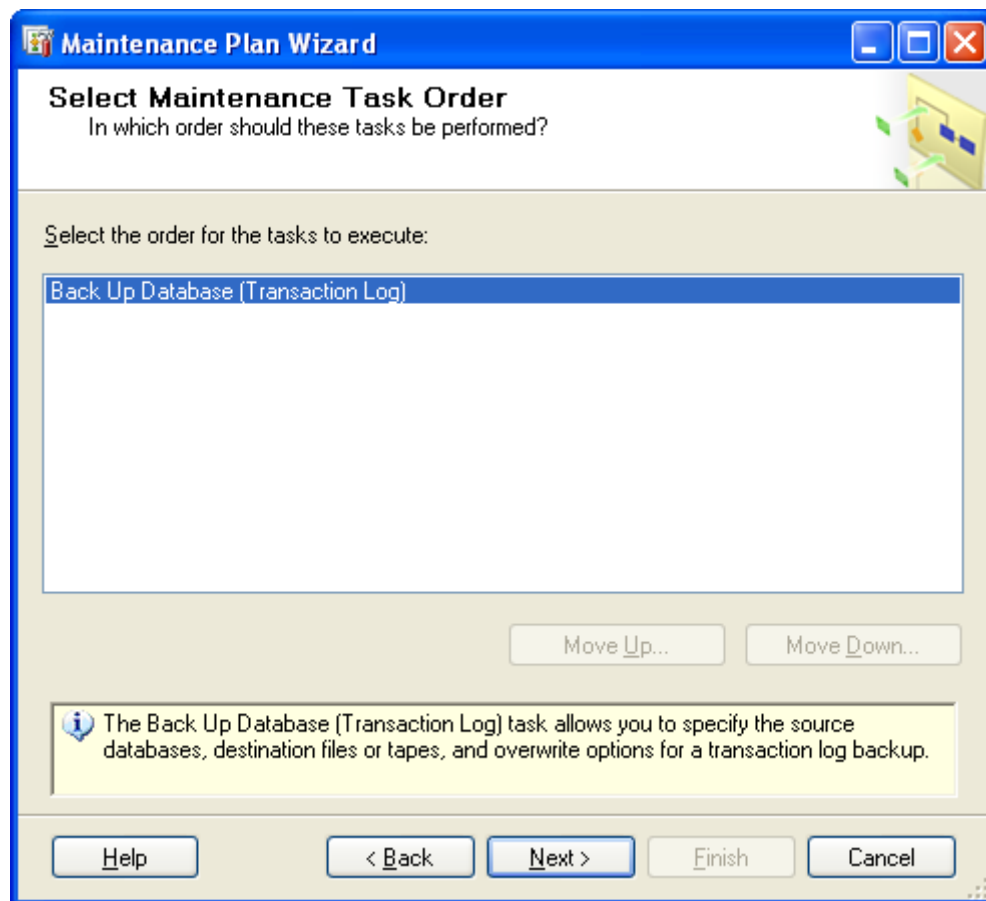
Select **Authentication** method.

Click **Next**.



Select **Back Up Database (Transaction Log)** maintenance task.

Click **Next**.



Click **Next**.

Maintenance Plan Wizard

Define Back Up Database (Transaction Log) Task
Configure the maintenance task.

Backup type: Transaction Log

Database(s): <Select one or more>

Backup component

☒ Database

☐ Files and filegroups:

☐ Backup set will expire:

☒ After 14 days

☐ On 5/ 1/2008

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: C:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\Bac

Backup file extension: tm

☐ Verify backup integrity

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

Help < Back Next > Finish >>| Cancel

Click **<Select one or more>** databases.

Maintenance Plan Wizard

Define Backup Database (Transaction Log) Task
Configure the maintenance task.

Backup type: Transaction Log

Database(s): <Select one or more>

Backup component

☒ Database

☐ Files and filegroups:

☐ Backup set will expire:

☒ After

☐ On

Back up to: ☒ Disk ☐ Tape

☐ Back up databases across

If backup files exist:

☒ Create a backup file for each database

☐ Create a sub-directory

Folder: C:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\Backup

Backup file extension: trn

☐ Verify backup integrity

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

These databases:

- ☐ Damian_Jan08
- ☐ Damian_Jan08_Bridge
- ☐ model
- ☒ MP_2008.2.1
- ☒ MP_2008.2.1_Bridge
- ☐ MP_Jan_2008
- ☐ MP_Jan_2008_Bridge

OK Cancel

Help < Back Next > Finish >> Cancel

Select **These databases**.
Select the MES SQL databases.

NOTE: The names of your MES SQL databases may be different than shown above.

NOTE: If you have multiple environments, select all MES SQL databases.

IMPORTANT: Do NOT select the MES_InforXA (or <database root name>_InforXA) databases. Only databases that are set to use SQL Server's FULL recovery model can have their transaction log backed up. MES_InforXA database is usually set to SIMPLE recovery model and therefore, its transaction log cannot be backed up.

Click **OK**.

The screenshot shows the 'Maintenance Plan Wizard' window, specifically the 'Define Back Up Database (Transaction Log) Task' step. The window has a blue title bar and a standard Windows XP-style interface. The main area is light beige. At the top, it says 'Define Back Up Database (Transaction Log) Task' and 'Configure the maintenance task.' Below this, there are several sections: 'Backup type:' with a dropdown set to 'Transaction Log'; 'Database(s):' with a dropdown set to 'Specific databases'; 'Backup component' with radio buttons for 'Database' (selected) and 'Files and filegroups'; 'Backup set will expire:' with a checkbox (unchecked) and options for 'After' (14 days) or 'On' (5/ 1/2008); 'Back up to:' with radio buttons for 'Disk' (selected) and 'Tape'; 'Back up databases across one or more files:' with a list box and buttons for 'Add...', 'Remove', and 'Contents'; 'If backup files exist:' with a dropdown set to 'Append'; 'Create a backup file for every database' with a selected radio button and an unchecked checkbox for 'Create a sub-directory for each database'; 'Folder:' with a text box containing 'C:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\Bac' and a browse button; 'Backup file extension:' with a text box containing 'trn'; 'Verify backup integrity' with an unchecked checkbox; and 'Schedule:' with a dropdown set to 'Not scheduled (On Demand)' and a 'Change...' button. At the bottom, there are buttons for 'Help', '< Back', 'Next >', 'Finish >>', and 'Cancel'.

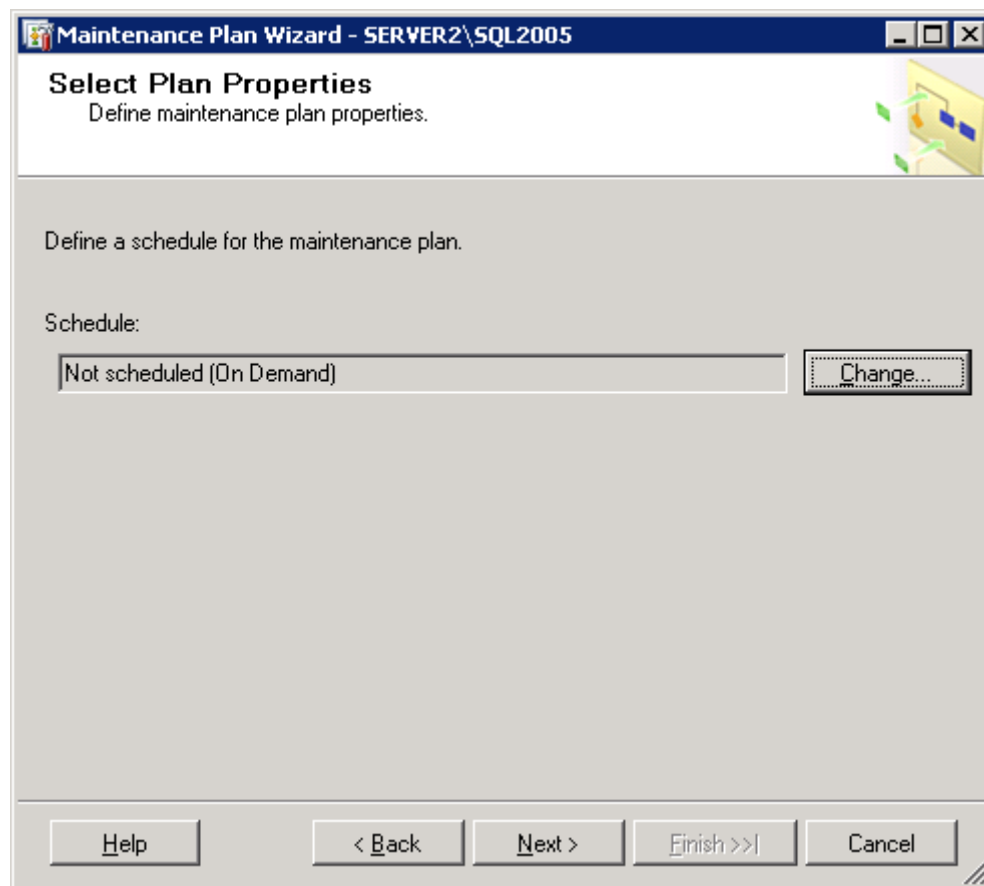
Select the backup destination—**Disk** or **Tape**.
Specify the appropriate information for either a disk or tape backup.

If the transaction log backups are being kept for disaster recovery purposes:
For easier organization, select **Create a sub-directory for each database**.
Select **Verify backup integrity** to ensure the database can be restored from the media.

If the transaction log backups are being immediately discarded:
Select **Back up databases across one or more files**.
Click **Add** to add a backup file location.

Select to **Overwrite** the backup file if it exists.
Unselect **Verify backup integrity**.

Click **Next**.



Click **Change**.

New Job Schedule

Name:

Schedule type: ☒ Enabled

One-time occurrence

Date: Time:

Frequency

Occurs:

Recurs every: week(s) on

☐ Monday ☐ Wednesday ☐ Friday ☐ Saturday
☐ Tuesday ☐ Thursday ☒ Sunday

Daily frequency

☒ Occurs once at:

☐ Occurs every: hour(s) Starting at:
Ending at:

Duration

Start date: ☐ End date:
☒ No end date

Summary

Description:

Enter a job schedule **Name**.

Change the **Frequency** as desired.

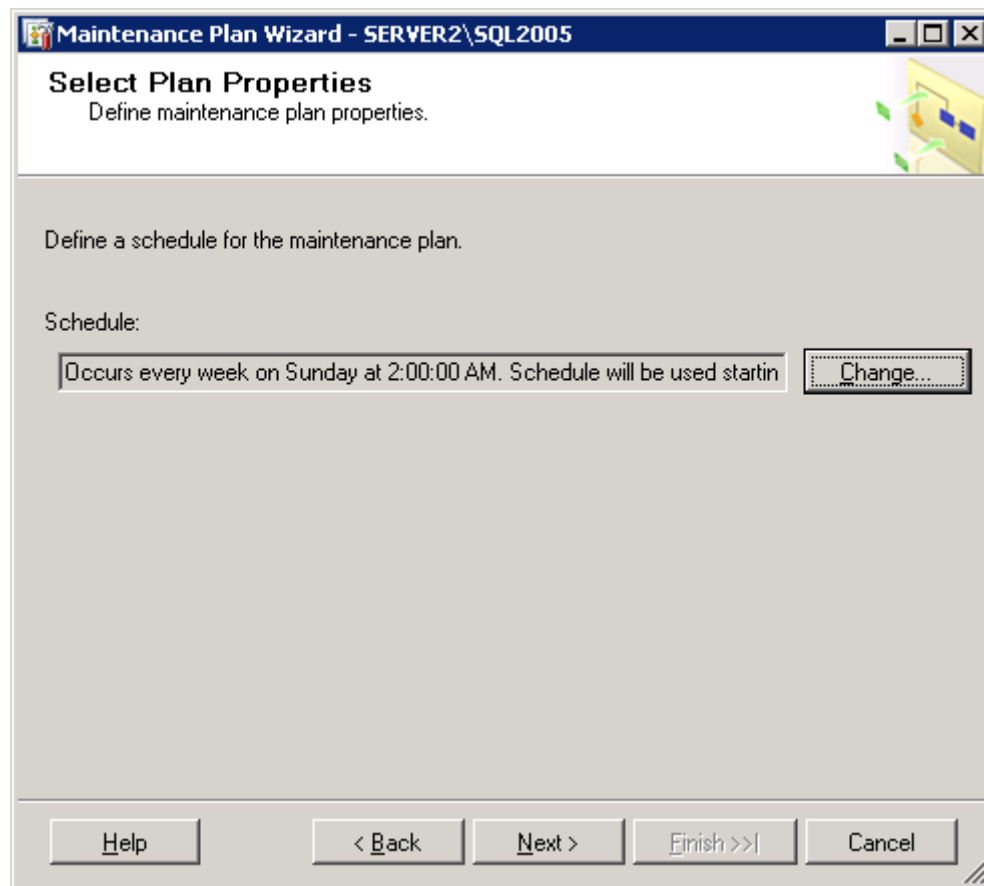
NOTE: The schedule shown here will backup the transaction logs on Sunday at 2:00 AM.

NOTE: Based on the server's overall job schedule, adjust the time accordingly.

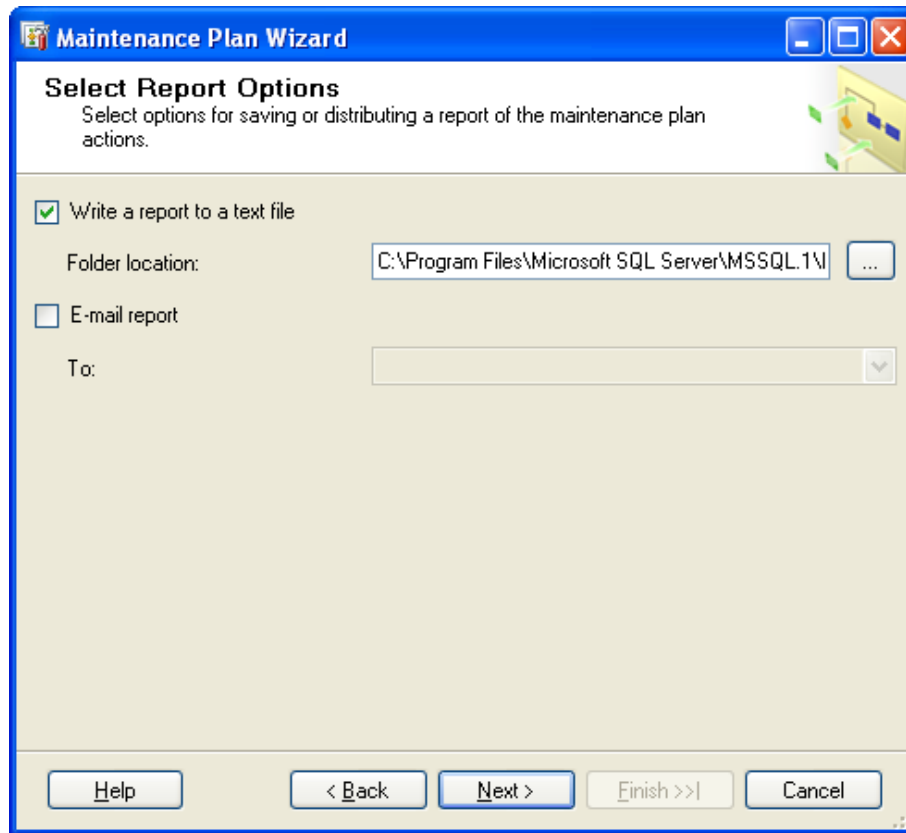
NOTE: Frequency of the Transaction Log Backup is dependent on backup strategy and disaster recovery planning.

