

MES DATABASE UTILITY

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Update History			
Date	Doc Version	Description	Product Version
	1.0	Release	Release
07/10/2019	1.1	Microsoft SQL Server Management Studio Update	2017

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.

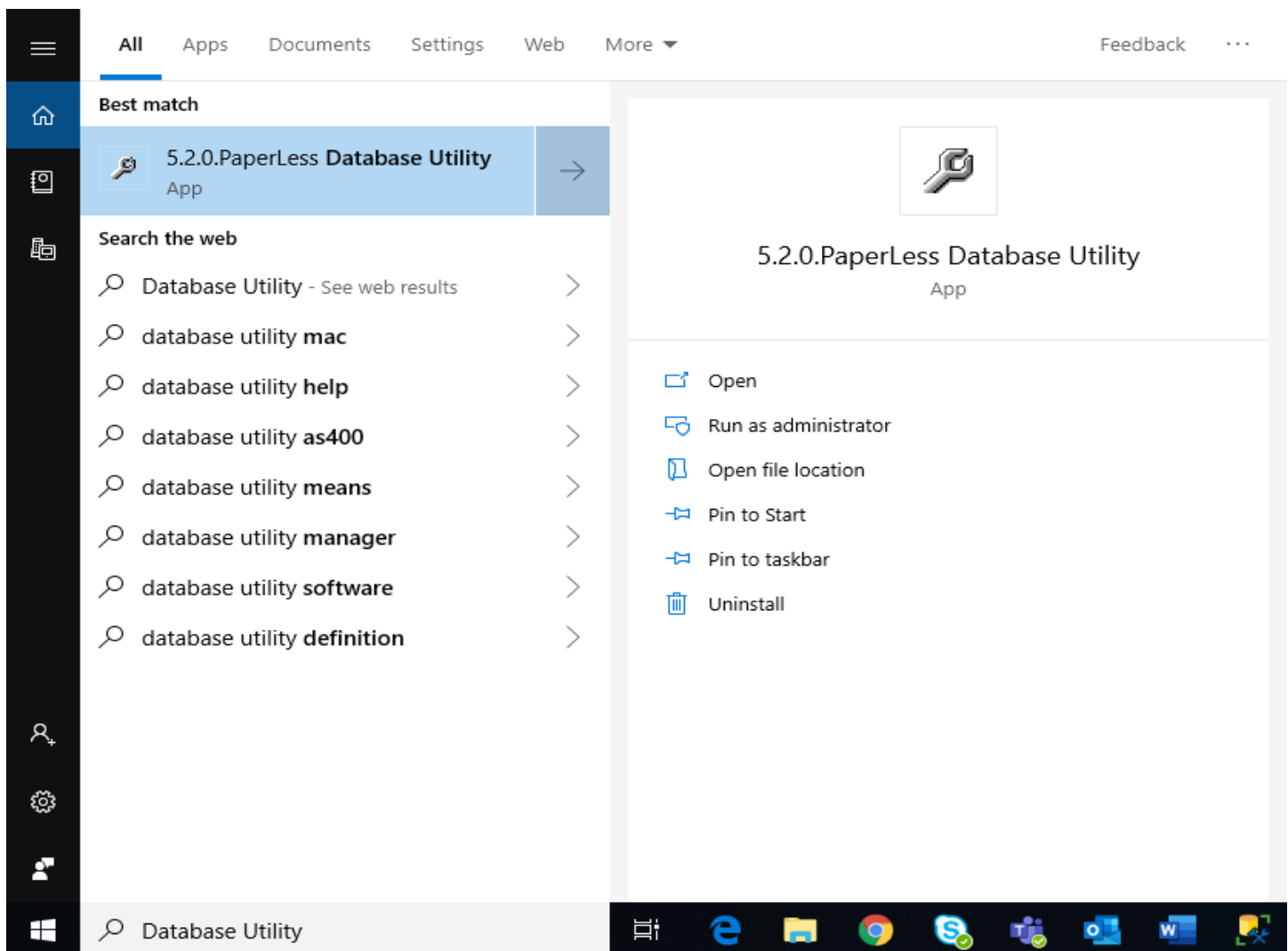
NOTES

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.

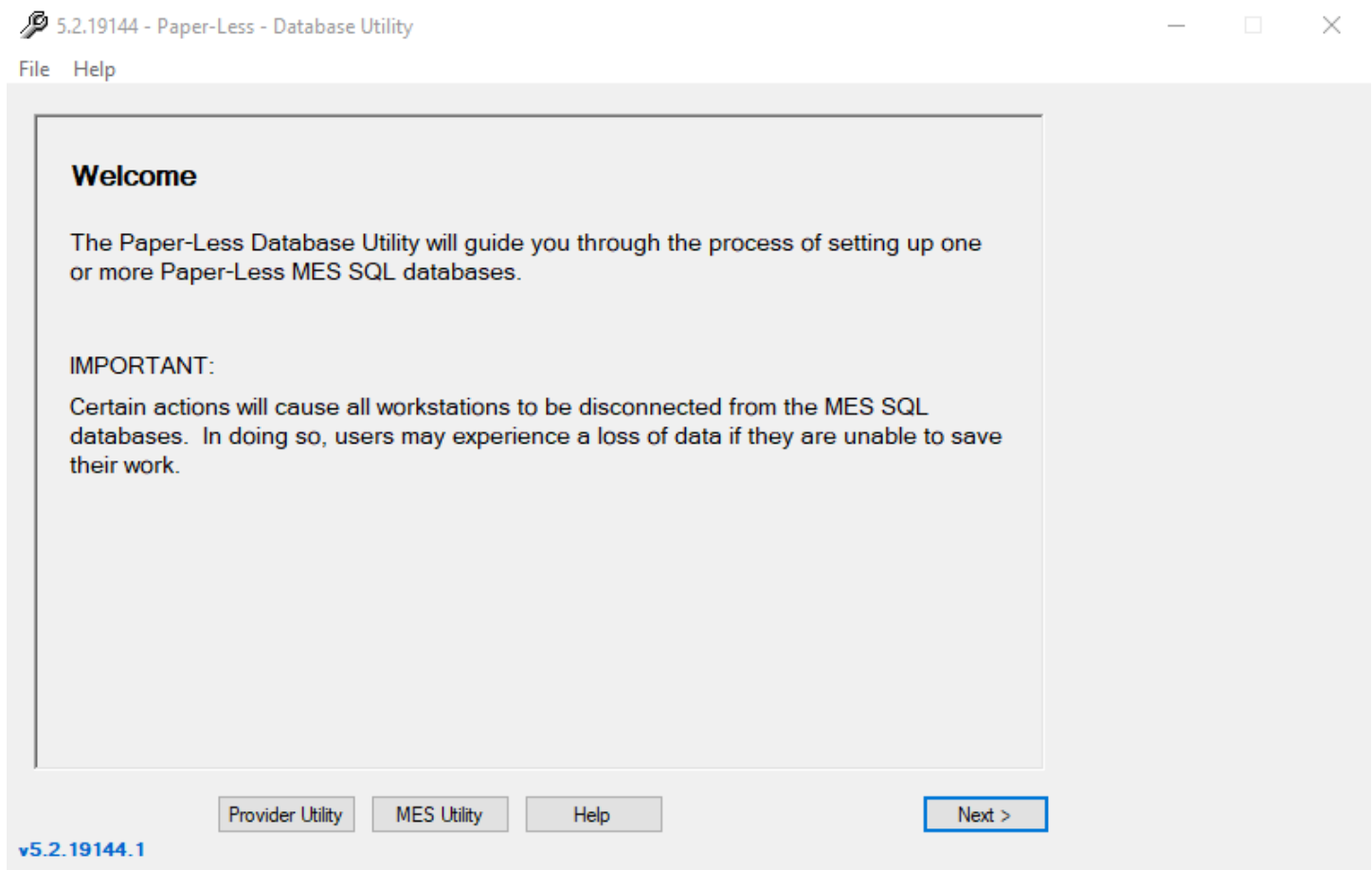
WELCOME

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 window titled "5.2.19144 - Paper-Less - Database Utility" with a menu bar containing "File" and "Help". The main content area is titled "Specify the Connection to SQL Server." and contains the following elements:

- A text box labeled "SQL Server:" containing the value "(local)".
- An unchecked checkbox labeled "Use fully qualified xp_cmdshell statements".
- A note: "NOTE: You must connect as a SQL Server system administrator."
- Two radio buttons: "Use Windows Authentication" (which is selected) and "Use SQL Server Authentication".
- A group box containing:
 - A "Username" text box.
 - A "Password:" text box.
 - A label "Username and Password are NOT saved."
- A "Test Connection" button.
- A section for "SQL Server Backup Folder" with a text box containing "C:\Program Files\Microsoft SQL Server\MSSQL14.MSSQLSERVER\MSSQL\Backup" and a browse button "...".
- A note: "This folder must be located on the computer running SQL Server. Mapped drives, network shares and UNC paths are not supported."

At the bottom of the window, there is a status bar with the text "v5.2.19144.1" and a row of buttons: "Provider Utility", "MES Utility", "Help", "< Back", and "Next >".

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.

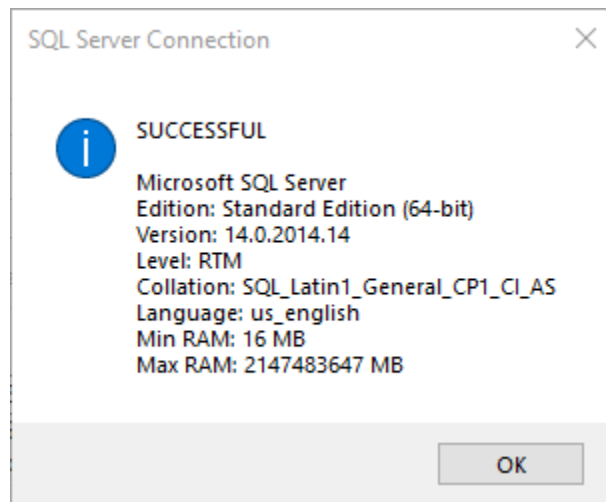
SQL Server Backup Folder: Several actions involve backing up the Paper-Less MES SQL databases. The folder specified here must exist on the computer running SQL Server. Mapped drives, network shares and UNC paths are not supported.

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.

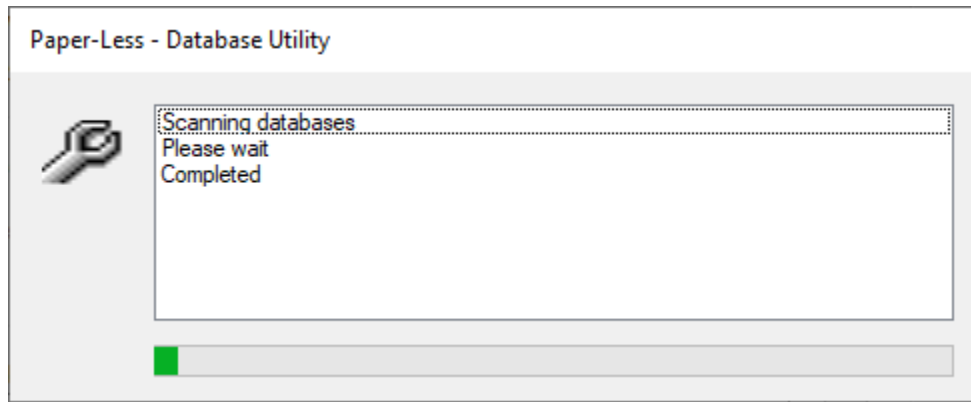
Test Connection: SQL Server connection information and backup folder location are automatically validated when the Next button is clicked. To see the validation results, click "Test Connection".

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



Click **OK**.