1. If you have established a daily backup of the MES SQL databases, this schedule may be changed to once per week or month because its primary purpose is to truncate the database transaction logs and prevent them from growing uncontrollably. The preceding statement is superseded if you wish to execute multiple transaction log backups throughout the day.
2. If you have established a weekly backup of the MES SQL databases, this schedule should be changed to daily. At a minimum, you should backup the transaction logs once per day. For added protection, the daily frequency can be changed as deemed necessary.

NOTE: If you intend to rely on transaction log backups, you must relocate the transaction log backup files to another computer or media as soon as possible. Failure to do so expose the MES SQL databases to loss of data in the event the MES SQL databases need to be restored to a point in time. Click **OK** to close the **New Job Schedule** window.



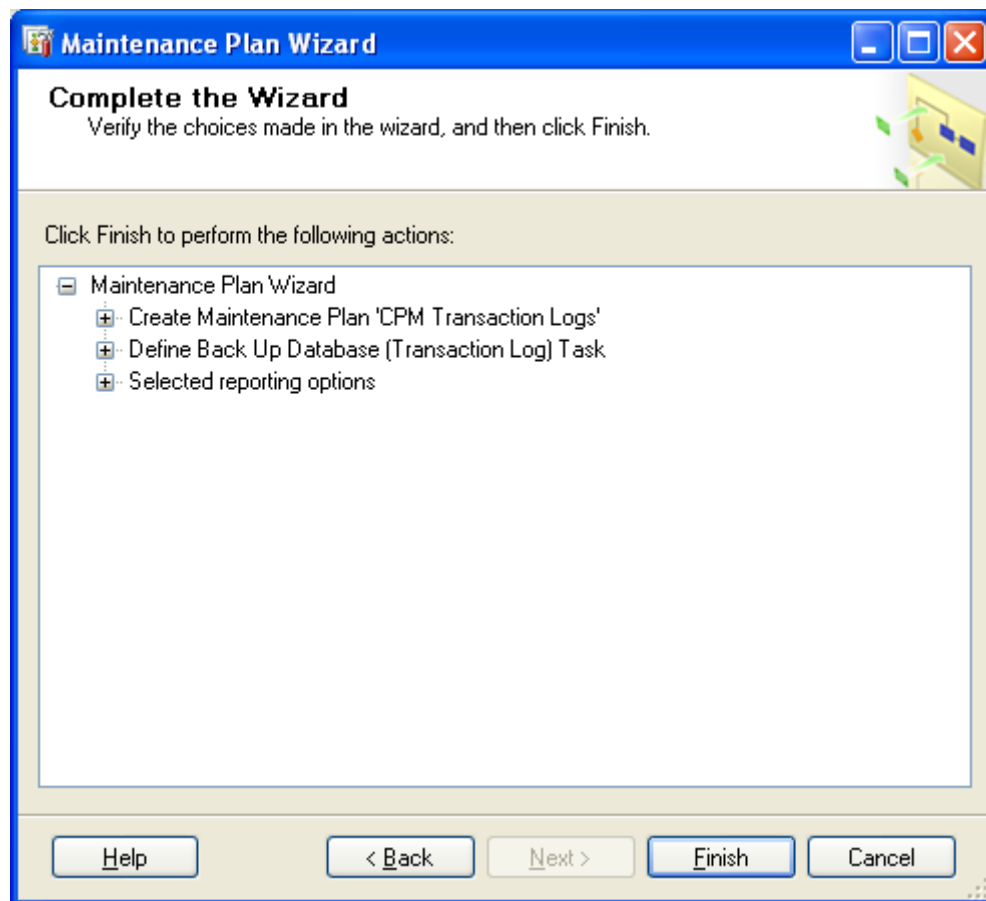
Click **Next**.



Select the report options as desired.

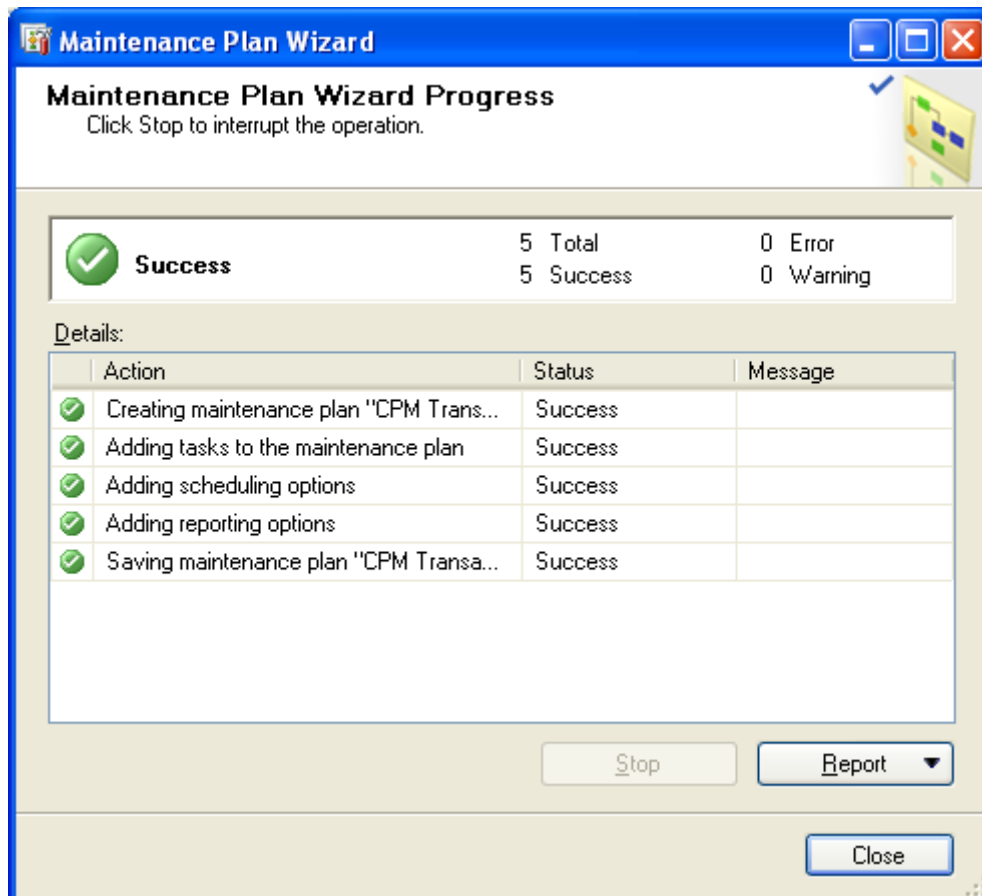
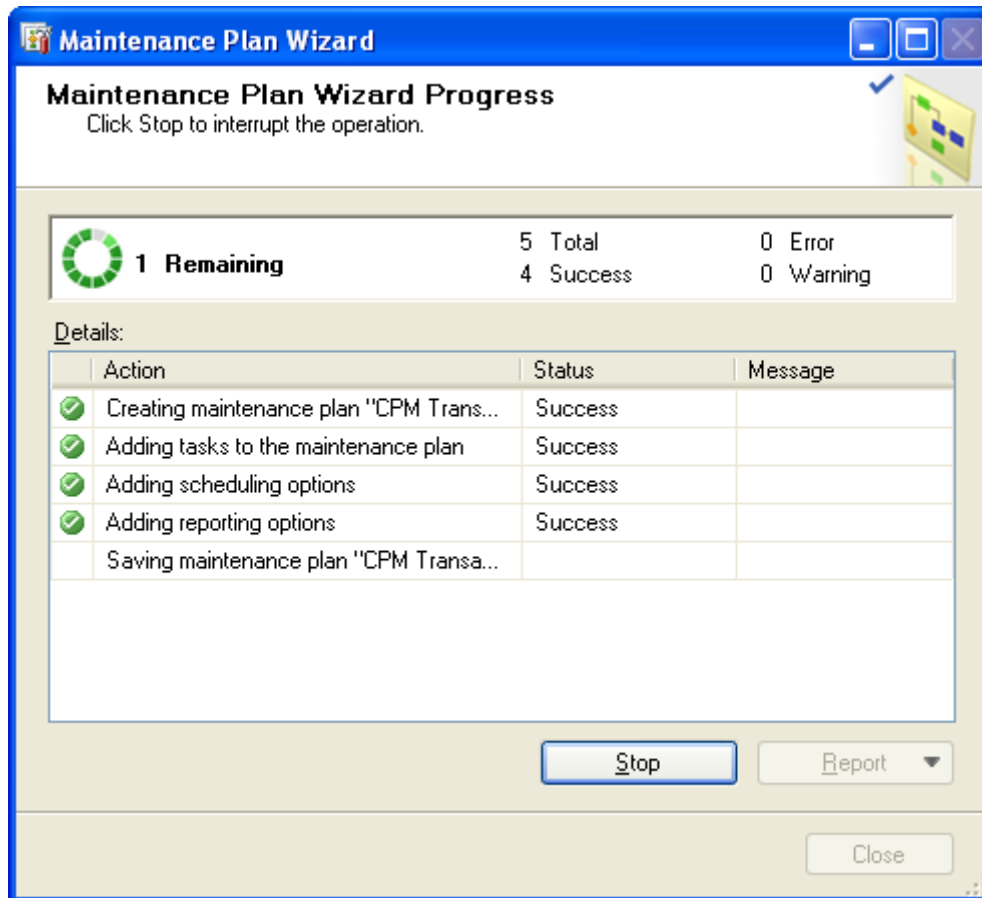
TIP: To send an e-mail report, configure SQL Server 2005's Database Mail and a SQL Server Agent Operator first. Refer to SQL Server 2005 Books Online.

Click **Next**.



Review the Maintenance Plan.

Click **Finish**.



Click **Close**.

This maintenance plan will create one SQL Server Agent Job.

To view the SQL Server Agent Jobs:

1. Expand **SQL Server Agent**.
2. Click **Jobs**.
3. If the jobs do not appear, right-click in the right pane and select **Refresh**.

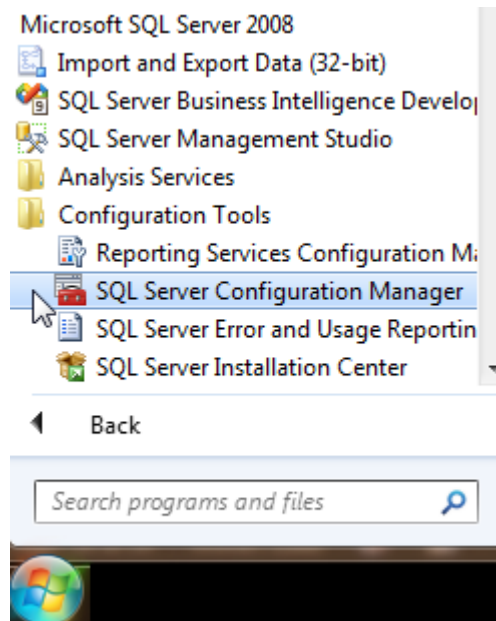
NOTE: SQL Server Agent must be running for the scheduled jobs to execute.

TIP: Refer to **Backing Up and Restoring Databases** in SQL Server 2005 Books Online for additional information.

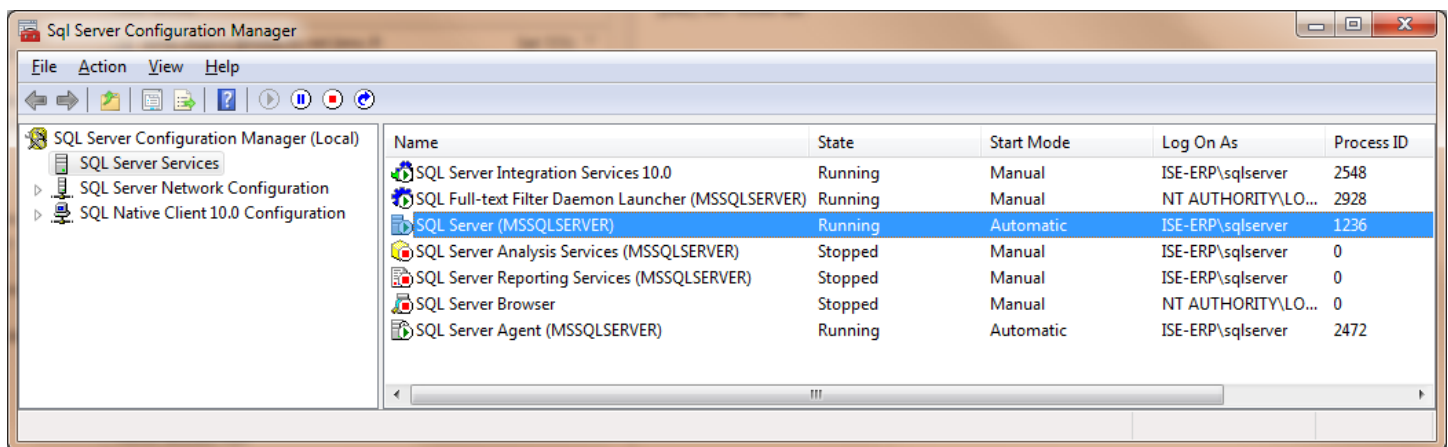
SQL SERVER 2008 AND SQL SERVER AGENT

Database maintenance plans as well as other SQL Server jobs are executed by the SQL Server Agent. You must ensure that SQL Server and the SQL Server Agent are running and set to automatically start with the operating system.

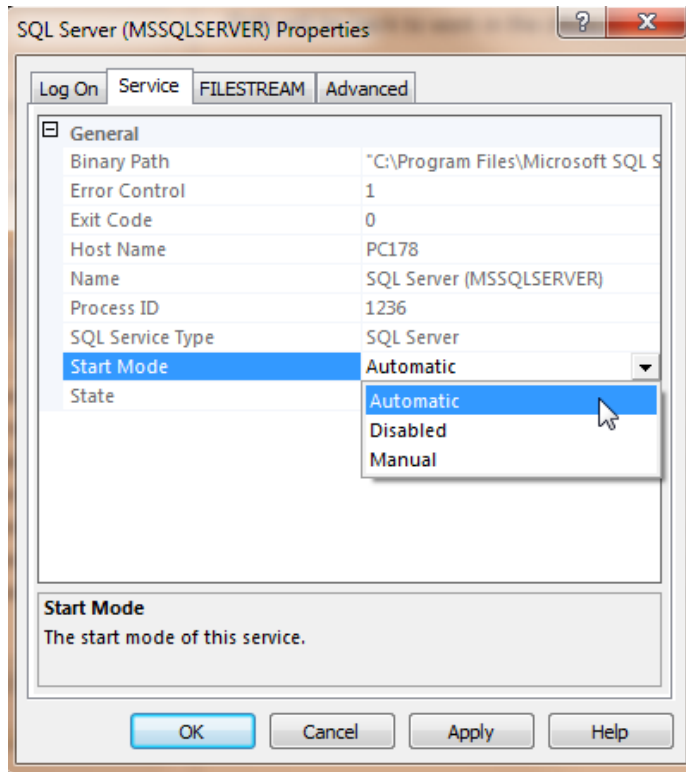
In SQL Server Configuration Manager:



Click **SQL Server Services**.