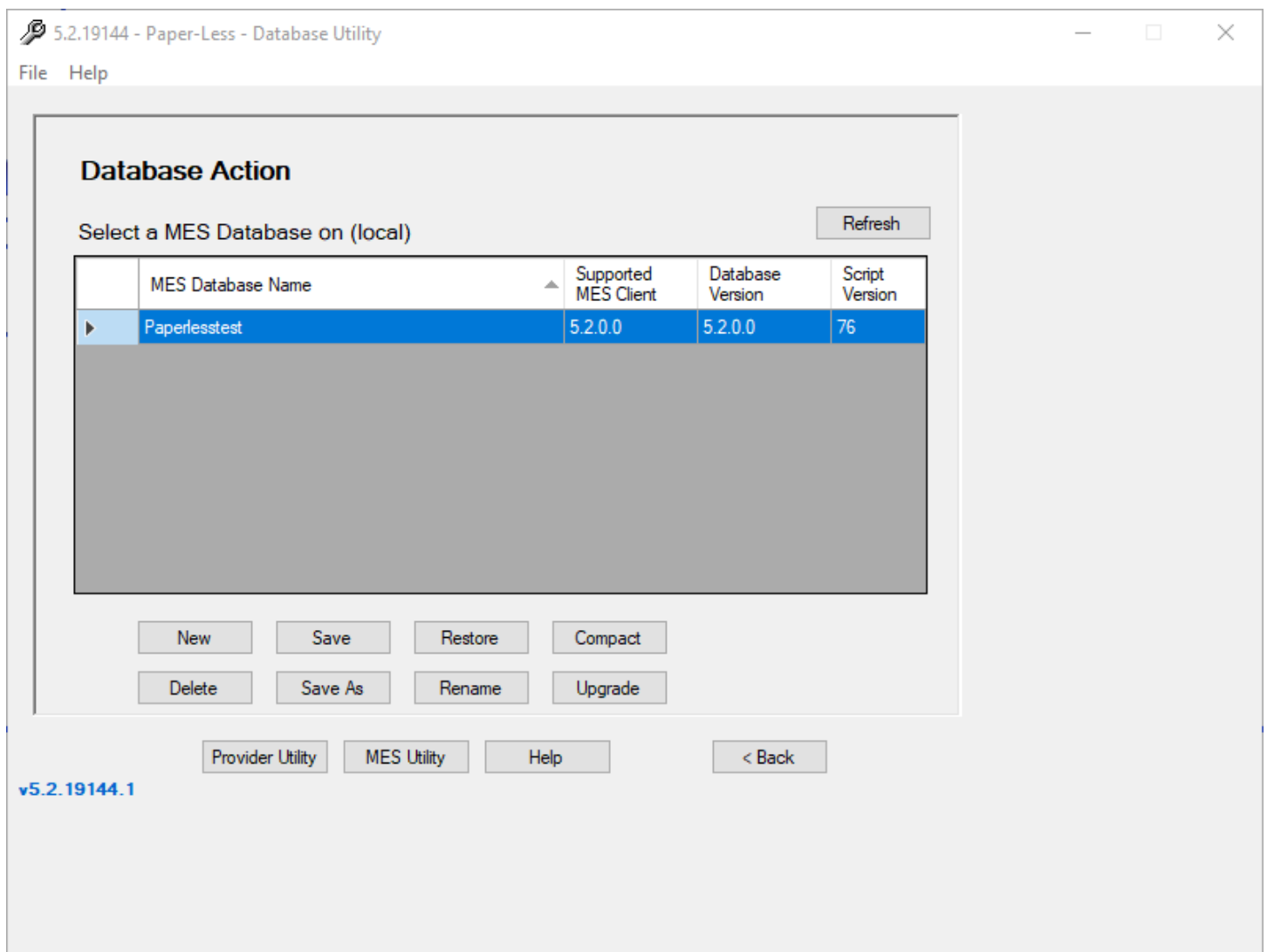
Click **Next** to continue.



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 (if possible) 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.

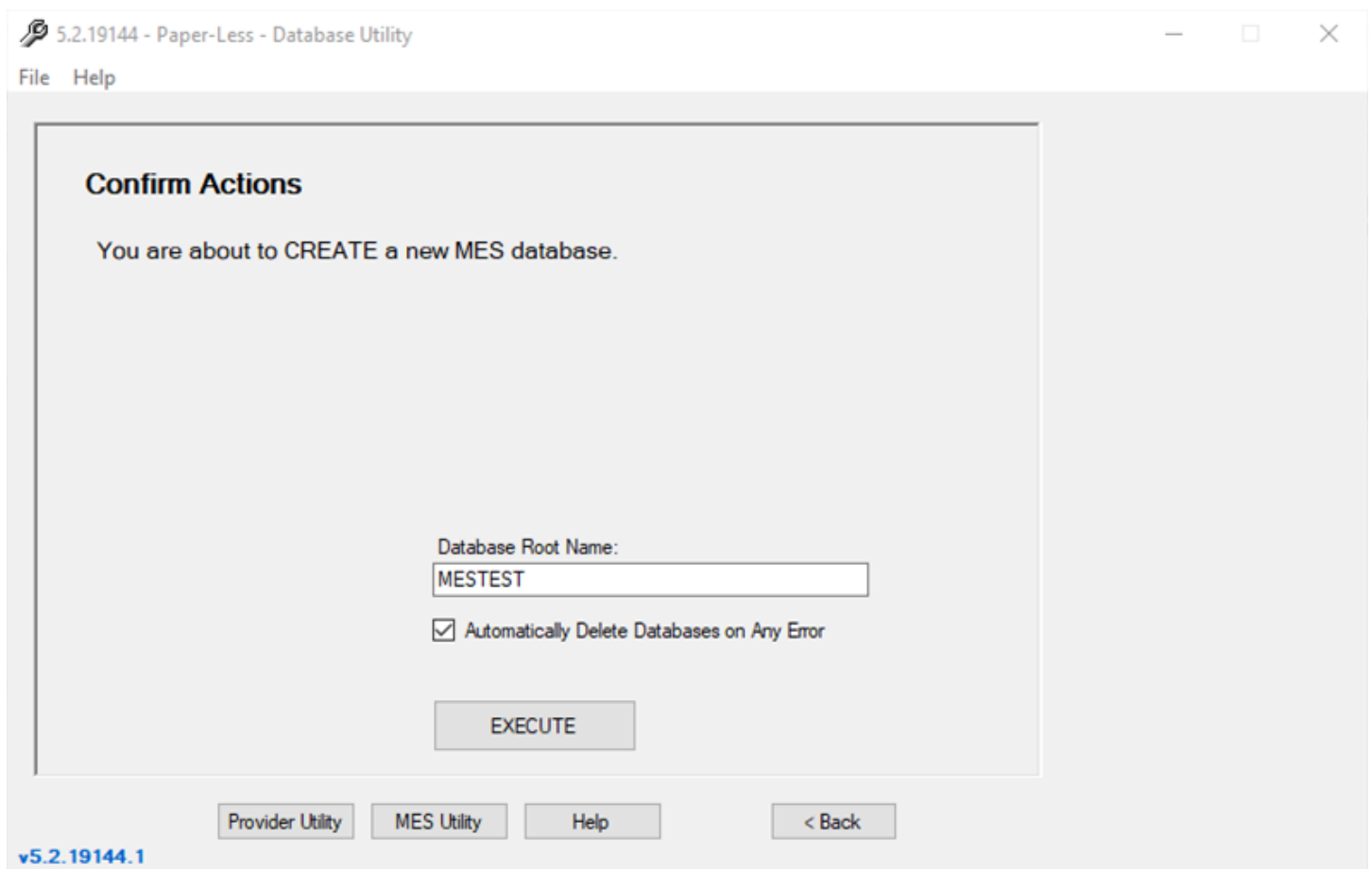
Click **Refresh** at any time to refresh the list of MES SQL databases.

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



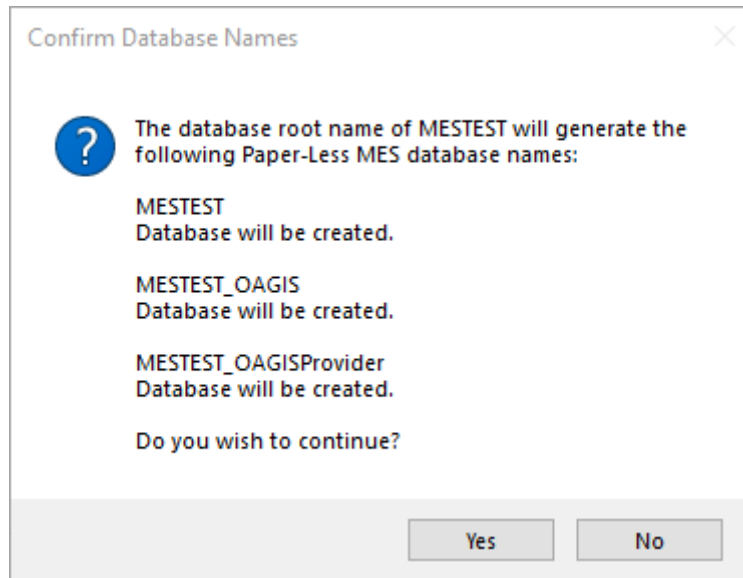
The screenshot shows a Windows-style application window titled "5.2.19144 - Paper-Less - Database Utility". It has a menu bar with "File" and "Help". The main content area is titled "Confirm Actions" and contains the text "You are about to CREATE a new MES database." Below this, there is a label "Database Root Name:" followed by a text input field containing "MESTEST". Underneath the input field is a checked checkbox labeled "Automatically Delete Databases on Any Error". At the bottom of the main area is a button labeled "EXECUTE". At the very bottom of the window, there is a status bar with the text "v5.2.19144.1" on the left and four buttons: "Provider Utility", "MES Utility", "Help", and "< Back" on the right.

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.

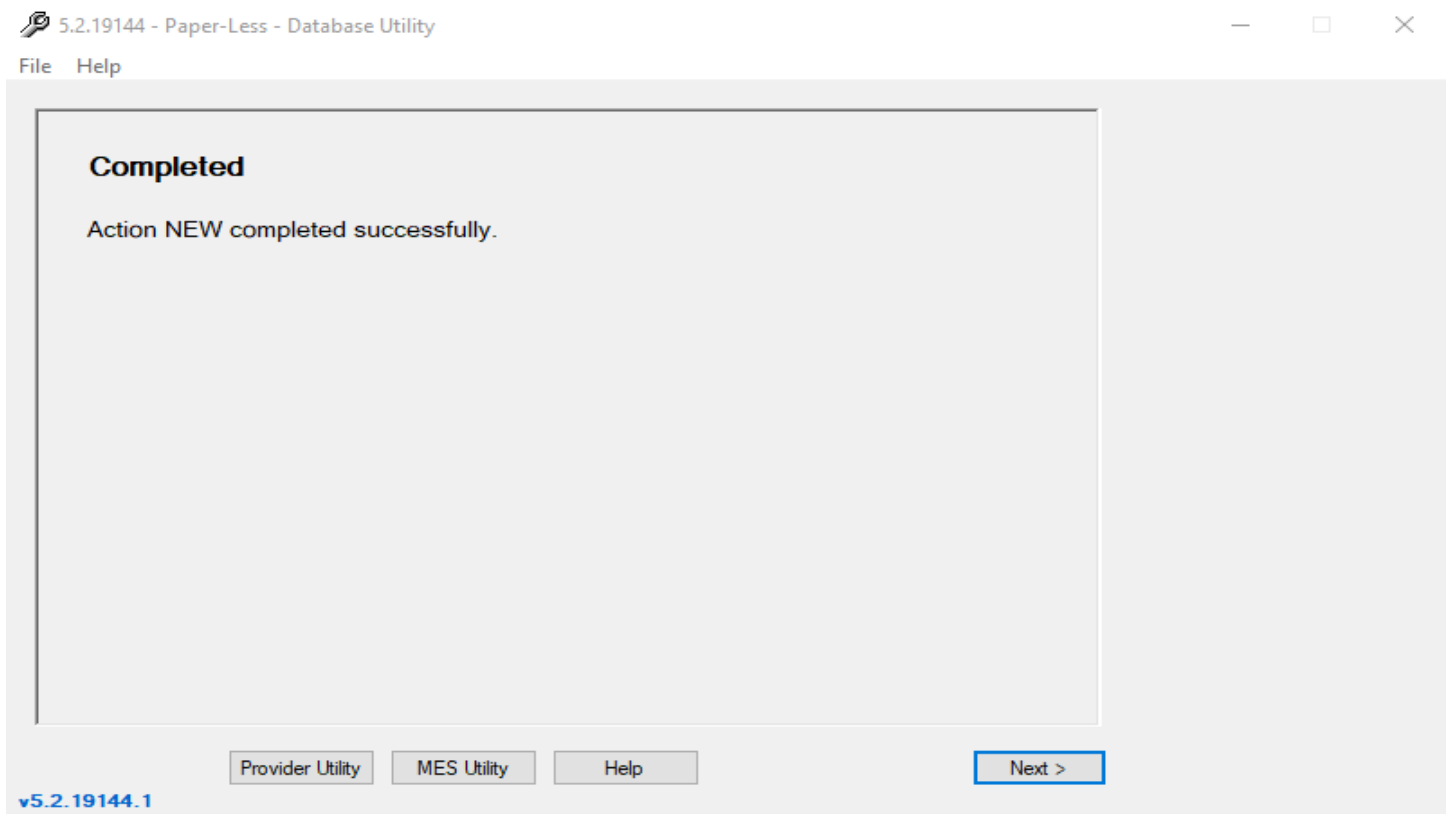
Then, it will check to see if the SQL databases already exist and/or any SQL backup files exist.