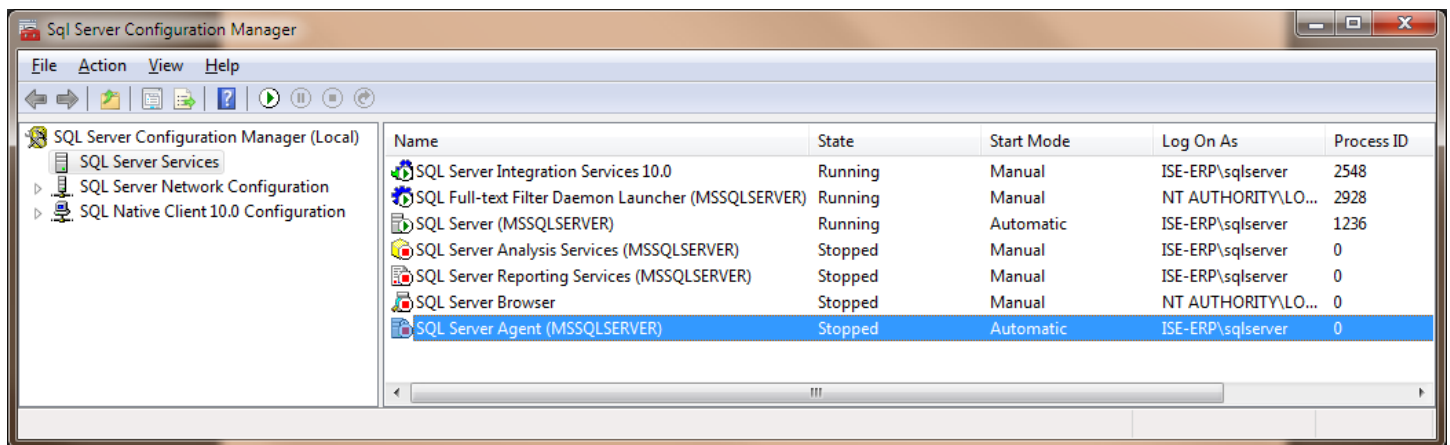


Select **SQL Server (MSSQLSERVER)** under SQL Server Services. Double click on the SQL Server Service to open the Properties box. If the database engine is not running, click **Start**. On the Service Tab, verify that the Start Mode is set to Automatic.



Click **OK** to validate your changes.

NOTE: The name of the SQL Server 2008 computer does vary.
 The default instance of SQL Server running on this computer is (local) or the name of the computer.
 The default instance of SQL Server running on another computer is the name of the computer.
 A named instance of SQL Server is ComputerName\InstanceName.



Select **SQL Server (MSSQLSERVER)** under SQL Server Services.
 Double click on the SQL Server Service to open the Properties box.
 If the database engine is not running, click **Start**.
 On the Service Tab, verify that the Star Mode is set to Automatic.

Click **OK**.

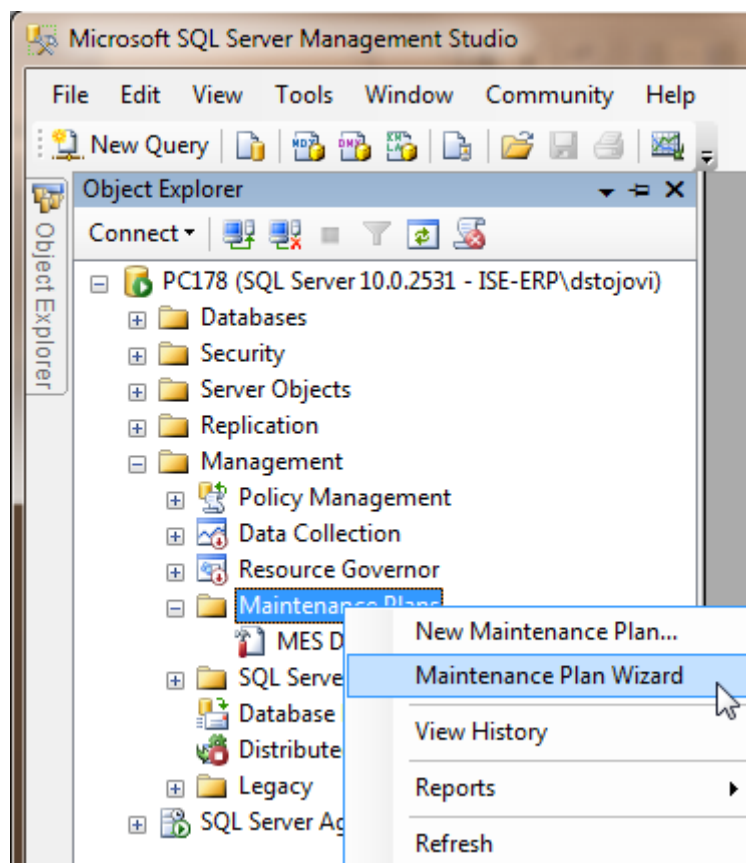
Both SQL Server and SQL Server Agent are now set to automatically start with the operating system.

PLAN 1 – BACKUP, RE-ORGANIZE AND INTEGRITY CHECK

The purpose of this database maintenance plan is to provide general backup, data and index page reorganization, and integrity checking of the MES SQL databases.

- Every day at 12:00 AM
 7. Check Database Integrity
 8. Rebuild Index
 9. Shrink Database
 10. Update Statistics
 11. Back Up Database (Full)
 12. Clean Up History

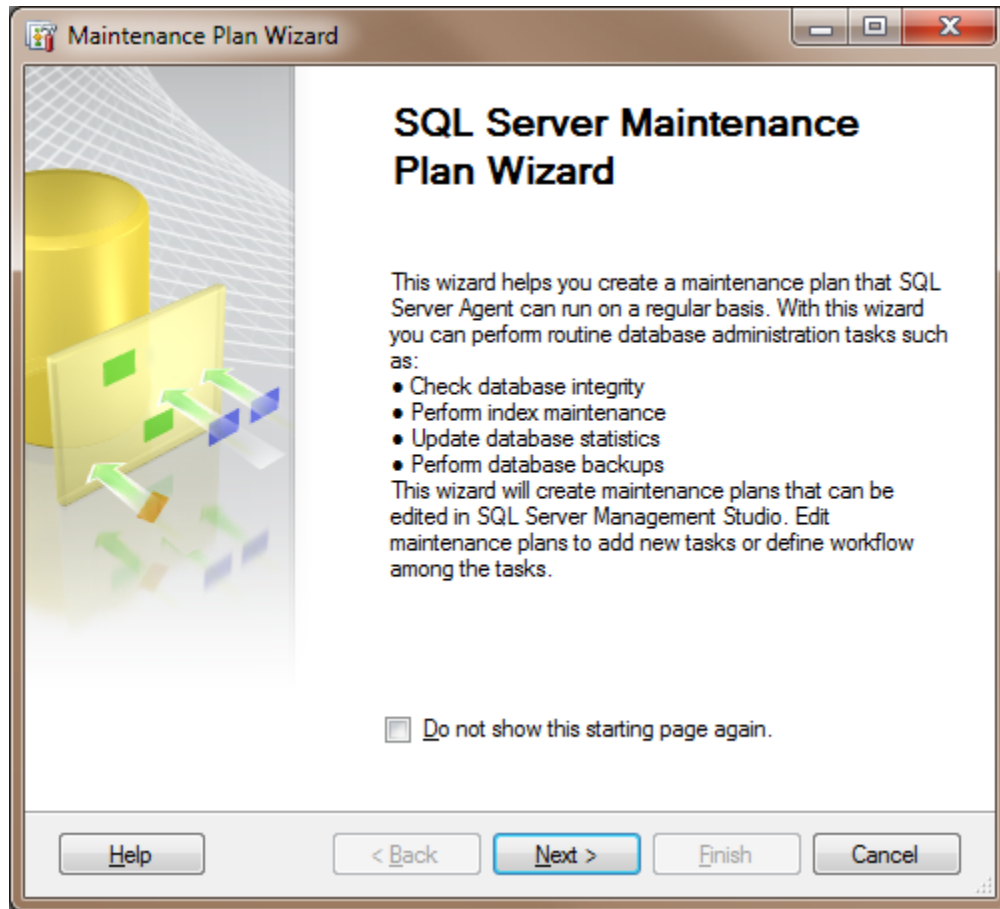
NOTE: This is not designed to be your sole backup strategy or disaster recovery plan.



In Microsoft SQL Server Management Studio:

Expand the **Management** folder.

Right-click on **Maintenance Plans** and select **Maintenance Plan Wizard**. This will start the **SQL Server Maintenance Plan Wizard**.



Click **Next**.

Enter a **Name**. For example: MES Databases.

Enter a **Description**.

The screenshot shows the 'Maintenance Plan Wizard' window, specifically the 'Select Plan Properties' step. The window has a title bar with standard Windows controls. The main area contains the following elements:

- Title:** 'Select Plan Properties' with a subtitle 'How do you want to schedule your maintenance tasks?'.
- Name:** A text box containing 'MES Databases'.
- Description:** A text box containing 'MES Databases Maintenance Plan'.
- Scheduling Options:** Two radio buttons: 'Separate schedules for each task' (unselected) and 'Single schedule for the entire plan or no schedule' (selected).
- Schedule:** A dropdown menu currently showing 'Not scheduled (On Demand)'. A red arrow points from this dropdown to a 'Change...' button.
- Navigation Buttons:** At the bottom, there are five buttons: 'Help', '< Back', 'Next >', 'Finish', and 'Cancel'. The 'Next >' button is highlighted with a blue border.

Click on the Change button to open the Job Schedule Properties and make changes.

Job Schedule Properties - MES Databases

Name:

Schedule type: ☒ Enabled

One-time occurrence

Date: Time:

Frequency

Occurs:

Recurs every: week(s) on

☐ Monday ☐ Wednesday ☐ Friday ☐ Saturday
☐ Tuesday ☐ Thursday ☒ Sunday

Daily frequency

☒ Occurs once at:

☐ Occurs every: hour(s) Starting at:
Ending at:

Duration

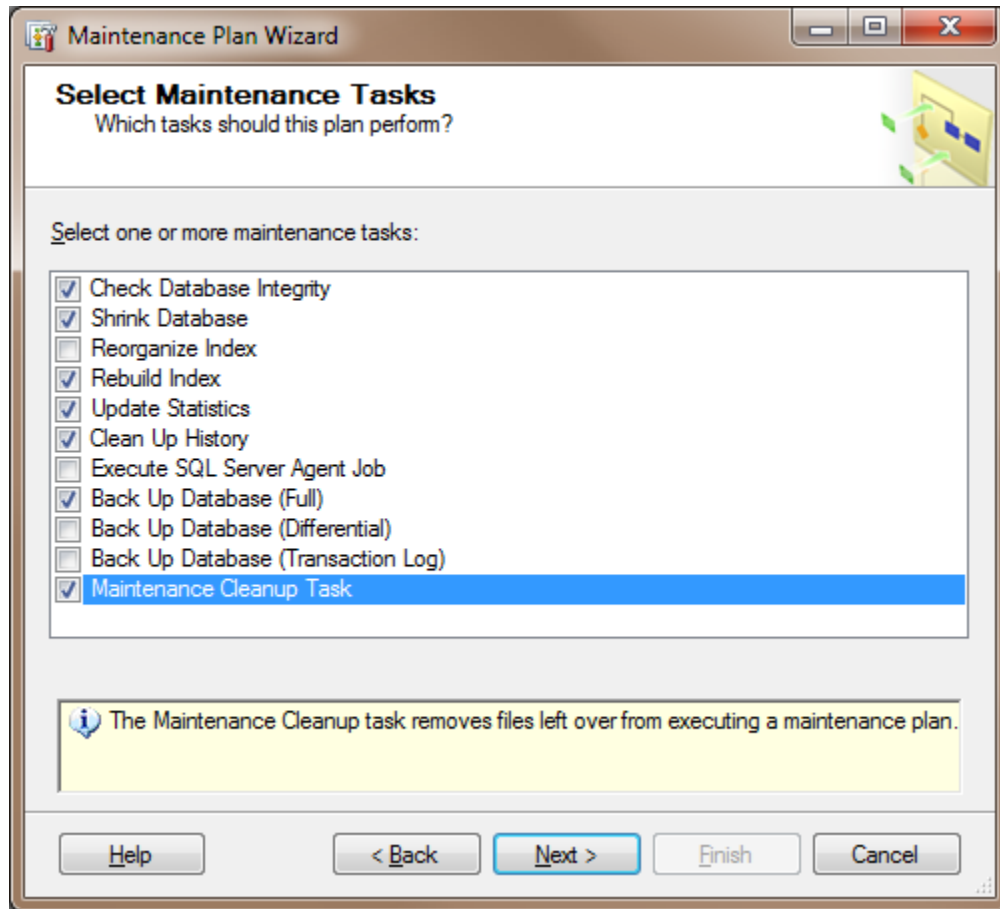
Start date:

☐ End date:
☒ No end date:

Summary

Description:

Once the schedule has been set, click **Next**.



Select the desired Maintenance Tasks.

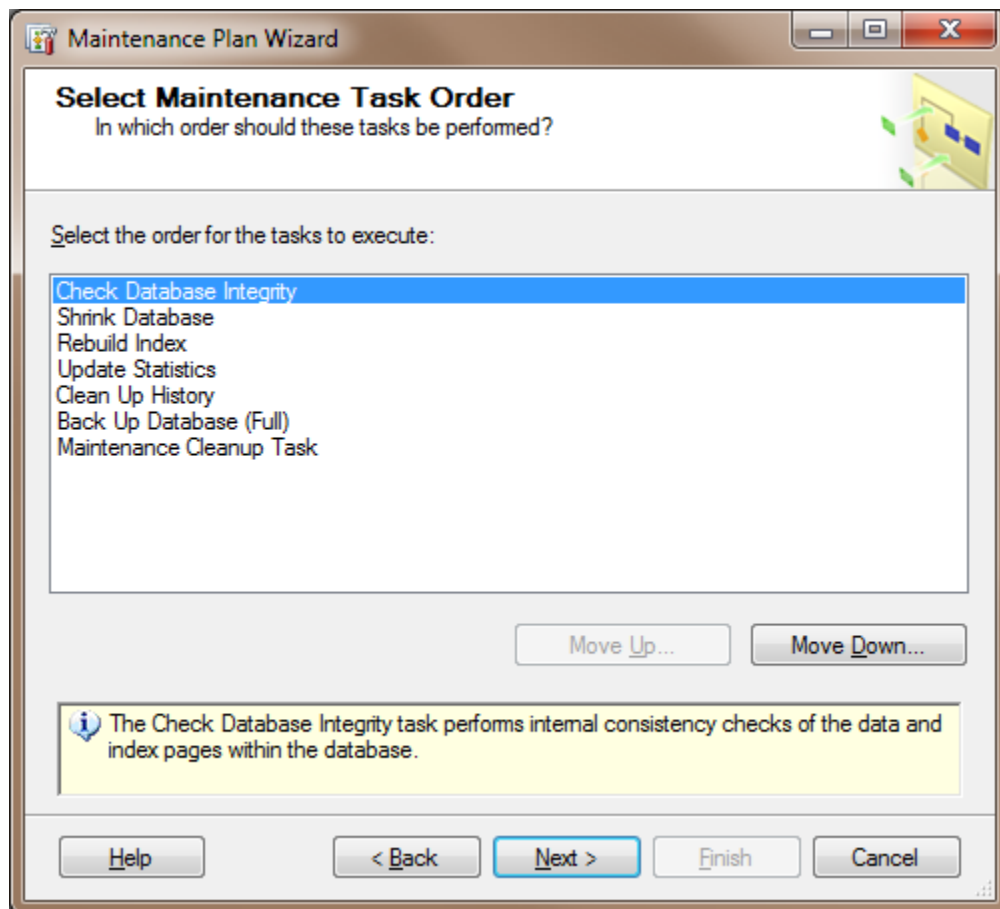
It is highly recommended that the following Maintenance Tasks be performed:

- Check Database Integrity
- Shrink Database
- Rebuild Index
- Update Statistics
- Clean Up History
- Back Up Database (Full)
- Maintenance Cleanup Task

NOTE: For simplicity, all of the maintenance tasks are done in one maintenance plan. Each situation is different and when combined with company policies, it is quite common to divide the Maintenance Tasks and create several database maintenance plans on different schedules and frequencies.

For example: In a large database, rebuilding the indexes may be done once per week or month while reorganize index is done daily. It may be desirable to shrink the database less frequently and/or choose to retain the extra free space to eliminate database file fragmentation on the hard disk drive.

Click **Next**.

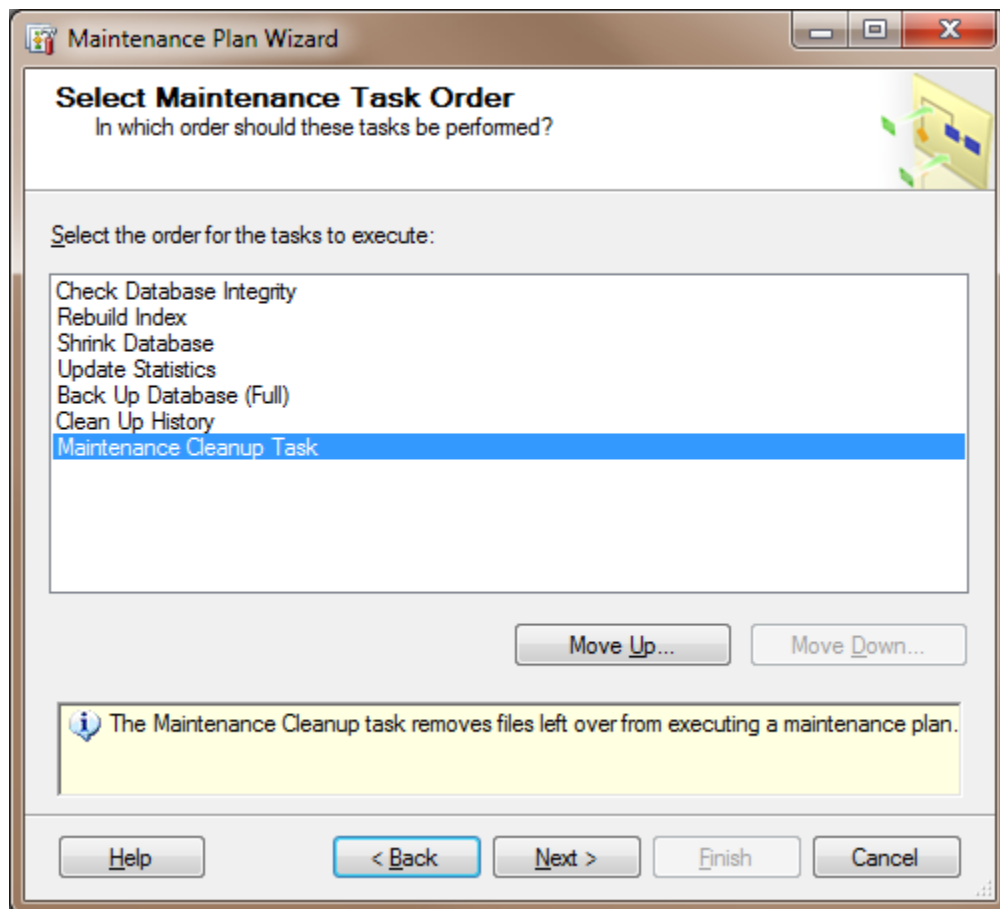


Select a Maintenance Task.

Click **Move Up** and **Move Down** to change the maintenance task order.

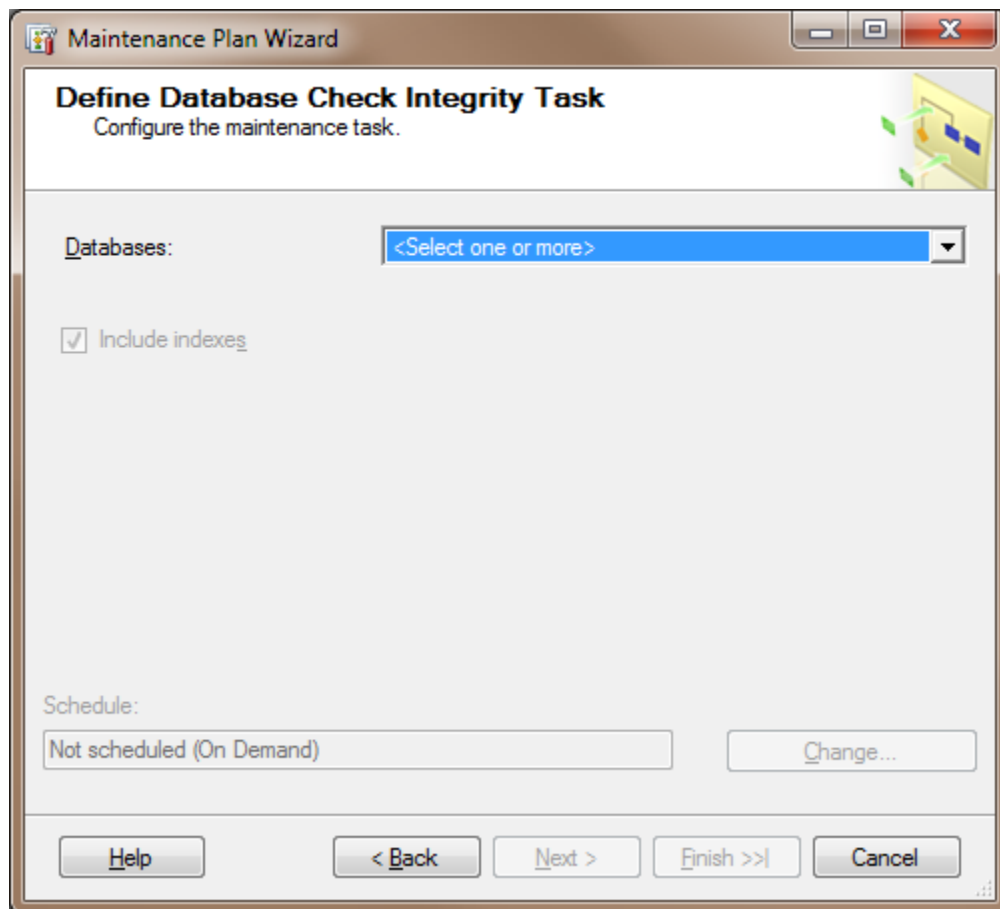
It is recommended that the Maintenance Tasks be done in the following order:

7. Check Database Integrity
8. Rebuild Index
9. Shrink Database
10. Update Statistics
11. Back Up Database (Full)
12. Clean Up History
13. Maintenance Cleanup Task

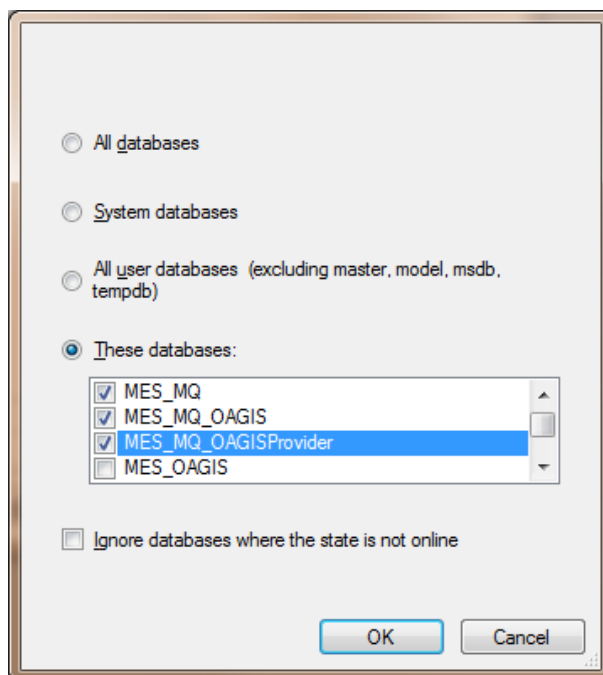


NOTE: For simplicity, all of the maintenance tasks are done in one maintenance plan. Each situation is different and when combined with company policies, it is quite common to change the order of the Maintenance Tasks.

Click **Next**.



Click **<Select one or more>** databases.



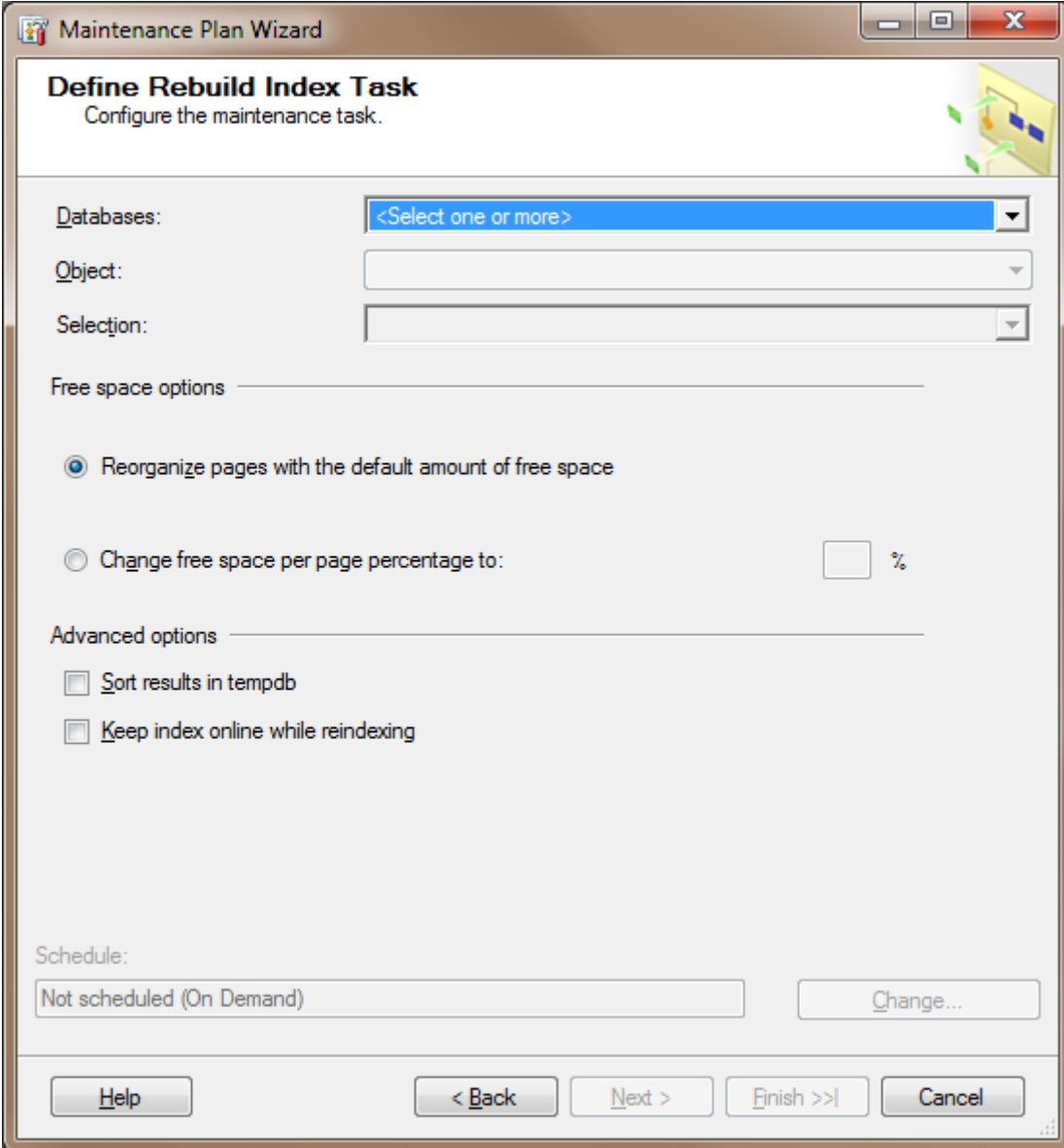
Select **These databases**.
Select the MES SQL databases.

NOTE: The names of your MES SQL databases may be different than shown above.

NOTE: If you have multiple environments, select all MES SQL databases.

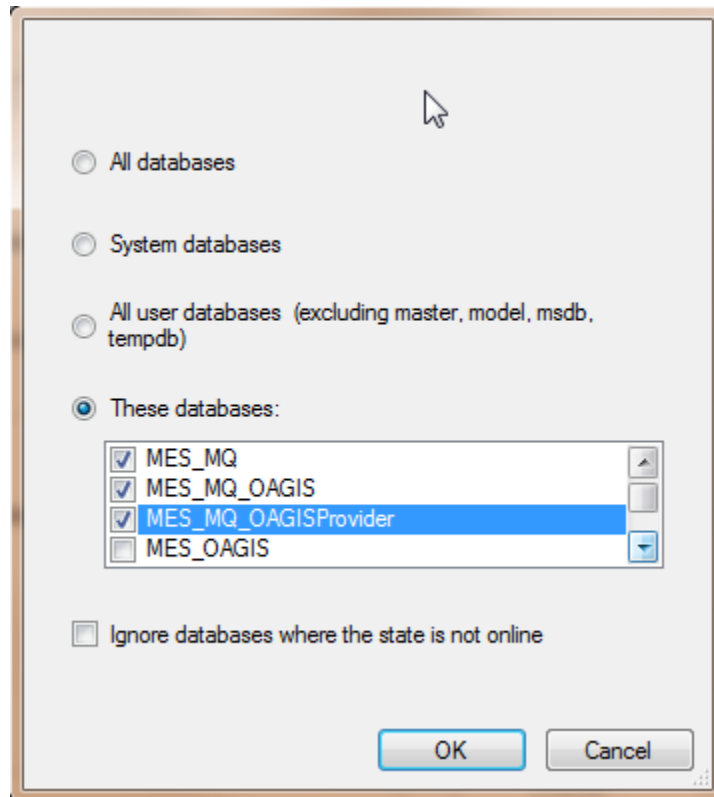
Click **OK**.

Click **Next**.



The screenshot shows the 'Maintenance Plan Wizard' window, specifically the 'Define Rebuild Index Task' step. The window has a title bar with standard Windows controls. The main area is titled 'Define Rebuild Index Task' with the subtitle 'Configure the maintenance task.' Below this, there are three dropdown menus: 'Databases:' with the text '<Select one or more>', 'Object:', and 'Selection:'. Under the 'Free space options' section, there are two radio buttons: the first is selected and labeled 'Reorganize pages with the default amount of free space', and the second is labeled 'Change free space per page percentage to:' followed by a text box and a '%' symbol. Under the 'Advanced options' section, there are two unchecked checkboxes: 'Sort results in tempdb' and 'Keep index online while reindexing'. At the bottom, there is a 'Schedule:' section with a text box containing 'Not scheduled (On Demand)' and a 'Change...' button. The bottom of the window contains a row of buttons: 'Help', '< Back', 'Next >', 'Finish >>', and 'Cancel'.

Click **<Select one or more>** databases.



Select **These databases**.