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

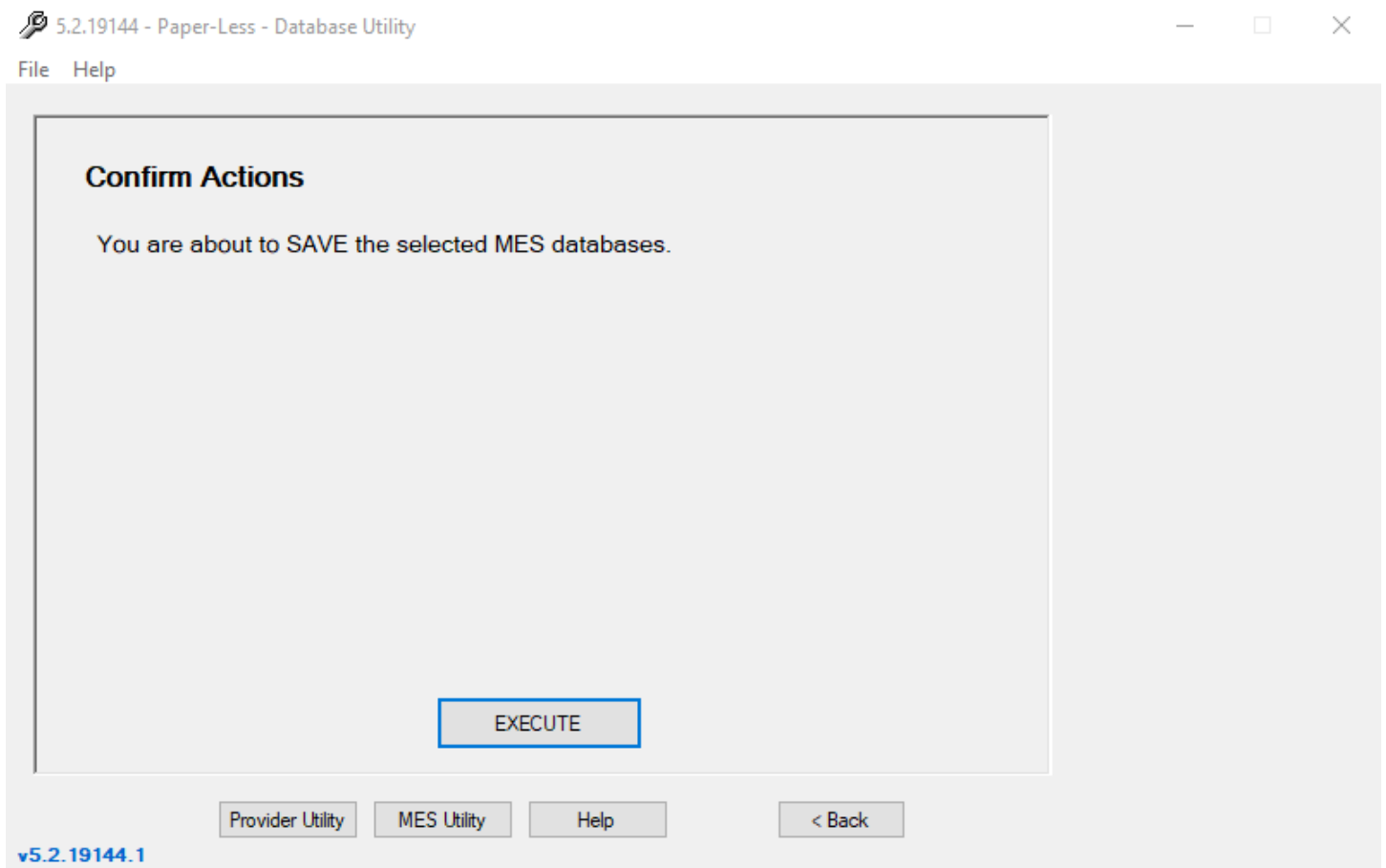
If the database names already exist, the database Utility will make you aware of it, asking you whether or not you'd like to continue and overwrite the existing ones.

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.

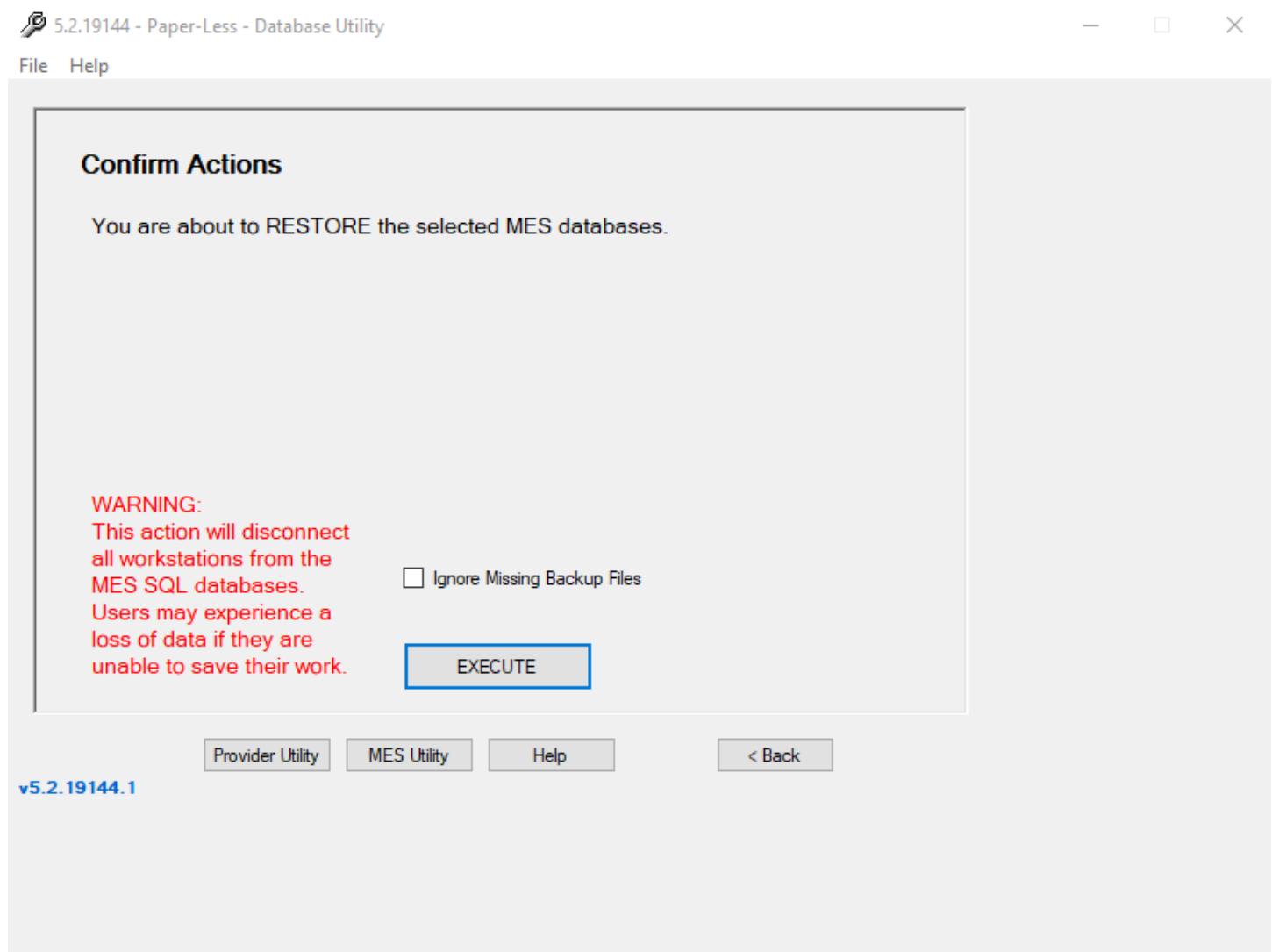
A folder is automatically created with the same name as the database root name.

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.

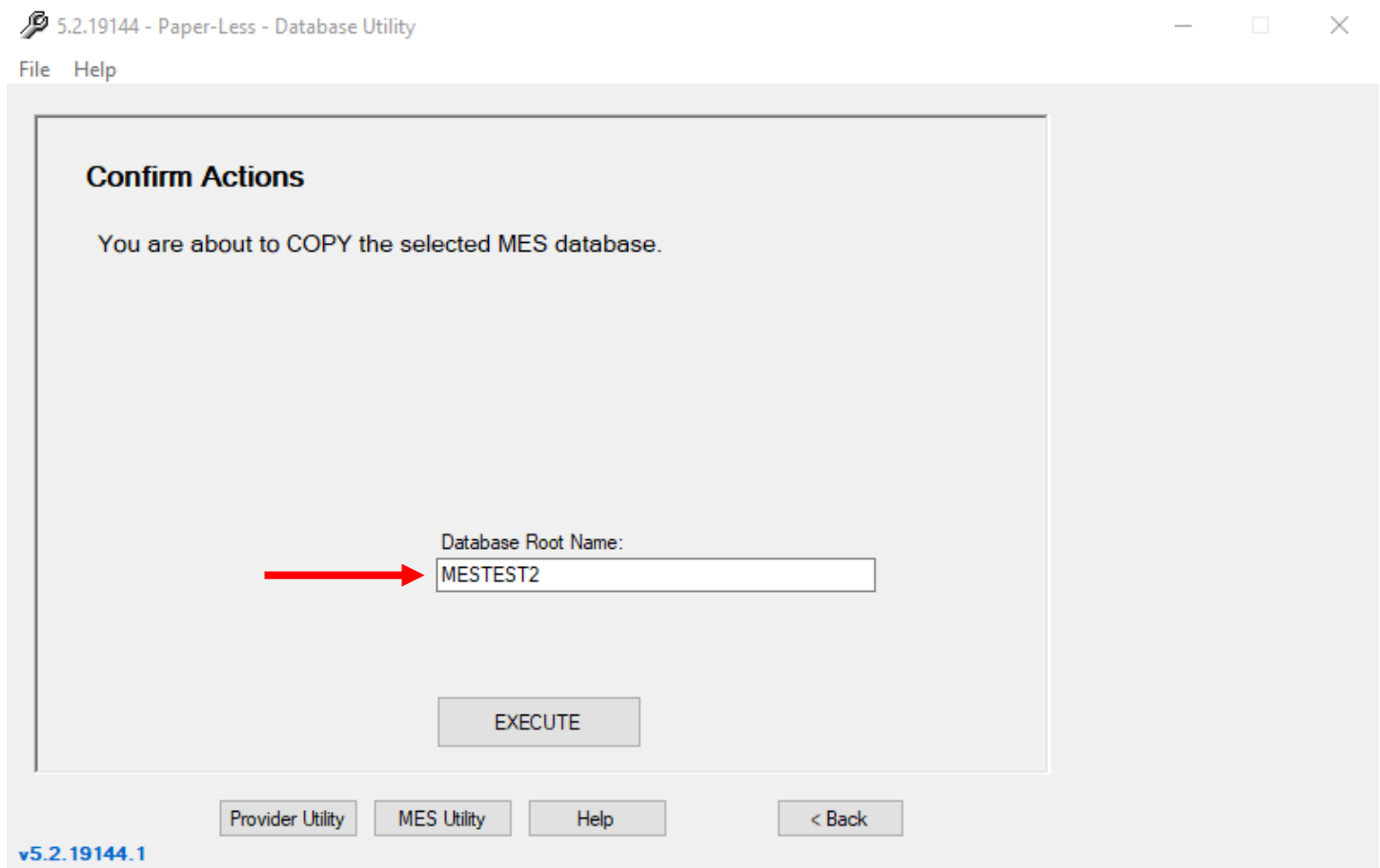
For example, test results are being entered in test entry for a specific manufacturing order. After the SQL databases are restored, the manufacturing order as well as the test header information may no longer exist causing the test entry screen to display an error message. Simply restart the Paper-Less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