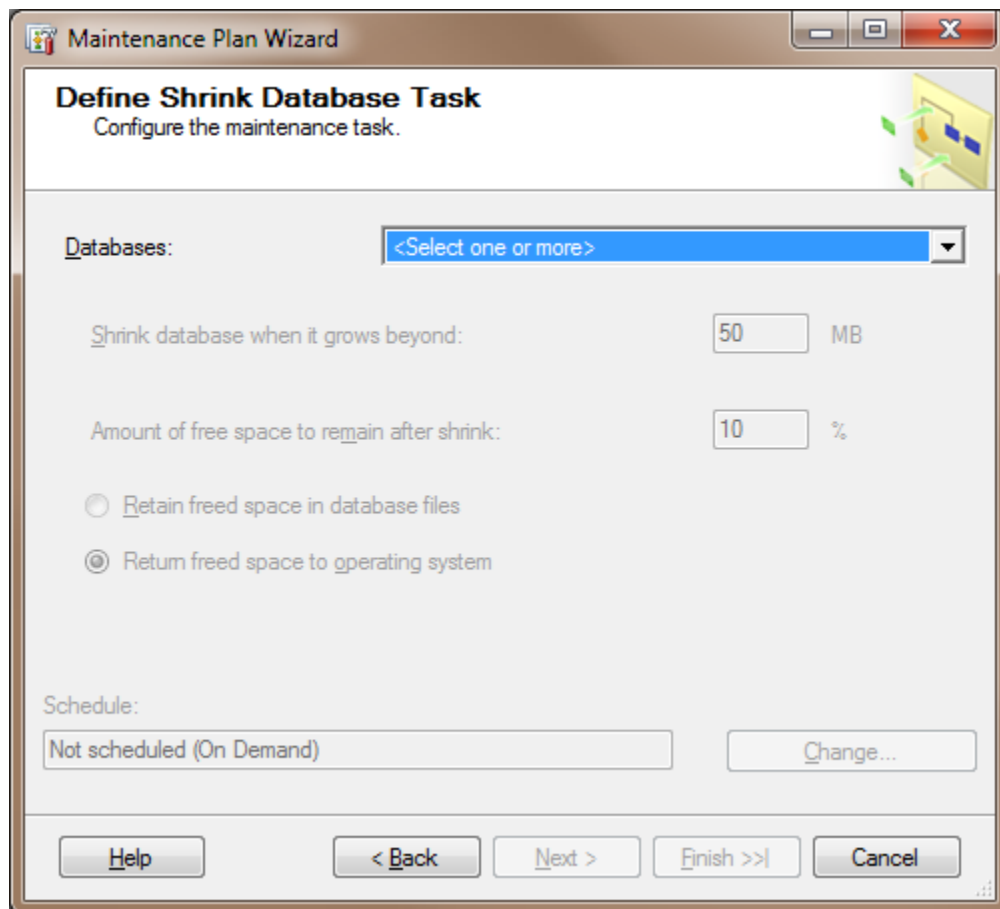
Select the MES SQL databases.

NOTE: The names of your MES SQL databases may be different than shown above.

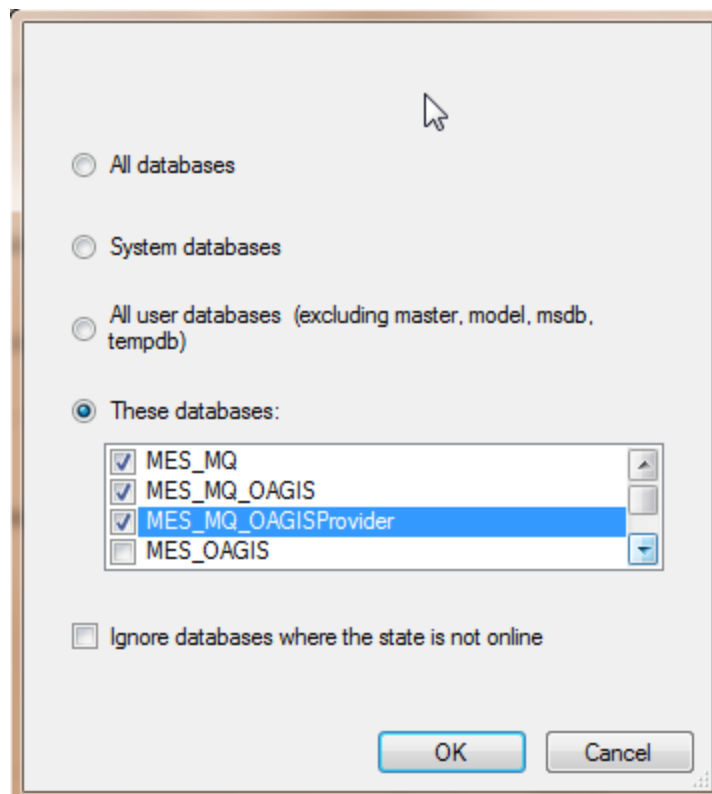
NOTE: If you have multiple environments, select all MES SQL databases.

Click **OK**.

Click **Next**.



Click **<Select one or more>** databases.



Select **These databases**.

Select the MES SQL databases.

NOTE: The names of your MES SQL databases may be different than shown above.

NOTE: If you have multiple environments, select all MES SQL databases.

Click **OK**.

The screenshot shows the 'Define Shrink Database Task' dialog box within the 'Maintenance Plan Wizard'. The title bar reads 'Maintenance Plan Wizard'. The main title is 'Define Shrink Database Task' with the subtitle 'Configure the maintenance task.'. On the right, there is a small icon of a folder with arrows. The 'Databases:' section has a dropdown menu set to 'Specific databases'. Below this, there are two input fields: 'Shrink database when it grows beyond:' with a value of '50' and unit 'MB', and 'Amount of free space to remain after shrink:' with a value of '10' and unit '%'. There are two radio buttons: 'Retain freed space in database files' (unselected) and 'Return freed space to operating system' (selected). The 'Schedule:' section has a text box containing 'Not scheduled (On Demand)' and a 'Change...' button. At the bottom, there are five buttons: 'Help', '< Back', 'Next >' (highlighted with a blue border), 'Finish >>', and 'Cancel'.

If desired, change the amount of free space to remain after shrink.

Choose whether to retain the freed space or return the freed space to the operating system.

Click **Next**.

Maintenance Plan Wizard

Define Update Statistics Task

Configure the maintenance task.

Databases: Specific databases

Object:

Selection:

Update:

☒ All existing statistics

☐ Column statistics only

☐ Index statistics only

Scan type:

☒ Full scan

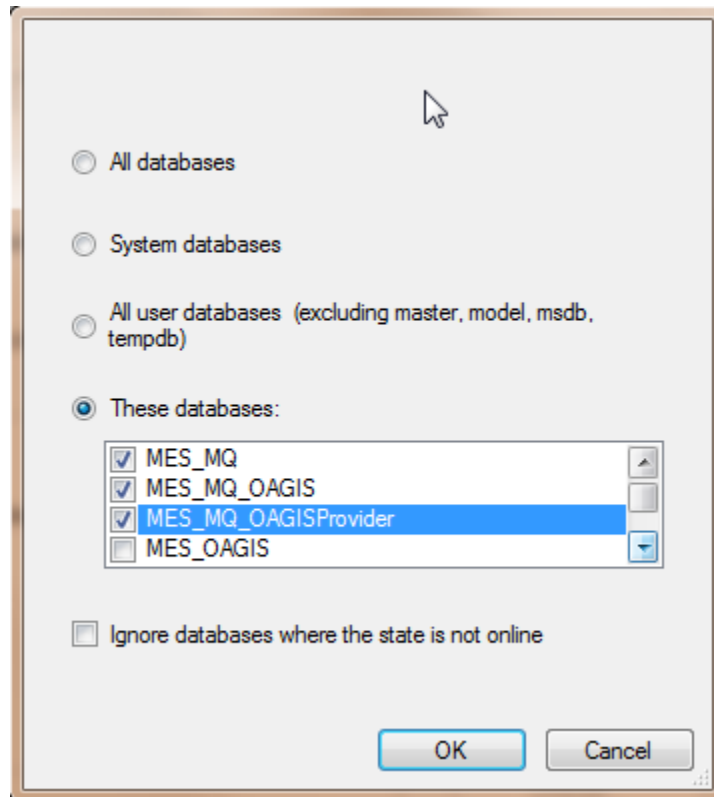
☐ Sample by 50

Schedule:

Not scheduled (On Demand) Change...

Help < Back Next > Finish >> Cancel

Click **<Select one or more>** databases.



Select **These databases**.

Select the MES SQL databases.

NOTE: The names of your MES SQL databases may be different than shown above.

NOTE: If you have multiple environments, select all MES SQL databases.

Click **OK**.

Click **Next**.

Click **<Select one or more>** databases.

Maintenance Plan Wizard

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

Backup type:

Database(s):

Backup component

☒ Database

☐ Files and filegroups: ...

☐ Backup set will expire:

☒ After days

☐ On

Back up to: ☒ Disk ☐ Tape

☒ Back up databases across one or more files:

If backup files exist:

☒ Create a backup file for every database

☐ Create a sub-directory for each database

Folder: ...

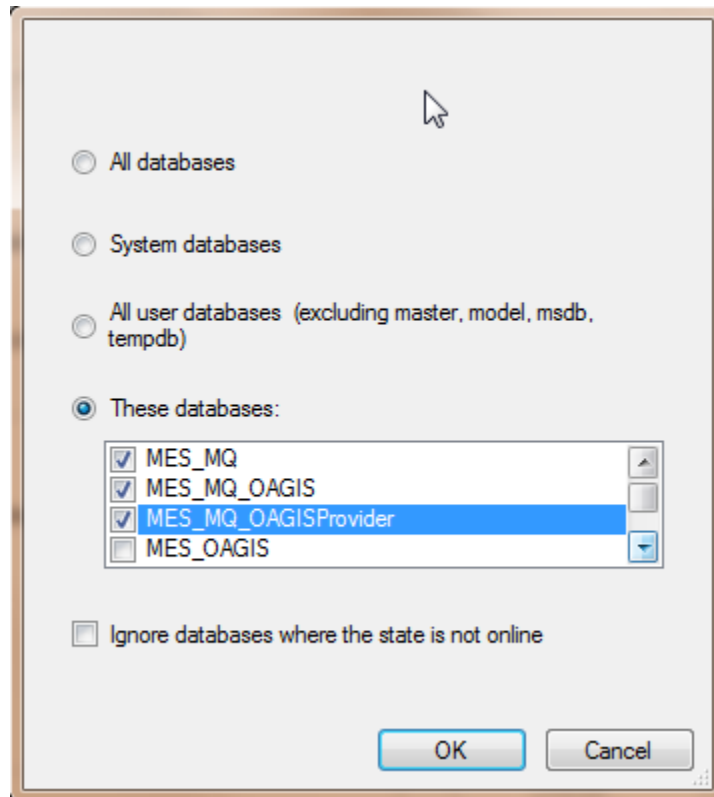
Backup file extension:

☐ Verify backup integrity

☐ Back up the tail of the log, and leave the database in the restoring state

Set backup compression:

Schedule:



Select **These databases**.

Select the MES SQL databases.

NOTE: The names of your MES SQL databases may be different than shown above.

NOTE: If you have multiple environments, select all MES SQL databases.

Click **OK**.

The screenshot shows the 'Maintenance Plan Wizard' window, specifically the 'Define Back Up Database (Full) Task' step. The window has a title bar with standard Windows controls. The main area is titled 'Define Back Up Database (Full) Task' with the subtitle 'Configure the maintenance task.' Below this, there are several configuration sections: 'Backup type' is set to 'Full'; 'Database(s)' is set to 'Specific databases'; 'Backup component' has 'Database' selected; 'Backup set will expire' is checked, with 'After 14 days' selected; 'Back up to' has 'Disk' selected; 'Back up databases across one or more files' is unchecked; 'If backup files exist' is set to 'Append'; 'Create a backup file for every database' is selected, with 'Create a sub-directory for each database' also checked; the 'Folder' is 'C:\Program Files\Microsoft SQL Server\MSSQL10.MSSQLSER'; 'Backup file extension' is 'bak'; 'Verify backup integrity' is checked; 'Back up the tail of the log, and leave the database in the restoring state' is unchecked; 'Set backup compression' is set to 'Use the default server setting'; and 'Schedule' is 'Not scheduled (On Demand)'. At the bottom, there are buttons for 'Help', '< Back', 'Next >', 'Finish >>', and 'Cancel'.

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 14 days

☐ On 8/18/2010

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: C:\Program Files\Microsoft SQL Server\MSSQL10.MSSQLSER

Backup file extension: bak

☒ Verify backup integrity

☐ Back up the tail of the log, and leave the database in the restoring state

Set backup compression: Use the default server setting

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

Help < Back Next > Finish >> Cancel

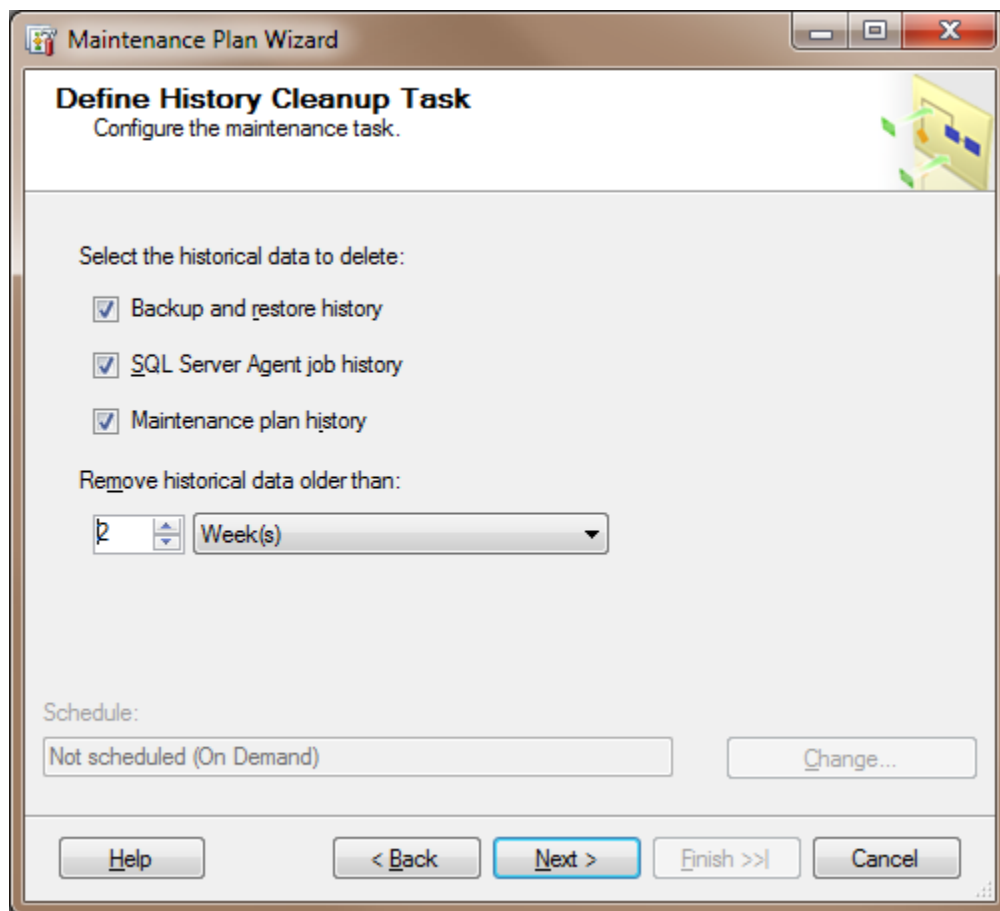
Select the backup destination—**Disk** or **Tape**.

Specify the appropriate information for either a disk or tape backup.

For easier organization, select **Create a sub-directory for each database**.

Select **Verify backup integrity** to ensure the database can be restored from the media.

Click **Next**.



The screenshot shows the 'Maintenance Plan Wizard' window, specifically the 'Define History Cleanup Task' step. The window has a title bar with the text 'Maintenance Plan Wizard' and standard Windows window controls. The main area is titled 'Define History Cleanup Task' with the subtitle 'Configure the maintenance task.' Below this, there are three checked checkboxes under the heading 'Select the historical data to delete:': 'Backup and restore history', 'SQL Server Agent job history', and 'Maintenance plan history'. Under the heading 'Remove historical data older than:', there is a spin box set to '2' and a dropdown menu set to 'Week(s)'. At the bottom, there is a 'Schedule:' section with a text box containing 'Not scheduled (On Demand)' and a 'Change...' button. The bottom of the window features a row of buttons: 'Help', '< Back', 'Next >' (which is highlighted with a blue border), 'Finish >>', and 'Cancel'.