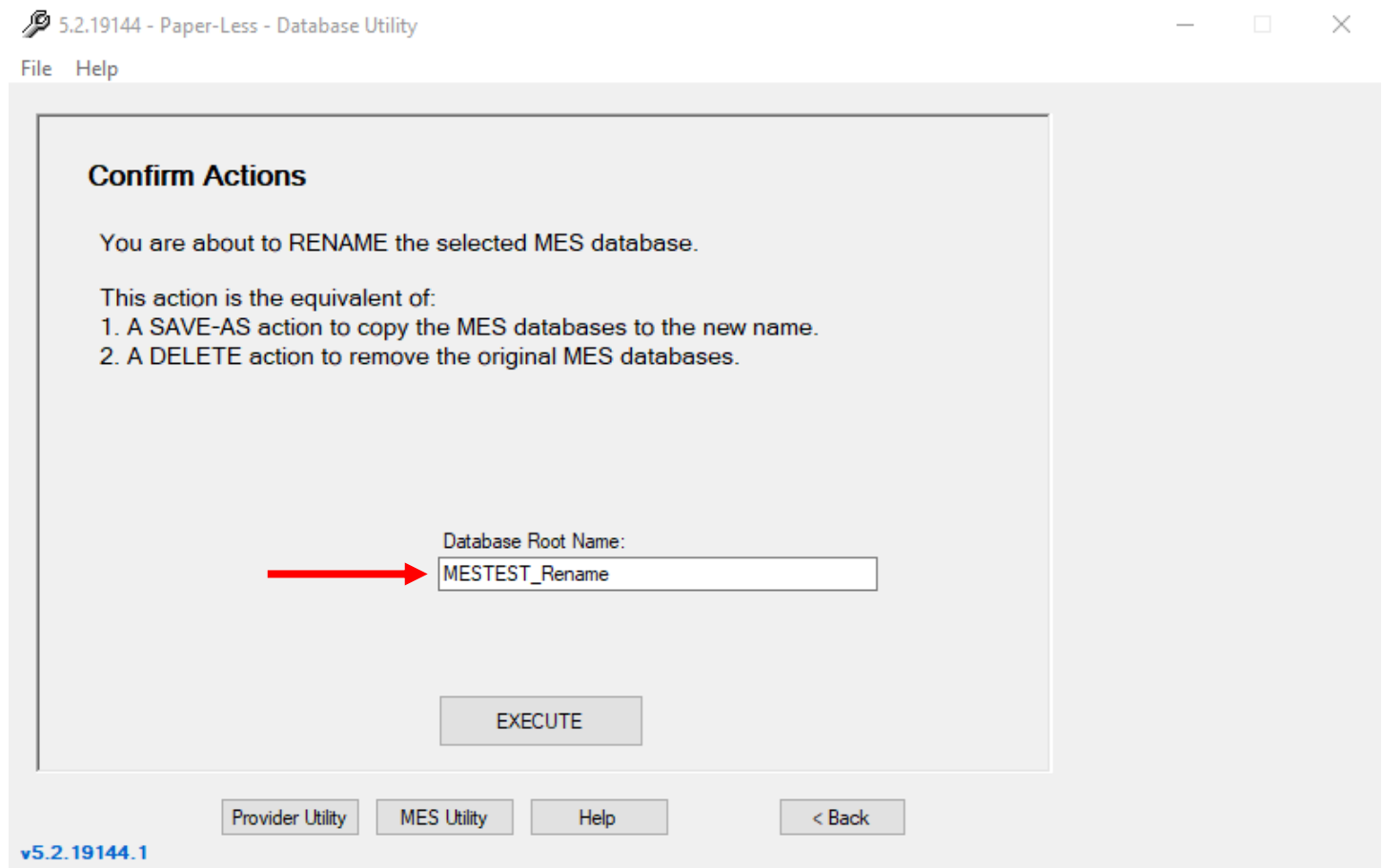
SAVE-AS



This action will copy the selected MES SQL database and its 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

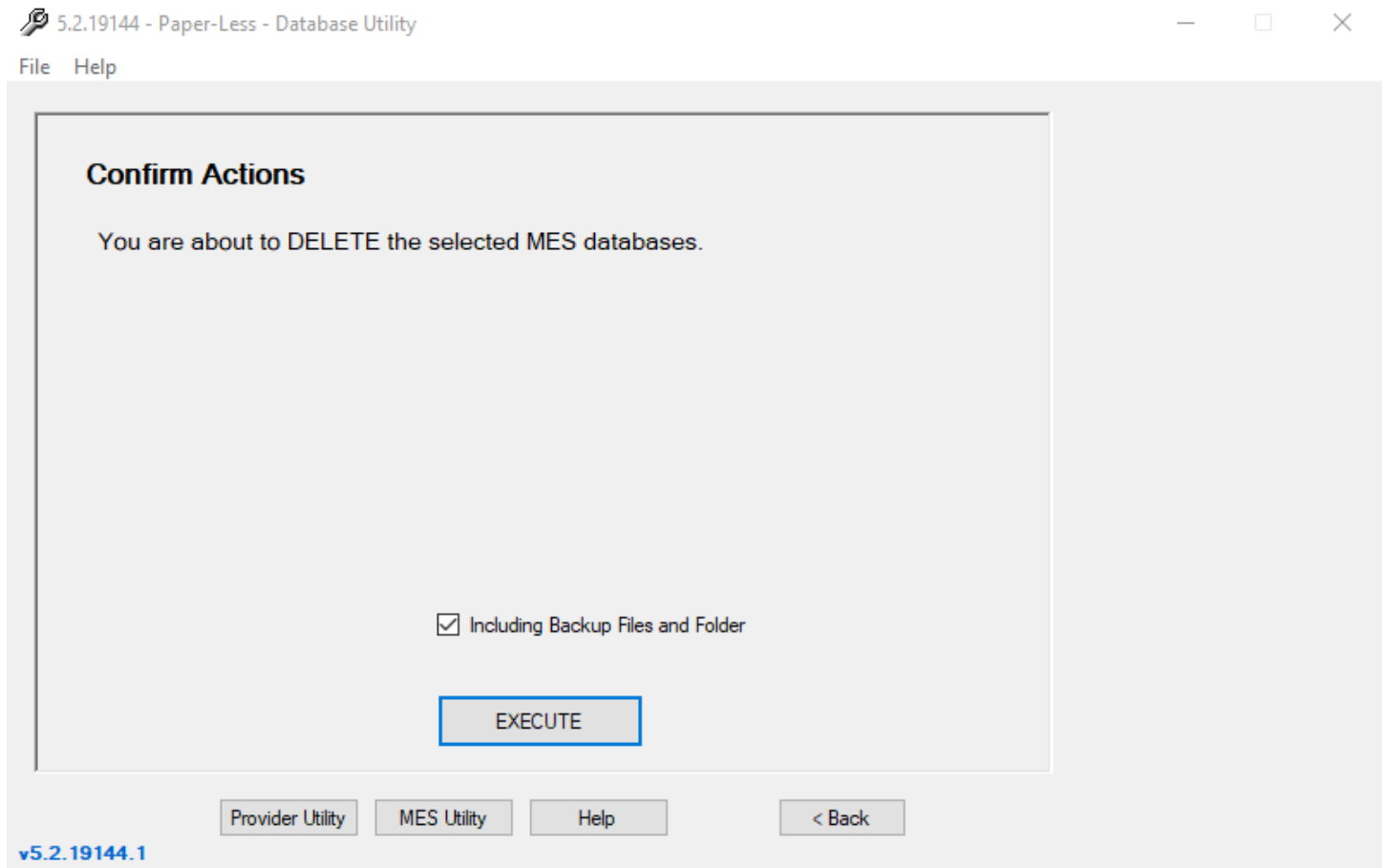


This action will rename the selected MES database and its supporting SQL databases.

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



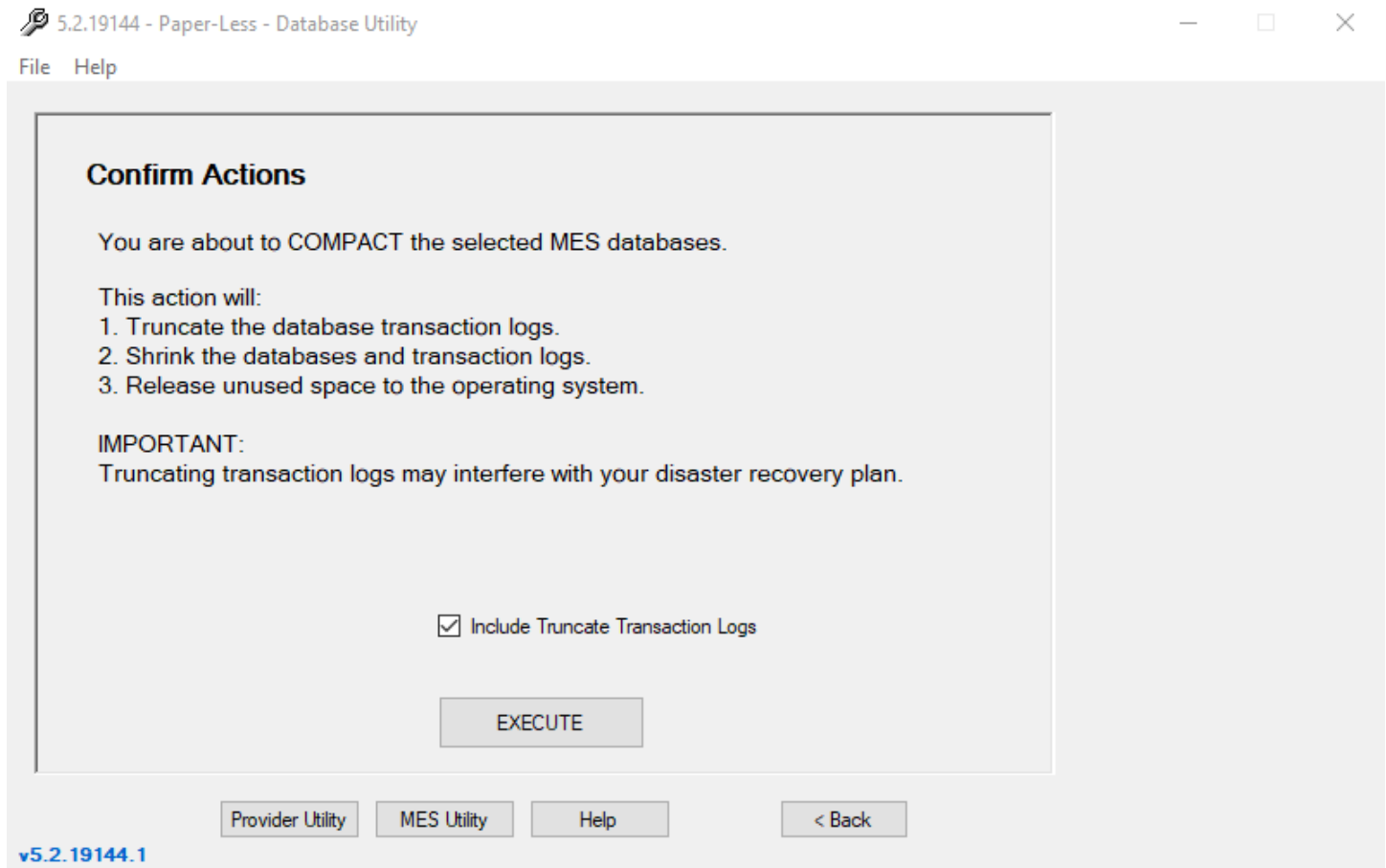
This action will delete the selected MES SQL databases and their supporting SQL databases.

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

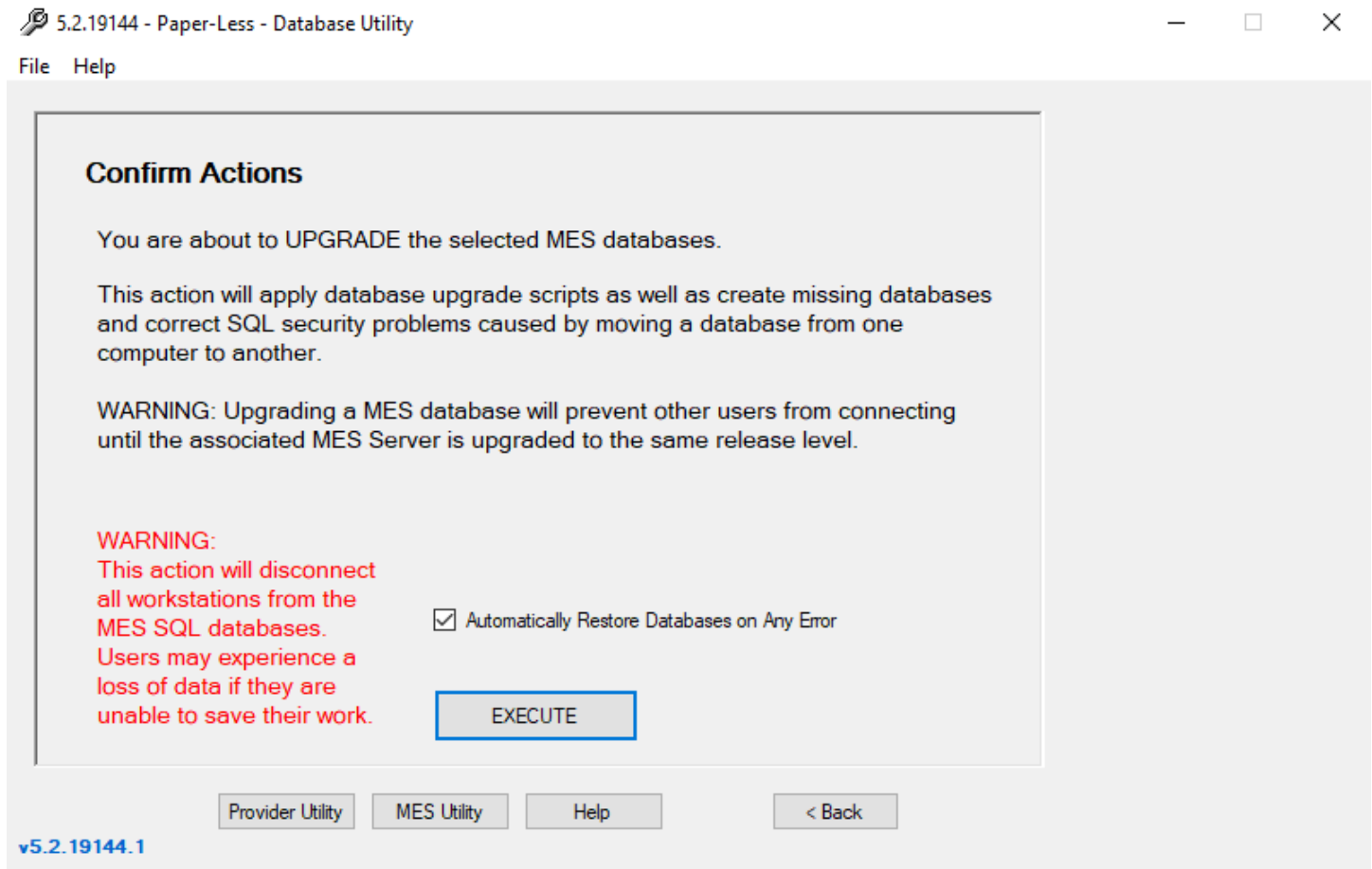


This action will compact the selected MES SQL databases and their supporting SQL databases.

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.

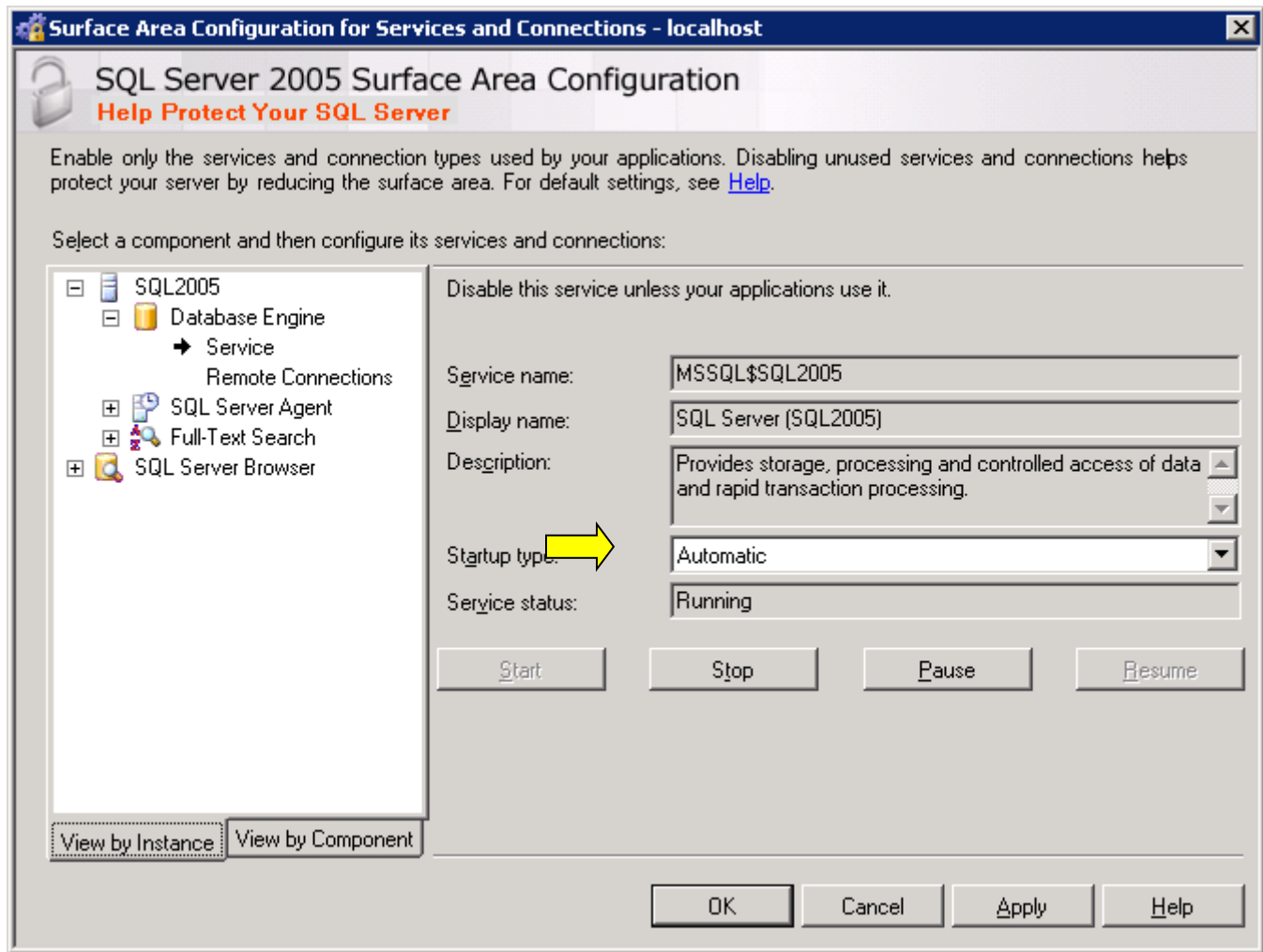
SQL SERVER 2005 AND SQL SERVER AGENT

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.

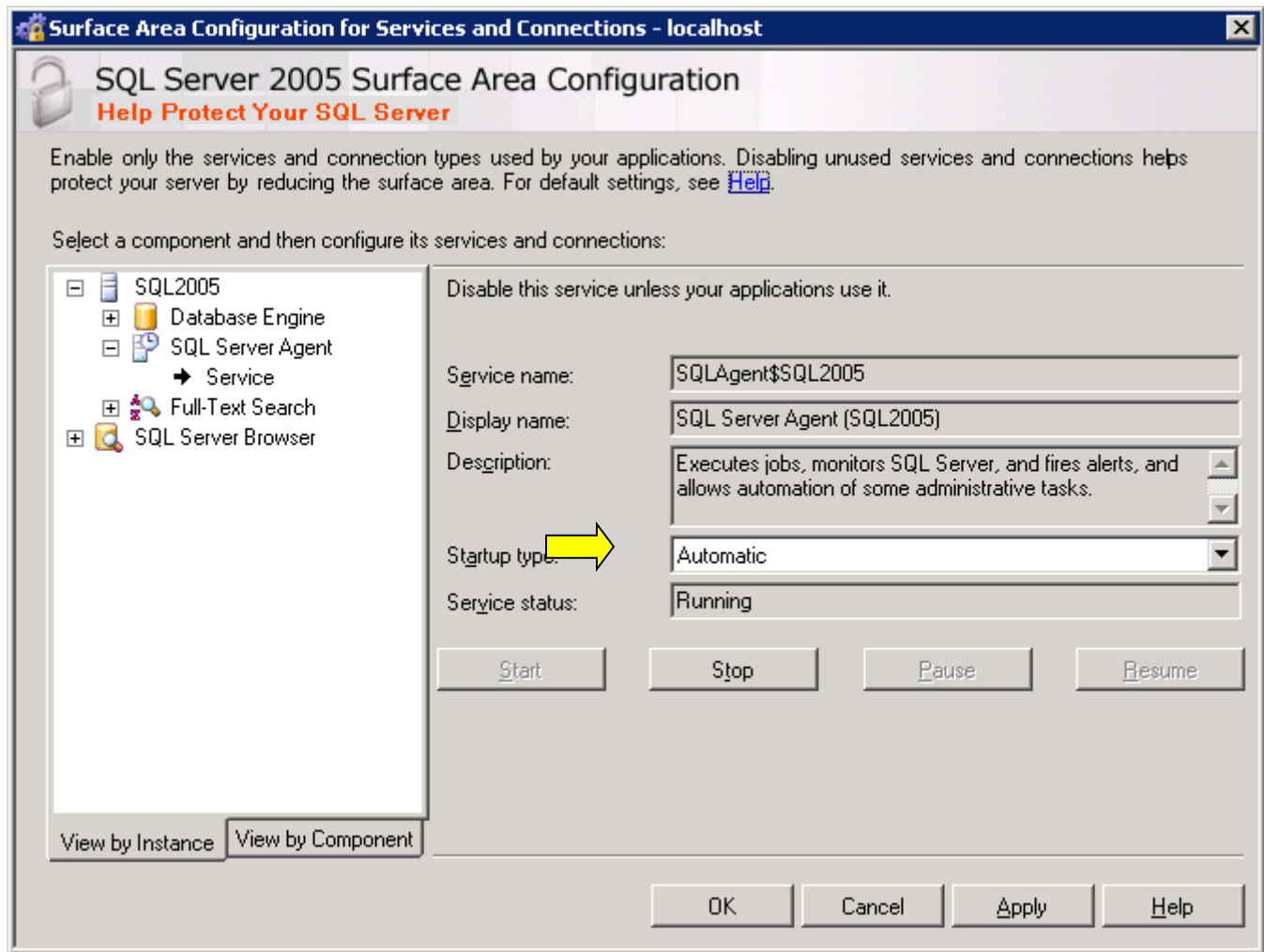
If the database engine is not running, click **Start**.

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**.

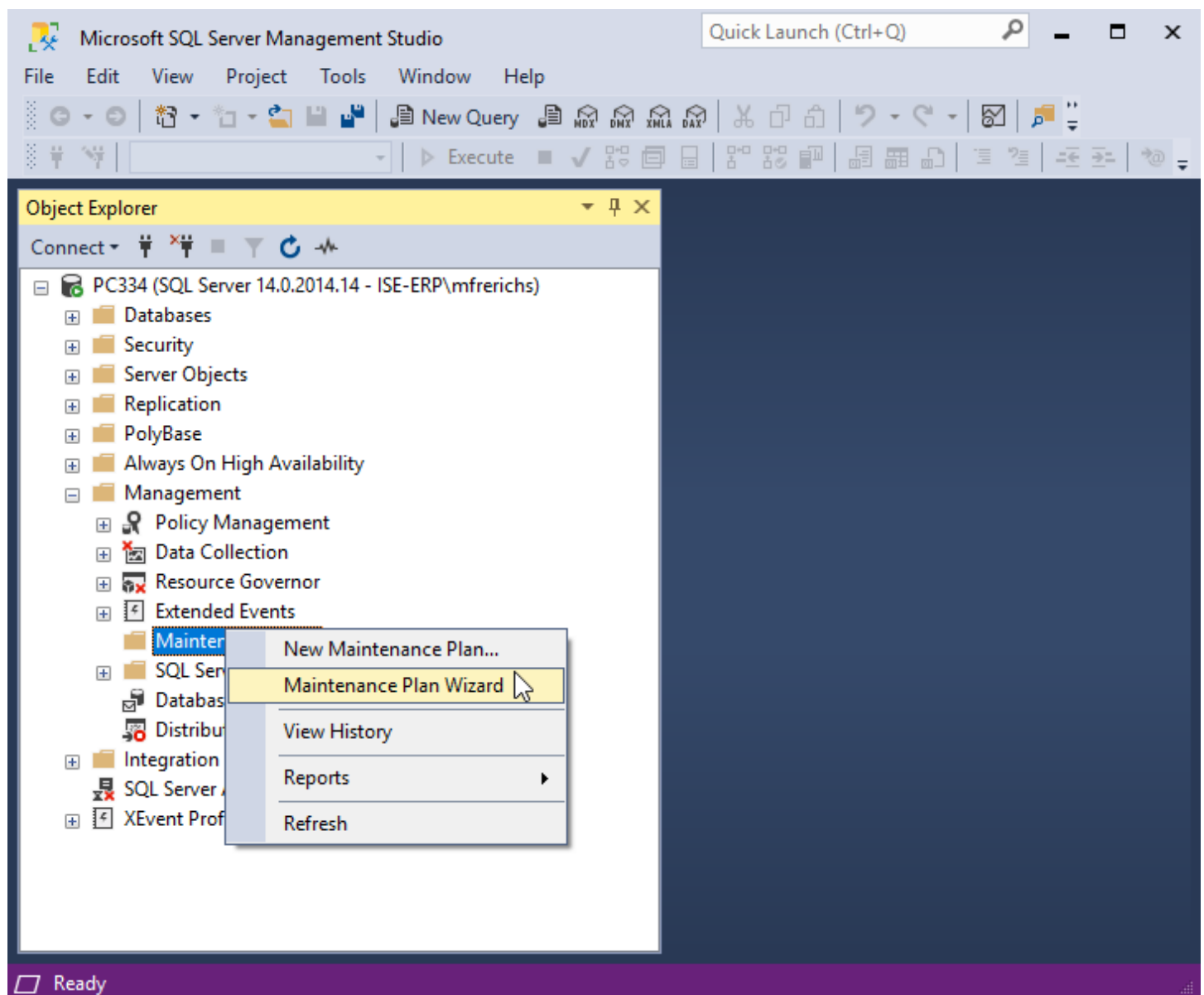
Both SQL Server and SQL Server Agent are now set to automatically start with the operating system.