Select the desired historical data to delete.

Select the desired retention period.

Click **Next**.

The screenshot shows the 'Maintenance Plan Wizard' window, specifically the 'Define Maintenance Cleanup Task' step. The window has a title bar with standard Windows controls. The main area is titled 'Define Maintenance Cleanup Task' with the subtitle 'Configure the maintenance task.' and a small icon of a folder with arrows. The configuration options are as follows:

- Delete files of the following type:**
 - ☒ Backup files
 - ☐ Maintenance Plan text reports
- File location:**
 - ☐ Delete specific file
 - File name: [text box] [Browse button]
 - ☒ Search folder and delete files based on an extension
 - Folder: [C:\Program Files\Microsoft SQL Server\MSSQL10.M] [Browse button]
 - File extension: [bak]
 - ☒ Include first-level subfolders
- File age:**
 - ☒ Delete files based on the age of the file at task run time
 - Delete files older than the following:
 - [2] [spinners] [Week(s) dropdown]
- Schedule:**
 - [Not scheduled (On Demand)] [Change... button]

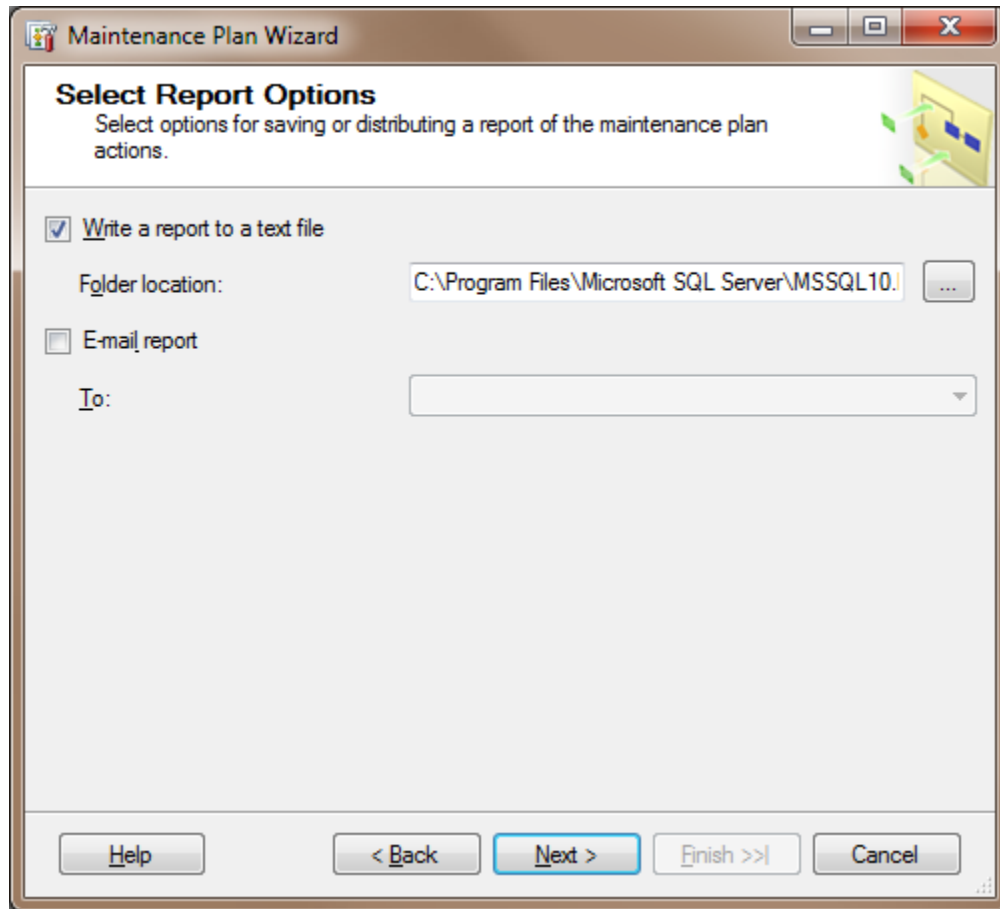
At the bottom, there are five buttons: 'Help', '< Back', 'Next >' (highlighted with a blue border), 'Finish >>', and 'Cancel'.

Define the SQL Server Backup folder location.

Check **Include first-level subfolders**.

Define the desired retention period.

Click **Next**.



If you wish to Write a report to a text file, define the folder location.

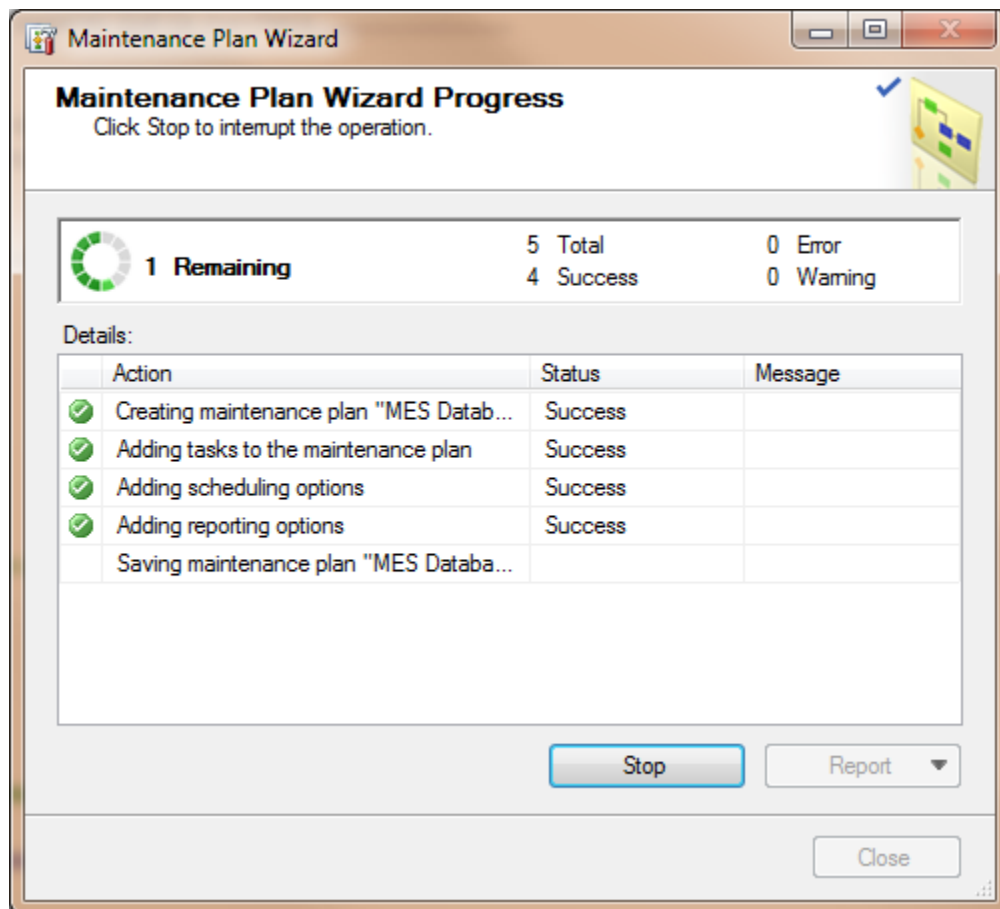
Select the report options as desired.

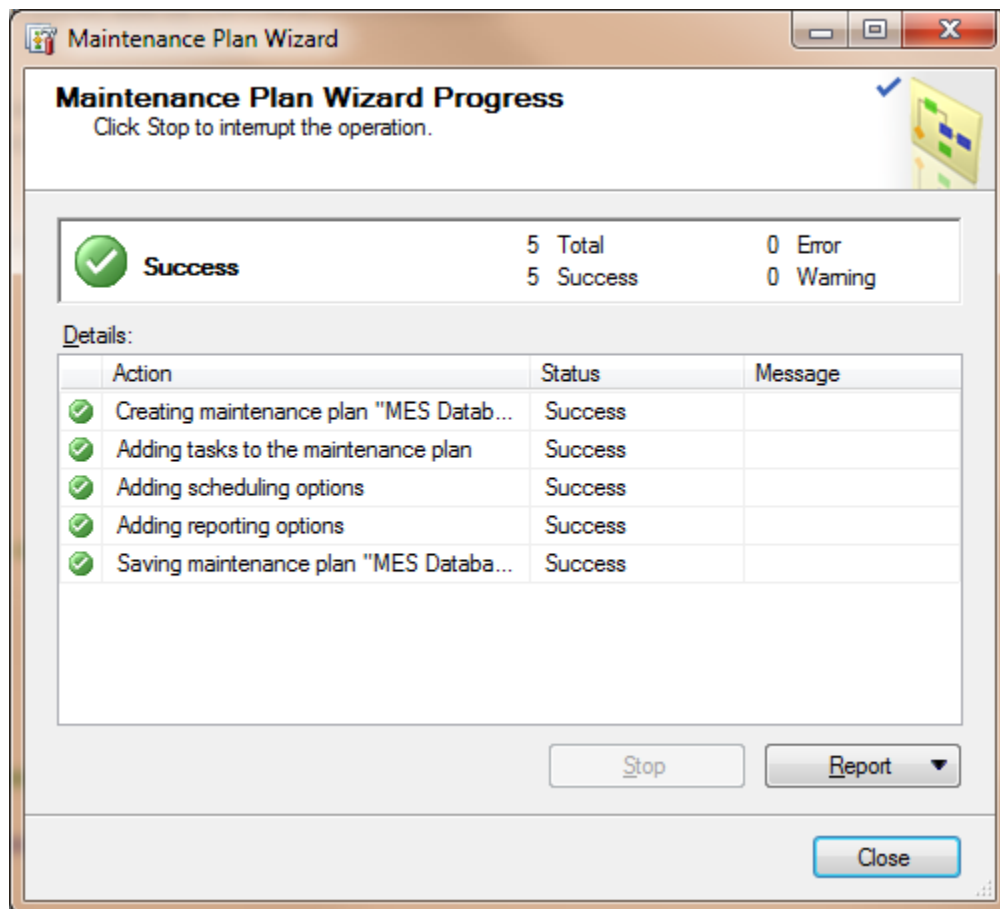
TIP: To send an e-mail report, configure SQL Server 2005's Database Mail and a SQL Server Agent Operator first. Refer to SQL Server 2008 Books Online.

Click **Next**.

On the **Complete the Wizard** screen, review the Maintenance Plan.

Click **Finish**.





Click **Close**.

This maintenance plan will create one SQL Server Agent Job.

To view the SQL Server Agent Jobs:

4. Expand **SQL Server Agent**.
5. Click **Jobs**.
6. If the jobs do not appear, right-click in the right pane and select **Refresh**.

NOTE: SQL Server Agent must be running for the scheduled jobs to execute.

TIP: Refer to **Backing Up and Restoring Databases** in SQL Server 2005 Books Online for additional information.

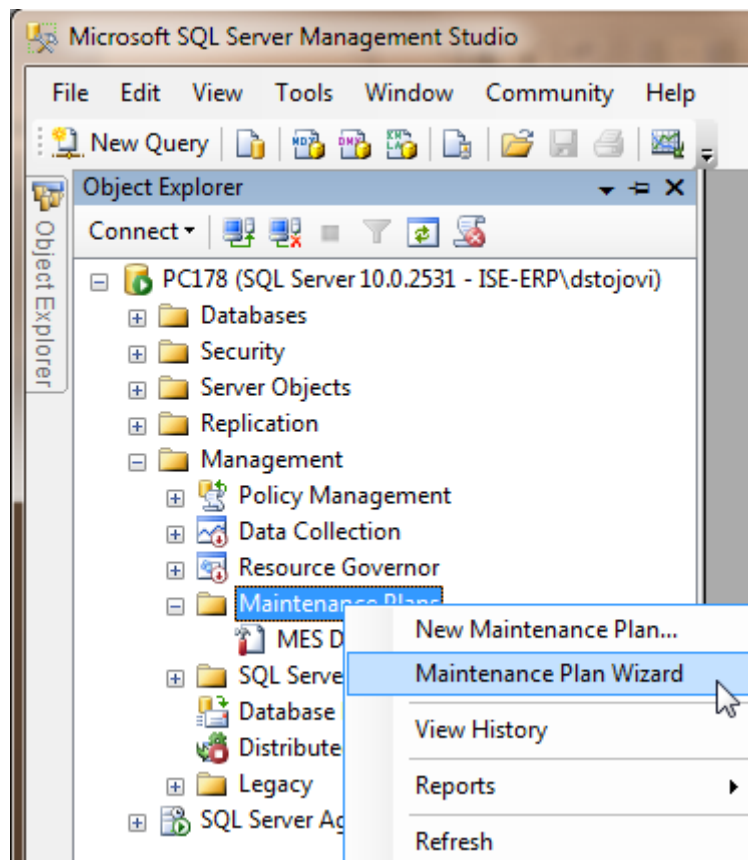
PLAN 2 – TRANSACTION LOG BACKUP

The purpose of this database maintenance plan is to provide a transaction log backup of all MES SQL databases.

- Every Tuesday, Thursday and Saturday at 2:00 AM, Transaction Log Backup.

NOTE: This is not designed to be your sole backup strategy or disaster recovery plan.

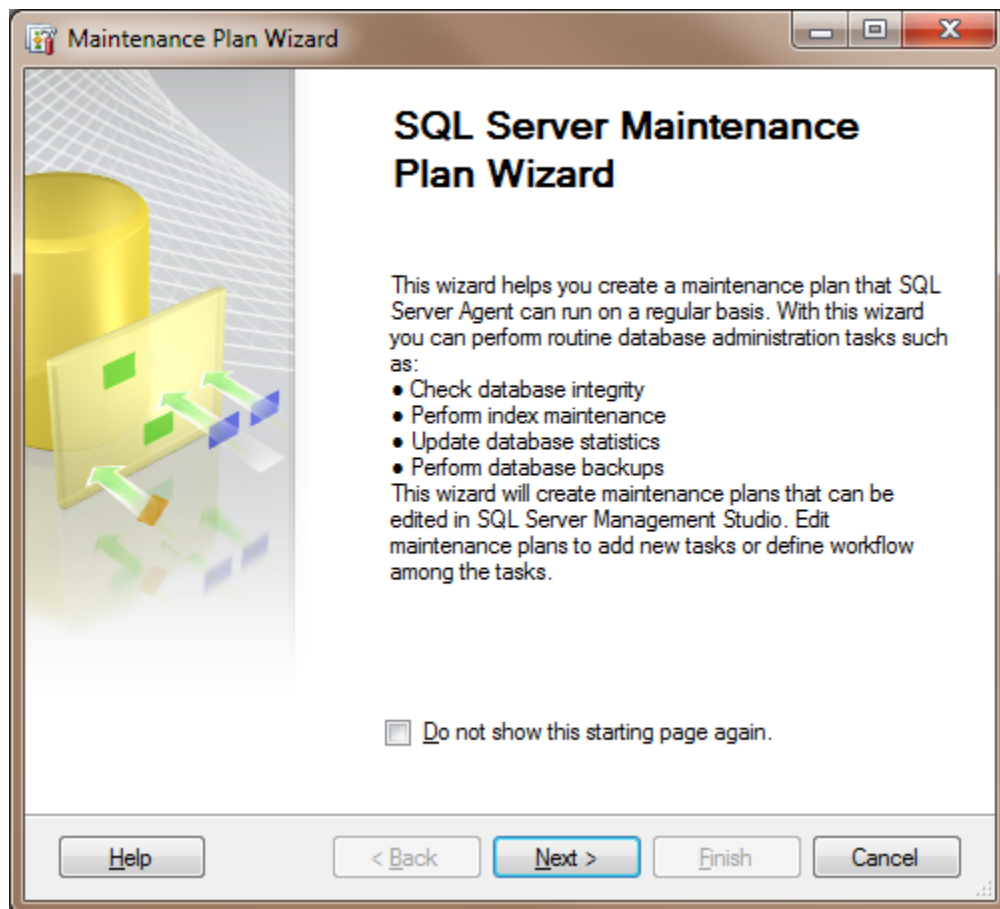
In Microsoft SQL Server Management Studio:



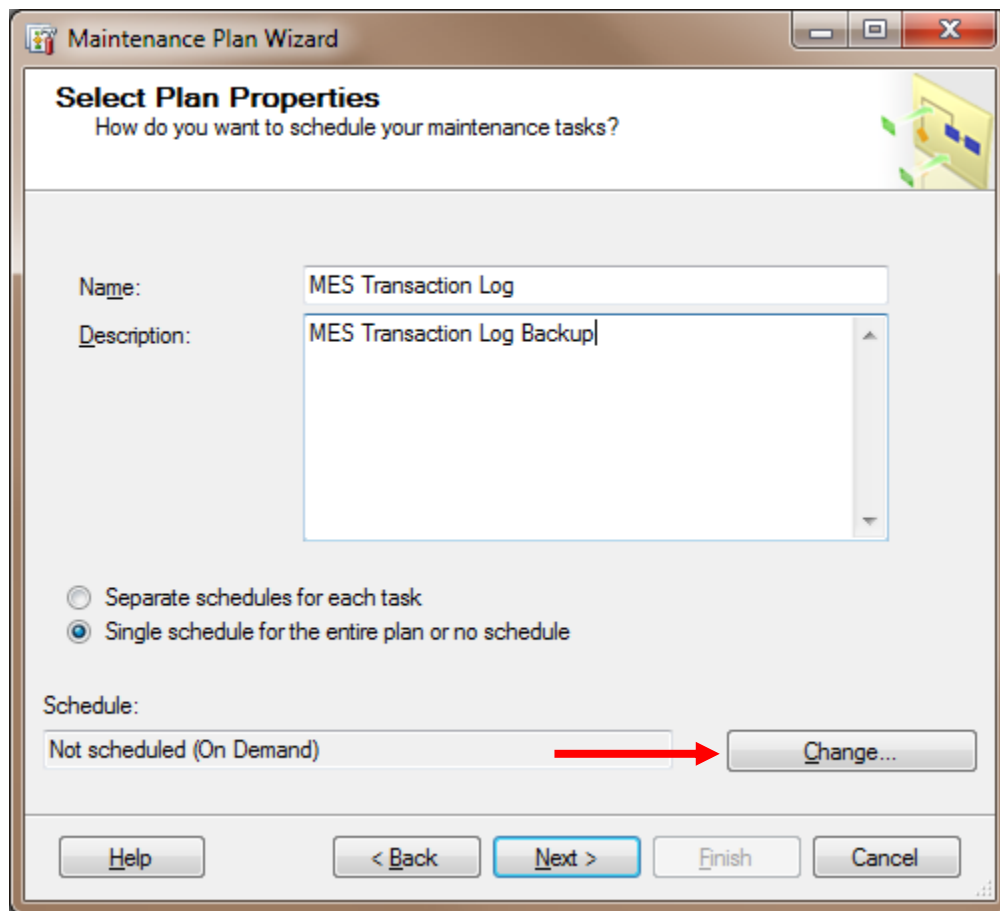
Expand the **Management** folder.

Right-click on **Maintenance Plans** and select **Maintenance Plan Wizard**.

This will start the **SQL Server Maintenance Plan Wizard**.



Click **Next**.



The screenshot shows the 'Maintenance Plan Wizard' window, specifically the 'Select Plan Properties' step. The window title is 'Maintenance Plan Wizard'. The subtitle is 'How do you want to schedule your maintenance tasks?'. There is a small icon of a folder with arrows in the top right corner. The 'Name' field contains 'MES Transaction Log'. The 'Description' field contains 'MES Transaction Log Backup'. Below these fields are two radio buttons: 'Separate schedules for each task' (unselected) and 'Single schedule for the entire plan or no schedule' (selected). Below the radio buttons is a 'Schedule:' label and a dropdown menu showing 'Not scheduled (On Demand)'. A red arrow points from the dropdown menu to a 'Change...' button. At the bottom of the window are five buttons: 'Help', '< Back', 'Next >', 'Finish', and 'Cancel'. The 'Next >' button is highlighted with a blue border.

Enter a **Name**. For example: MES Transaction Logs.

Enter a **Description**.

Select **Authentication** method.

Click on the **Change** button to open the Job Schedule Properties and make changes.

Job Schedule Properties - MES Transaction Logs

Name:

Schedule type: ☒ Enabled

One-time occurrence

Date: Time:

Frequency

Occurs:

Recurs every: week(s) on

☐ Monday ☐ Wednesday ☐ Friday ☒ Saturday

☒ Tuesday ☒ Thursday ☐ Sunday

Daily frequency

☒ Occurs once at:

☐ Occurs every: hour(s) Starting at: Ending at:

Duration

Start date:

☐ End date:

☒ No end date:

Summary

Description:

Enter a job schedule **Name**.

Change the **Frequency** as desired.

NOTE: The schedule shown here will backup the transaction logs on Tuesday, Thursday & Saturday at 2:00 AM.

NOTE: Based on the server's overall job schedule, adjust the time accordingly.

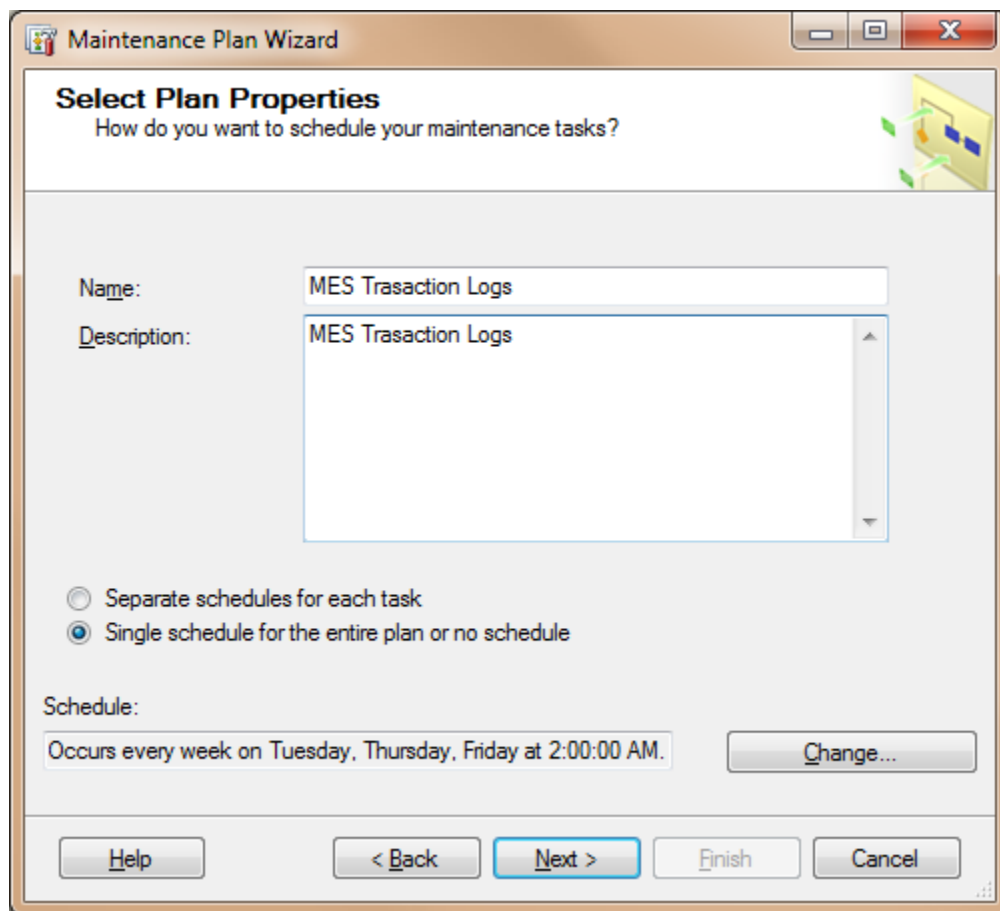
NOTE: Frequency of the Transaction Log Backup is dependent on backup strategy and disaster recovery planning.

3. If you have established a daily backup of the MES SQL databases, this schedule may be changed to once per week or month because its primary purpose is to truncate the database transaction logs and prevent them from growing uncontrollably. The preceding statement is superseded if you wish to execute multiple transaction log backups throughout the day.
4. If you have established a weekly backup of the MES SQL databases, this schedule should be changed to daily. At a minimum, you should backup the transaction logs once per day. For added protection, the daily frequency can be changed as deemed necessary.

NOTE: If you intend to rely on transaction log backups, you must relocate the transaction log backup files to another computer or media as soon as possible. Failure to do so expose the MES SQL databases to loss of data in the event the MES SQL databases need to be restored to a point in time.

Click **OK** to close the **New Job Schedule** window.

Click **OK**.



The image shows a Windows-style dialog box titled "Maintenance Plan Wizard". The main heading is "Select Plan Properties" with the subtitle "How do you want to schedule your maintenance tasks?". In the top right corner, there is a small 3D icon of a folder with arrows. The dialog contains two text input fields: "Name:" and "Description:", both containing the text "MES Trasaction Logs". Below these fields are two radio button options: "Separate schedules for each task" (which is unselected) and "Single schedule for the entire plan or no schedule" (which is selected). Under the heading "Schedule:", there is a text box showing "Occurs every week on Tuesday, Thursday, Friday at 2:00:00 AM." and a "Change..." button to its right. At the bottom of the dialog, there are five buttons: "Help", "< Back", "Next >" (which is highlighted with a blue border), "Finish", and "Cancel".

Maintenance Plan Wizard

Select Plan Properties
How do you want to schedule your maintenance tasks?

Name: MES Trasaction Logs

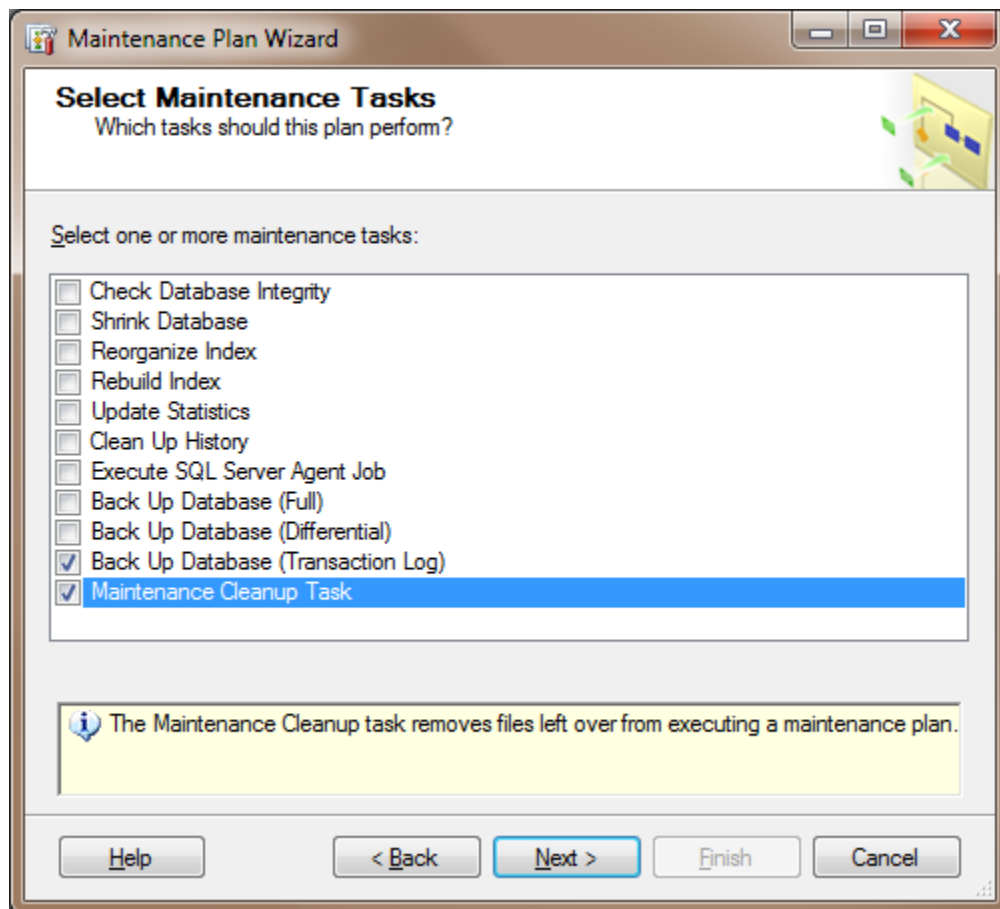
Description: MES Trasaction Logs

☐ Separate schedules for each task

☒ Single schedule for the entire plan or no schedule

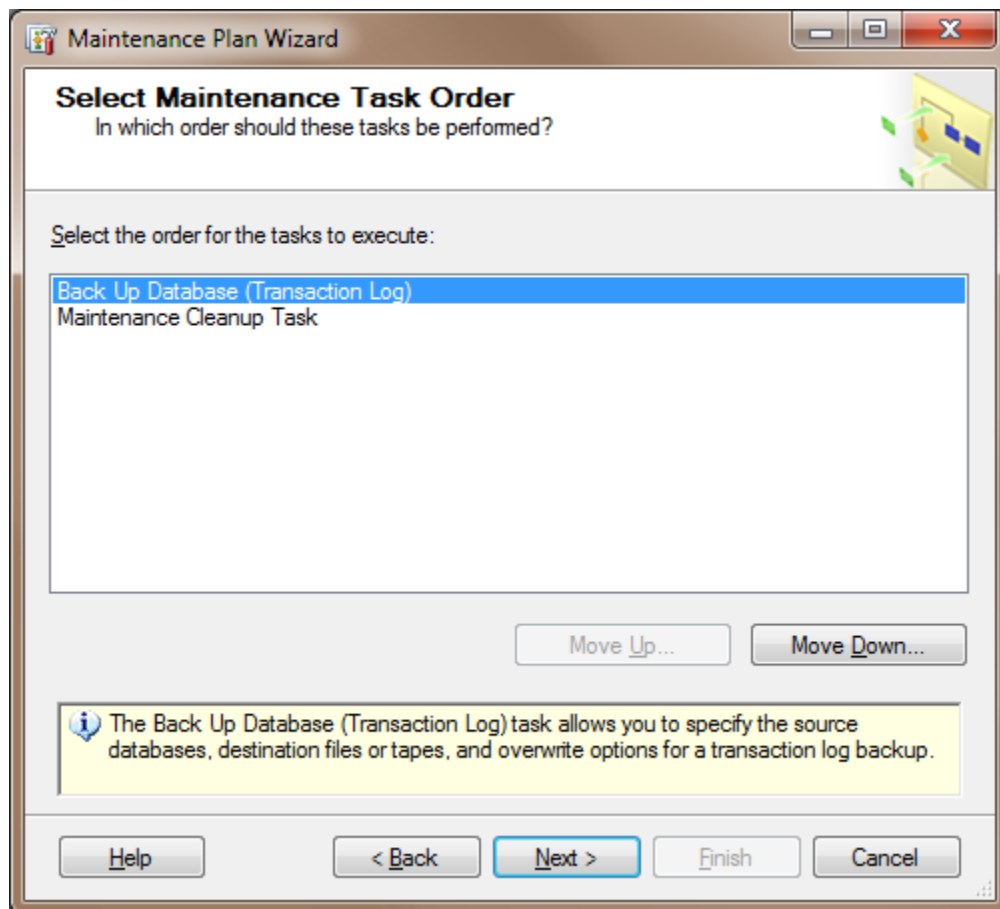
Schedule:
Occurs every week on Tuesday, Thursday, Friday at 2:00:00 AM. [Change...](#)

[Help](#) [< Back](#) [Next >](#) [Finish](#) [Cancel](#)



Select **Back Up Database (Transaction Log)** maintenance task & **Maintenance Cleanup Task**.