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

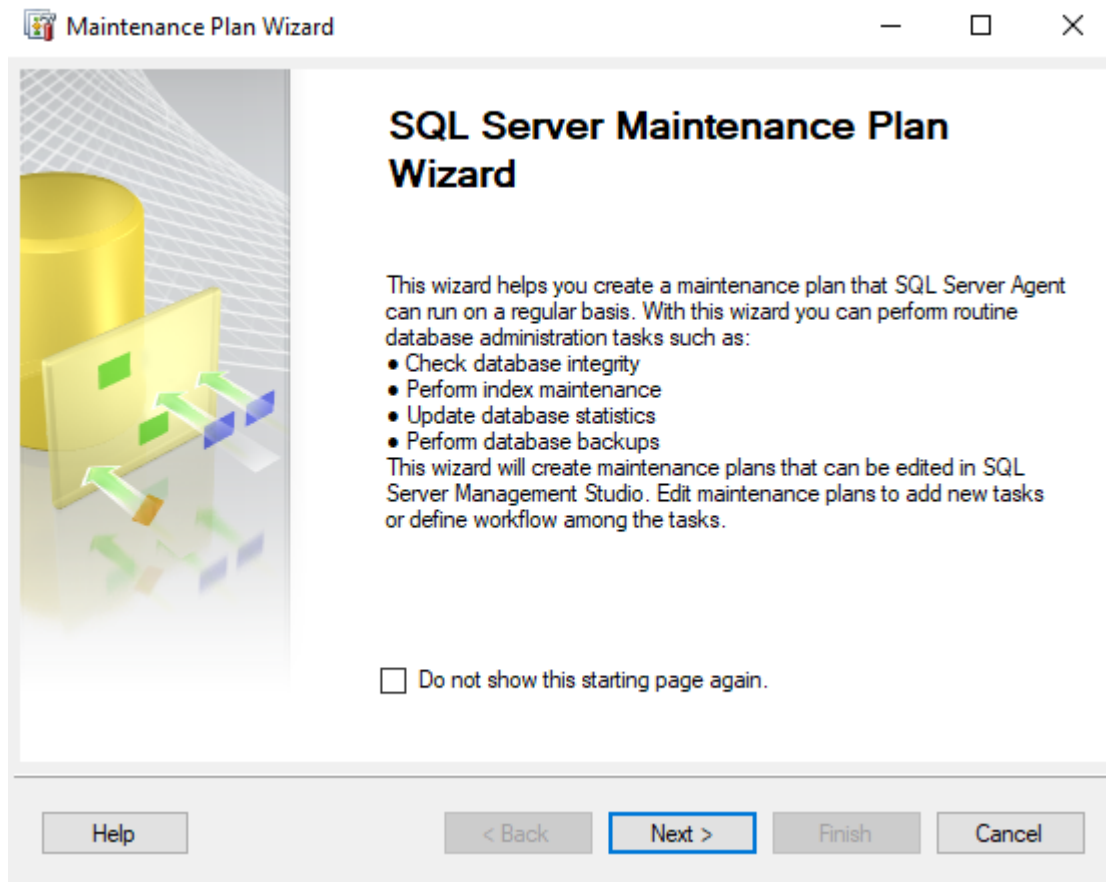
NOTE: This is not designed to be your sole backup strategy or disaster recovery plan.



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**.

Maintenance Plan Wizard

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

Name: CPM Databases

Description: Maintenance plan for the CPM SQL Databases.

Run as: SQL Server Agent service account


☐ 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

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


New Job Schedule
—
□
×

Name:

Schedule type:

Recuring
▼

☒ Enabled

Jobs in Schedule

One-time occurrence

Date:
Time:

Frequency

Occurs:

Weekly
▼

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

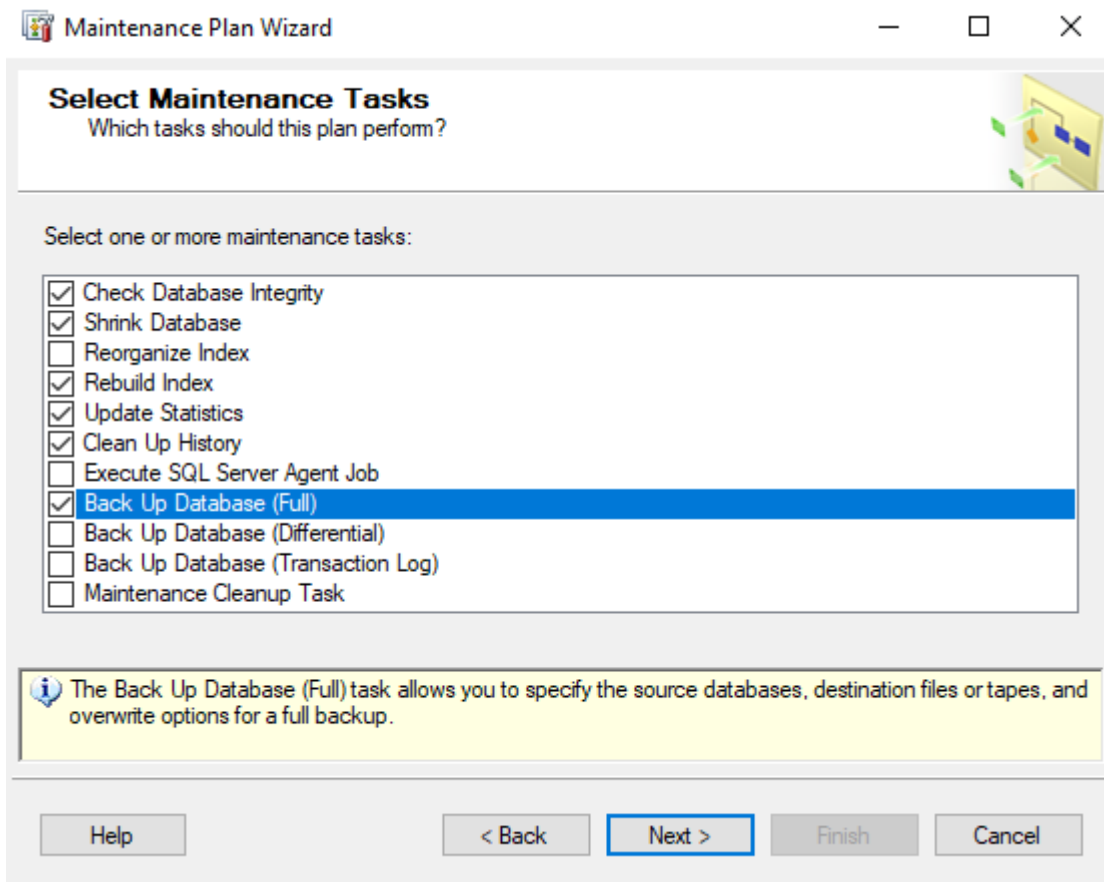
Description:

OK

Cancel

Help

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



Select the desired Maintenance Tasks.

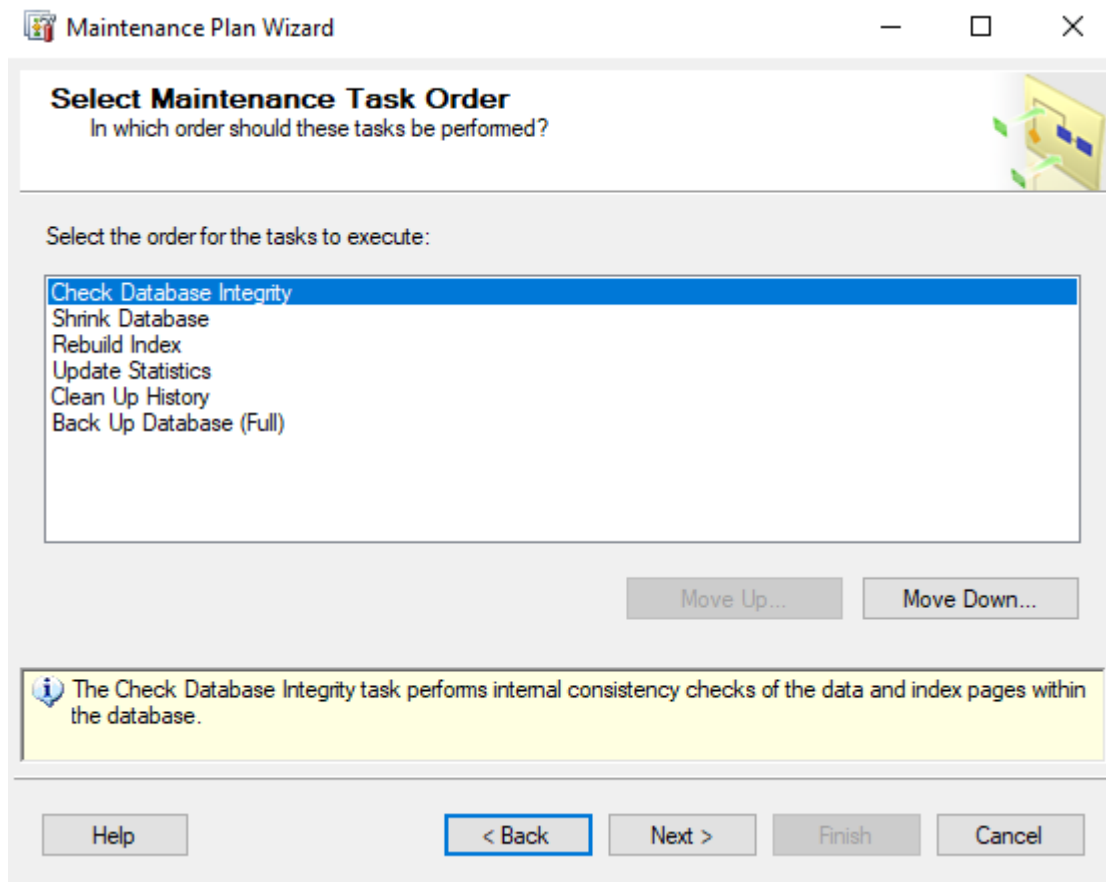
It is highly recommended that the following Maintenance Tasks be performed:

- 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**.

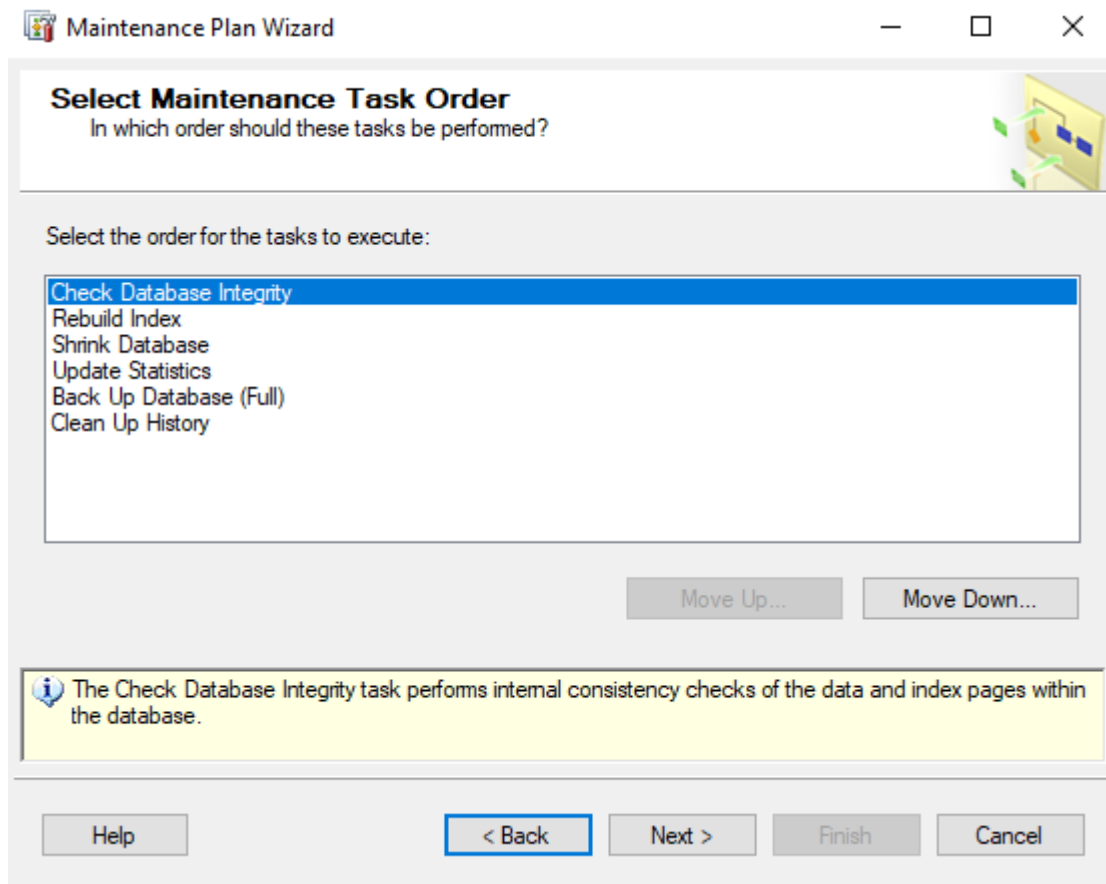


Select a Maintenance Task.

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**.

 Maintenance Plan Wizard

Define Database Check Integrity Task
Configure the maintenance task.

Databases: <Select one or more>

☒ Include indexes
☒ Physical Only
☐ Tablock
☐ Max Degree of Parallelism 1

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:

☐ model
☐ msdb
☒ Paperlesstest
☒ Paperlesstest_OAGIS
☒ Paperlesstest_OAGISProvider

☐ Ignore databases where the state is not online

OK Cancel

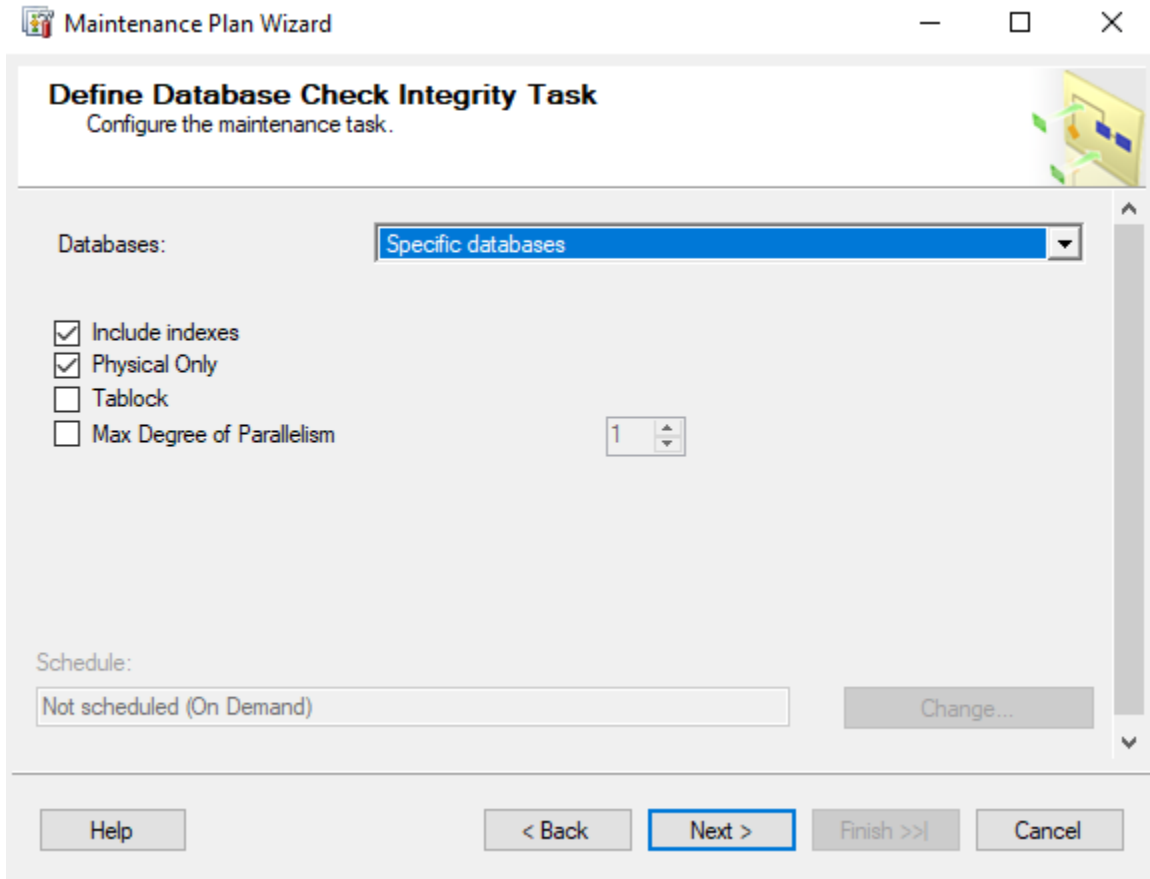
Select **These databases**.

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 'Define Database Check Integrity Task' dialog box within the 'Maintenance Plan Wizard'. The title bar reads 'Maintenance Plan Wizard'. The dialog has a subtitle 'Configure the maintenance task.' and a small icon of a folder with arrows. The 'Databases:' section has a dropdown menu set to 'Specific databases'. Below this are four checkboxes: 'Include indexes' (checked), 'Physical Only' (checked), 'Tablock' (unchecked), and 'Max Degree of Parallelism' (unchecked) with a spinner box set to '1'. The 'Schedule:' section shows 'Not scheduled (On Demand)' with a 'Change...' button. At the bottom are buttons for 'Help', '< Back', 'Next >' (highlighted with a blue border), 'Finish >>|', and 'Cancel'.

Click **Next**.

Maintenance Plan Wizard

Define Rebuild Index Task

Configure the maintenance task.

Databases: <Select one or more>

Object:

Selection:

Free space options

☒ Default free space per page

☐ Change free space per page to: 20 %

Advanced options

☐ Sort results in tempdb ☒ Pad Index

☐ Keep index online ☐ MAXDOP 1

For index types that do not support online index rebuilds

☒ Do not rebuild indexes

☐ Rebuild indexes offline

☐ Low Priority Used

Abort After Wait None

Max Duration 0 mins

Index Stats Options

Scan type: ☒ Fast

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:

☐ model

☐ msdb

☒ Paperlesstest

☒ Paperlesstest_OAGIS

☒ Paperlesstest_OAGISProvider

☐ Ignore databases where the state is not online

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**.

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

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:

☐ model
 ^

☐ msdb

☒ Paperlesstest

☒ Paperlesstest_OAGIS

☒ Paperlesstest_OAGISProvider
 v

☐ Ignore databases where the state is not online

OK
Cancel

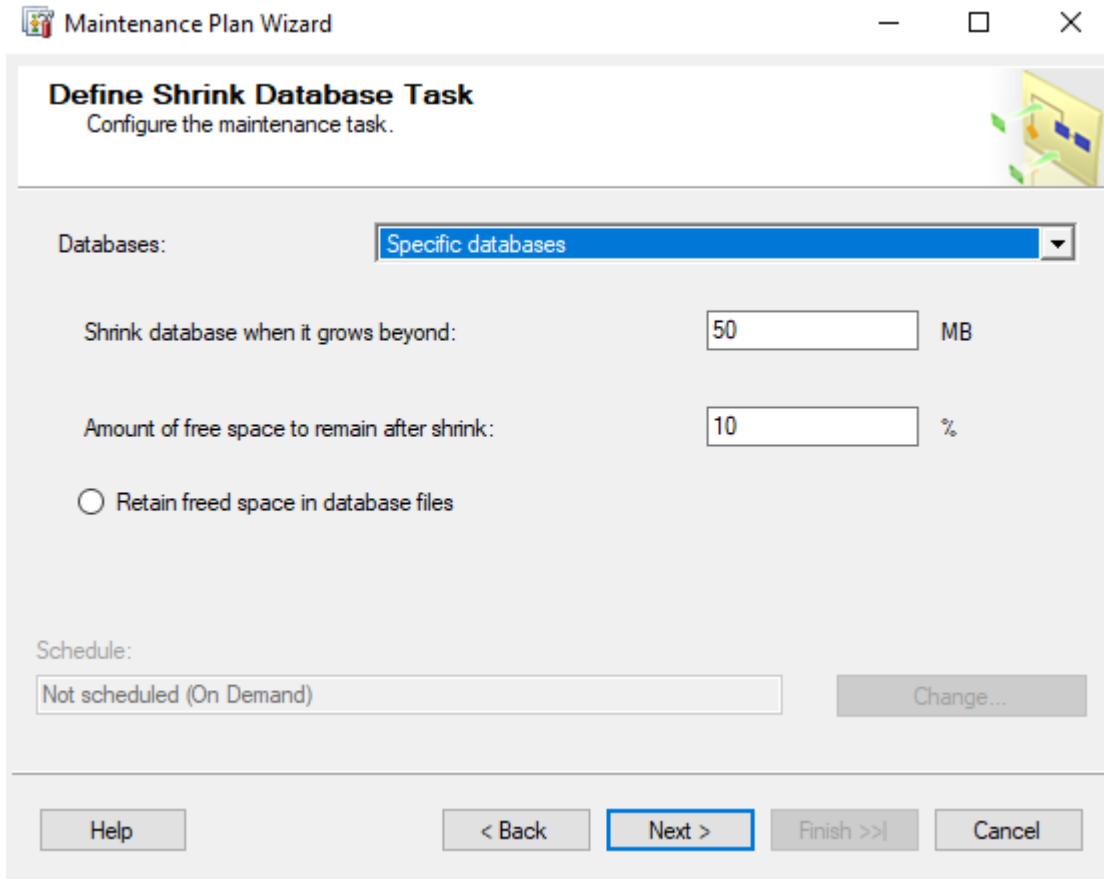
Select **These databases**.

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 title is 'Maintenance Plan Wizard'. The main heading is 'Define Shrink Database Task' with the subtitle 'Configure the maintenance task.' In the top right corner, 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 'MB', and 'Amount of free space to remain after shrink:' with a value of '10' and '%'. There is an unchecked radio button labeled 'Retain freed space in database files'. The 'Schedule:' section shows 'Not scheduled (On Demand)' in a text box, with a 'Change...' button to its right. At the bottom, there are five buttons: 'Help', '< Back', 'Next >' (which is highlighted with a blue border), 'Finish >>', and 'Cancel'.

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

Choose whether or not to retain the freed space.

Click **Next**.

Maintenance Plan Wizard

Define Update Statistics Task

Configure the maintenance task.

Databases: <Select one or more>

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.

☐ All databases

☐ System databases

☐ All user databases (excluding master, model, msdb, tempdb)

☒ These databases:

<input type="checkbox"/>	model
<input type="checkbox"/>	msdb
<input checked="" type="checkbox"/>	Paperlesstest
<input checked="" type="checkbox"/>	Paperlesstest_OAGIS
<input checked="" type="checkbox"/>	Paperlesstest_OAGISProvider

☐ Ignore databases where the state is not online

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**.

Click **Next**.

Maintenance Plan Wizard

Define Back Up Database (Full) Task

Configure the maintenance task.

General Destination Options

Backup type: Full

Database(s): <Select one or more>

Backup component

☒ Database

☐ Files and filegroups: ...

Back up to: Disk

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:

- ☐ model
- ☐ msdb
- ☒ Paperlesstest
- ☒ Paperlesstest_OAGIS
- ☒ Paperlesstest_OAGISProvider

☐ Ignore databases where the state is not online

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**.

Maintenance Plan Wizard

Define Back Up Database (Full) Task

Configure the maintenance task.

General Destination Options

Backup type: Full

Database(s): Specific databases

Backup component

☒ Database

☐ Files and filegroups:

Back up to: Disk
Disk
Tape
URL

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.

Maintenance Plan Wizard

Define Back Up Database (Full) Task

Configure the maintenance task.