Click **Next**.



Click **Next**.

Maintenance Plan Wizard

Define Back Up Database (Transaction Log) Task

Configure the maintenance task.

Backup type: Transaction Log

Database(s): <Select one or more>

Backup component

☒ Database

☐ Files and filegroups:

☐ Backup set will expire:

☒ After 14 days

☐ On 8/18/2010

Back up to: ☒ Disk ☐ Tape

☒ Back up databases across one or more files:

If backup files exist: Append

☒ Create a backup file for every database

☐ Create a sub-directory for each database

Folder: C:\Program Files\Microsoft SQL Server\MSSQL10.MSSQLSER

Backup file extension: tm

☐ Verify backup integrity

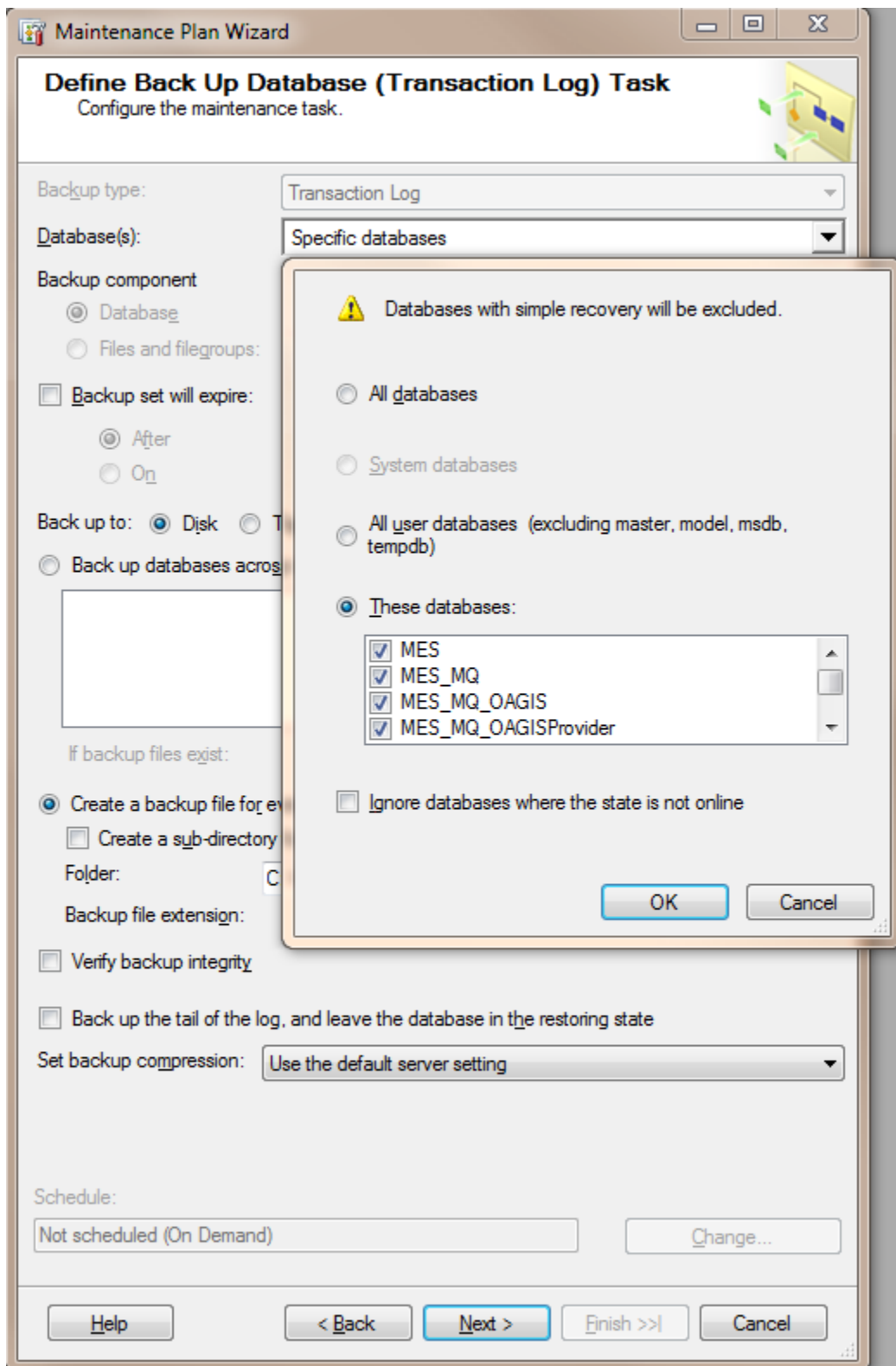
☐ Back up the tail of the log, and leave the database in the restoring state

Set backup compression: Use the default server setting

Schedule:

Not scheduled (On Demand)

Click **<Select one or more>** databases.



Select **These databases**.

Select the MES SQL databases.

NOTE: The names of your MES SQL databases may be different than shown above.

NOTE: If you have multiple environments, select all MES SQL databases.

IMPORTANT: Do NOT select the MES_InforXA (or <database root name>_InforXA) databases. Only databases that are set to use SQL Server's FULL recovery model can have their transaction log backed up. MES_InforXA database is usually set to SIMPLE recovery model and therefore, its transaction log cannot be backed up.

Click **OK**.

The screenshot shows the 'Maintenance Plan Wizard' window, specifically the 'Define Back Up Database (Transaction Log) Task' step. The window has a title bar with standard Windows controls. The main area is titled 'Define Back Up Database (Transaction Log) Task' with a subtitle 'Configure the maintenance task.' and a small icon of a folder with arrows. The configuration options are as follows:

- Backup type:** Transaction Log (dropdown menu)
- Database(s):** Specific databases (dropdown menu)
- Backup component:** Database (selected radio button), Files and filegroups: (empty text box with a browse button)
- Backup set will expire:** (checked checkbox)
 - After 14 days (selected radio button)
 - On 8/18/2010 (radio button)
- Back up to:** Disk (selected radio button), Tape (radio button)
- Back up databases across one or more files:** (radio button)
 - Empty list box
 - Buttons: Add..., Remove, Contents
- If backup files exist:** Append (dropdown menu)
- Create a backup file for every database:** (selected radio button)
 - Create a sub-directory for each database:** (checked checkbox)
 - Folder:** C:\Program Files\Microsoft SQL Server\MSSQL10.MSSQLSER (text box with browse button)
 - Backup file extension:** tm (text box)
- Verify backup integrity:** (checked checkbox)
- Back up the tail of the log, and leave the database in the restoring state:** (unchecked checkbox)
- Set backup compression:** Use the default server setting (dropdown menu)
- Schedule:** Not scheduled (On Demand) (text box with a 'Change...' button)

At the bottom, there are navigation buttons: Help, < Back, Next > (highlighted in blue), Finish >>, and Cancel.

Select the backup destination—**Disk** or **Tape**.

Specify the appropriate information for either a disk or tape backup.

If the transaction log backups are being kept for disaster recovery purposes:

For easier organization, select **Create a sub-directory for each database**.

Select **Verify backup integrity** to ensure the database can be restored from the media.

If the transaction log backups are being immediately discarded:

Select **Back up databases across one or more files**.

Click **Add** to add a backup file location.

Select to **Overwrite** the backup file if it exists.

Unselect **Verify backup integrity**.

Click **Next**.

The screenshot shows the 'Maintenance Plan Wizard' window, specifically the 'Define Maintenance Cleanup Task' step. The window has a title bar with standard Windows controls. The main area is titled 'Define Maintenance Cleanup Task' with the subtitle 'Configure the maintenance task.' and a small icon of a folder with arrows. The configuration options are as follows:

- Delete files of the following type:**
 - ☒ Backup files
 - ☐ Maintenance Plan text reports
- File location:**
 - ☐ Delete specific file
 - File name:
 - ☒ Search folder and delete files based on an extension
 - Folder:
 - File extension:
 - ☐ Include first-level subfolders
- File age:**
 - ☒ Delete files based on the age of the file at task run time
 - Delete files older than the following:
 - 4 Week(s)
- Schedule:**
 - Not scheduled (On Demand)

At the bottom, there are five buttons: 'Help', '< Back', 'Next >' (highlighted in blue), 'Finish >>', and 'Cancel'.

Define the SQL Server Backup folder location.

Check **Include first-level subfolders**.

Define the desired retention period.

Maintenance Cleanup Task

Connection: Local server connection New...

Delete files of the following type:

- ☒ Backup files
- ☐ Maintenance Plan text reports

File location:

- ☐ Delete specific file
- ☒ Search folder and delete files based on an extension

File name: ...

Folder: C:\Program Files\Microsoft SQL Server\MSSQL1 ...

File extension:

☒ Include first-level subfolders

File age:

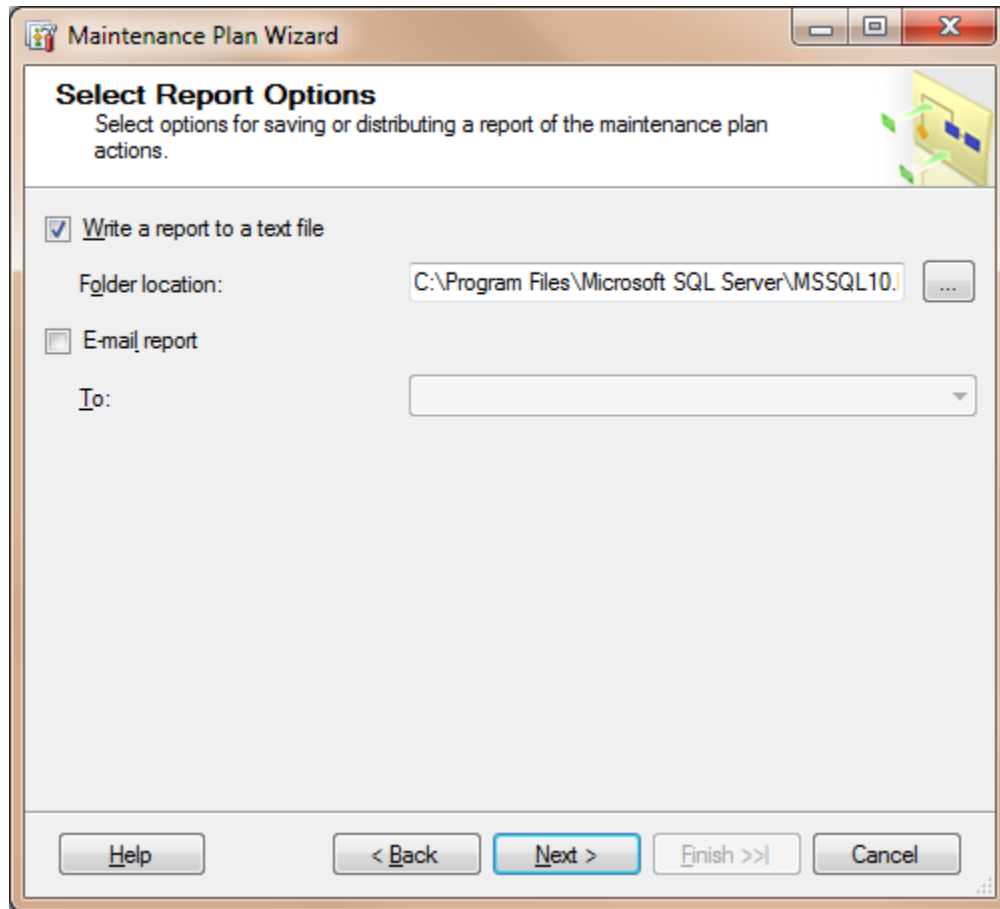
- ☒ Delete files based on the age of the file at task run time

Delete files older than the following:

Week(s)

OK Cancel View T-SQL Help

Click **Next**.

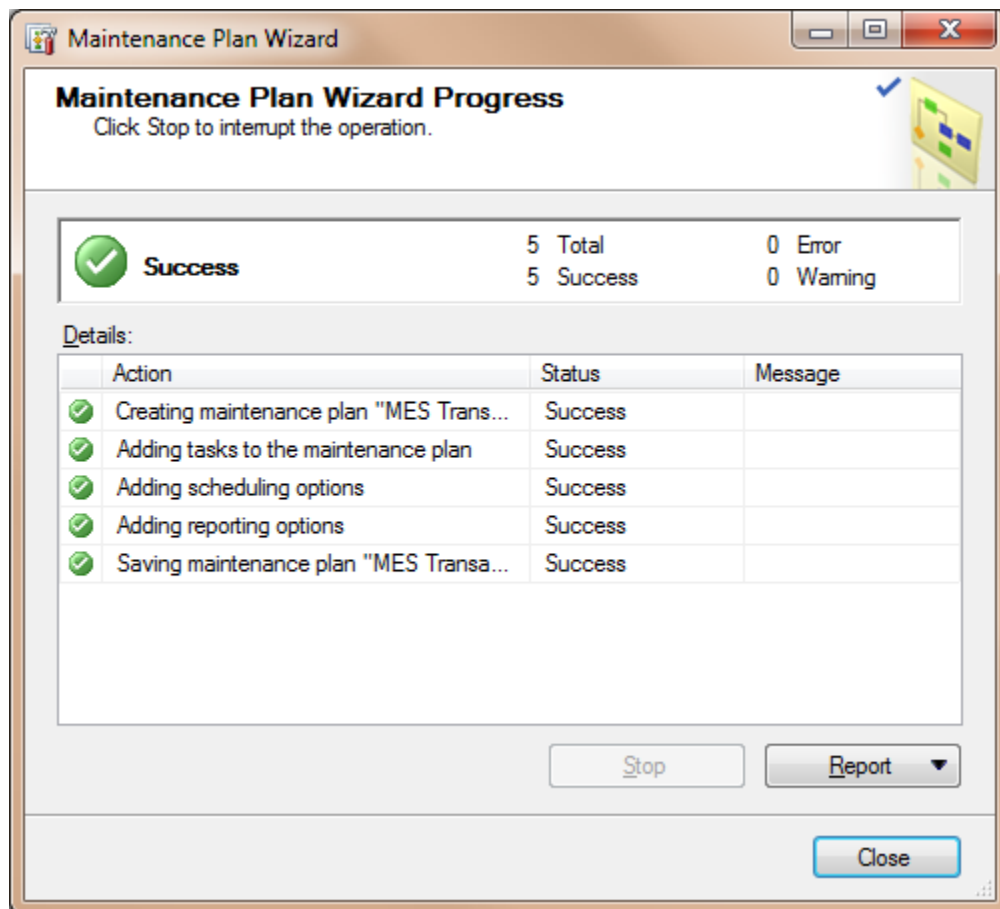


If you wish to Write a report to a text file, define the folder location.

Select the report options as desired.

TIP: To send an e-mail report, configure SQL Server 2005's Database Mail and a SQL Server Agent Operator first. Refer to SQL Server 2008 Books Online.

Click **Next**.



Click **Close**.

This maintenance plan will create one SQL Server Agent Job.

To view the SQL Server Agent Jobs:

4. Expand **SQL Server Agent**.
5. Click **Jobs**.
6. If the jobs do not appear, right-click in the right pane and select **Refresh**.

NOTE: SQL Server Agent must be running for the scheduled jobs to execute.

TIP: Refer to **Backing Up and Restoring Databases** in SQL Server 2005 Books Online for additional information.