General Destination Options

☐ Back up databases across one or more files:

AddRemoveContents

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\MSSQL14.MSS... Create...

SQL credential: Create...

Azure storage container:

URL prefix: https://<storageaccount>.blob.core.windows.net/

Backup file extension: bak

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

Help < Back Next > Finish >> Cancel

Click **Next**.

Maintenance Plan Wizard

Define History Cleanup Task
Configure the maintenance task.

Select the historical data to delete:

- ☒ Backup and restore history
- ☒ SQL Server Agent job history
- ☒ Maintenance plan history

Remove historical data older than:

4 Week(s)

Schedule:

Not scheduled (On Demand) Change...

Help < Back **Next >** Finish >> 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 'Select Report Options' step. The window title is 'Maintenance Plan Wizard'. The subtitle is 'Select options for saving or distributing a report of the maintenance plan actions.' There is a small icon of a folder with arrows in the top right corner. The main area contains two options: 'Write a report to a text file' (checked) and 'E-mail report' (unchecked). Under 'Write a report to a text file', there is a 'Folder location:' label and a text box containing 'C:\Program Files\Microsoft SQL Server\MSSQL14.MSSQLSER', followed by a browse button (...). Under 'E-mail report', there is a 'To:' label and a dropdown menu. At the bottom, there are four buttons: 'Help', '< Back', 'Next >' (highlighted with a blue border), and 'Finish >>' and 'Cancel'.

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**.

Maintenance Plan Wizard Progress

Click Stop to interrupt the operation.

**1 Remaining**5 Total
4 Success0 Error
0 Warning

Details:

Action	Status	Message
✓ Creating maintenance plan "CPM Databases"	Success	
✓ Adding tasks to the maintenance plan	Success	
✓ Adding scheduling options	Success	
✓ Adding reporting options	Success	
Saving maintenance plan "CPM Databases"		

Stop

Report ▼

Close

Maintenance Plan Wizard Progress

Click Stop to interrupt the operation.

**Success**5 Total
5 Success0 Error
0 Warning

Details:

Action	Status	Message
✓ Creating maintenance plan "CPM Databases"	Success	
✓ Adding tasks to the maintenance plan	Success	
✓ Adding scheduling options	Success	
✓ Adding reporting options	Success	
✓ Saving maintenance plan "CPM Databases"	Success	

Stop

Report ▼

Close

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.

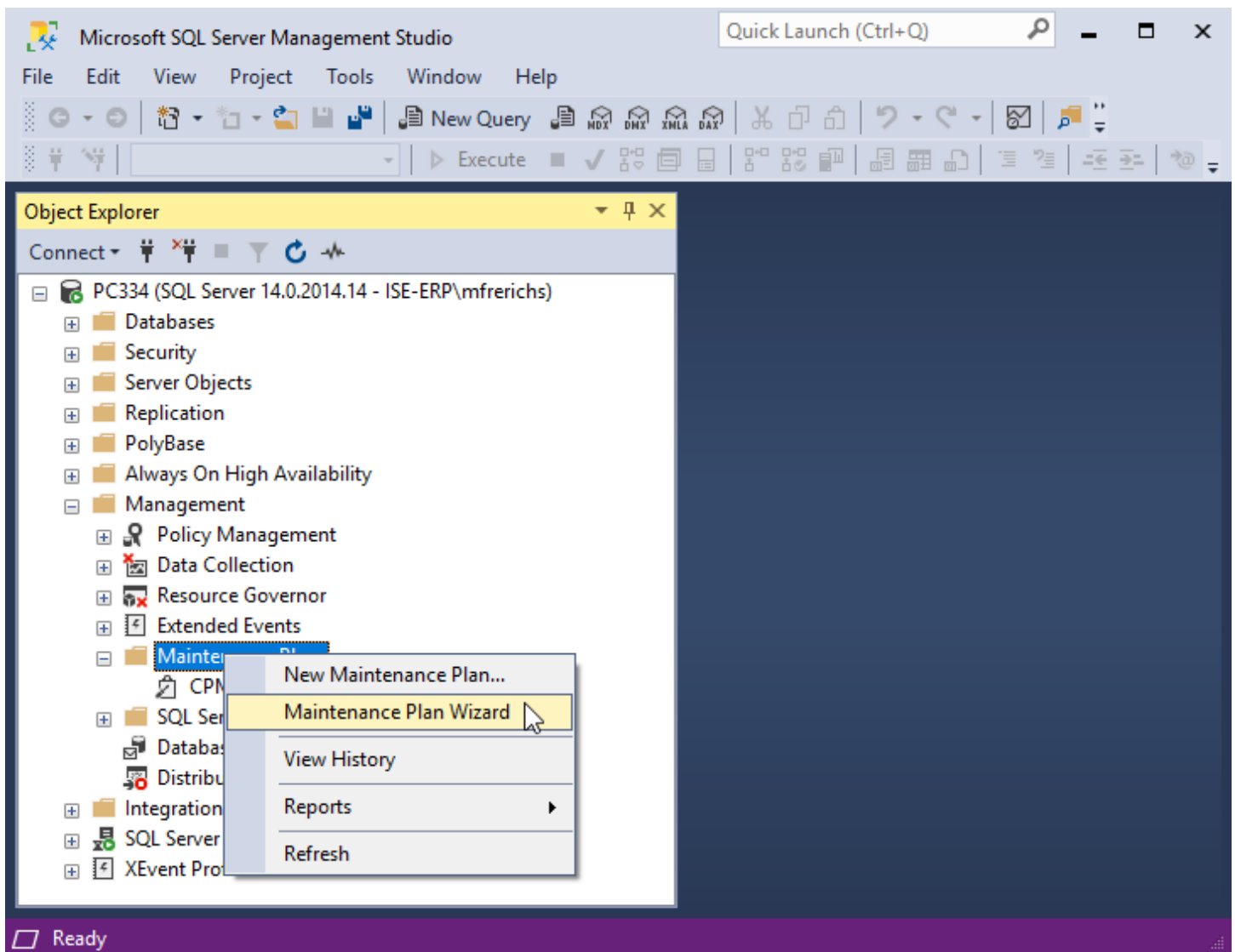
PLAN 2 – TRANSACTION LOG BACKUP

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.

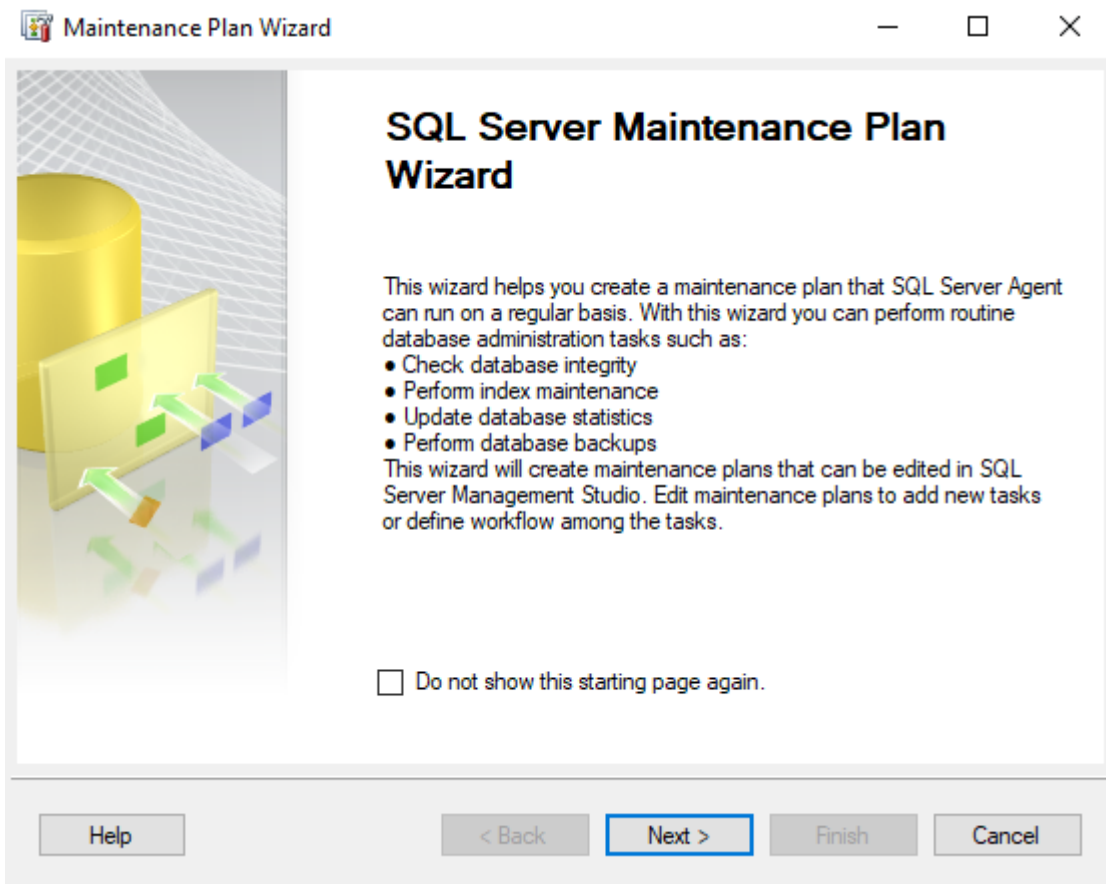
In Microsoft SQL Server Management Studio:



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**.

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

Run as: SQL Server Agent service account

☐ Separate schedules for each task
☒ Single schedule for the entire plan or no schedule

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

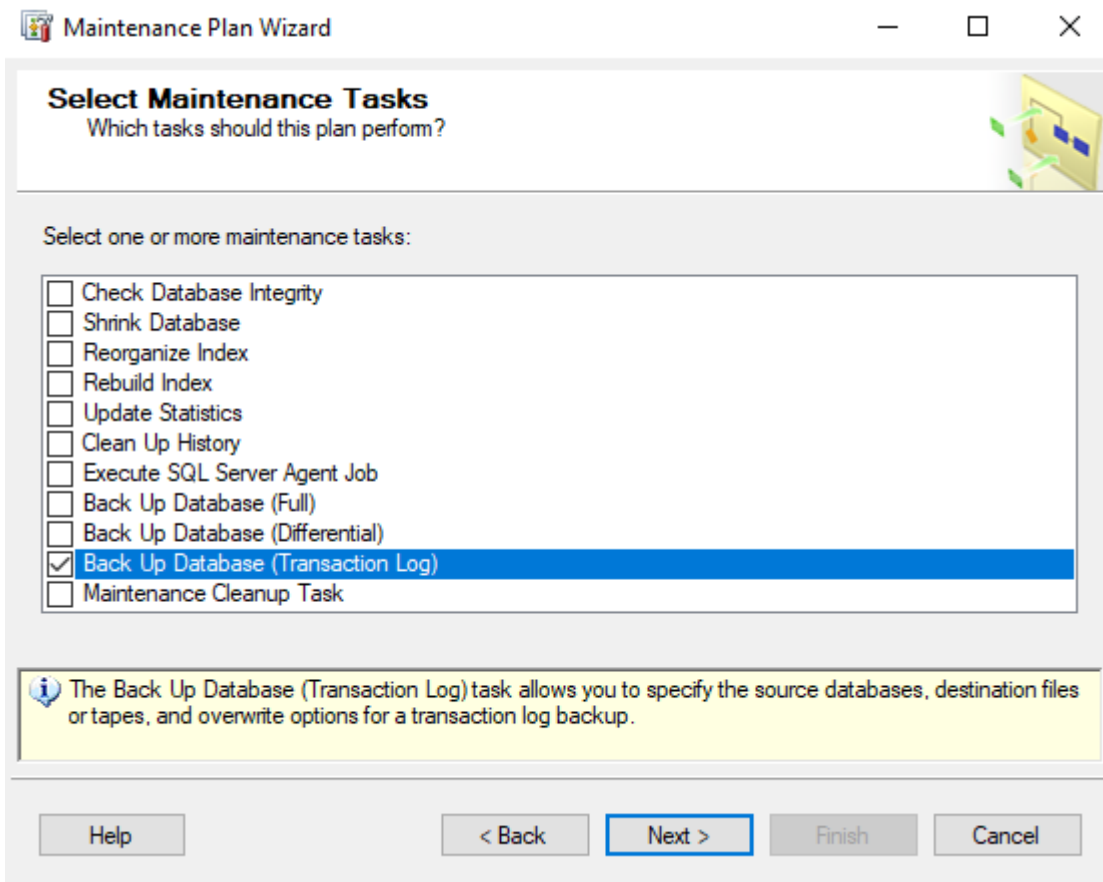
Help < Back Next > Finish Cancel

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

Enter a **Description**.

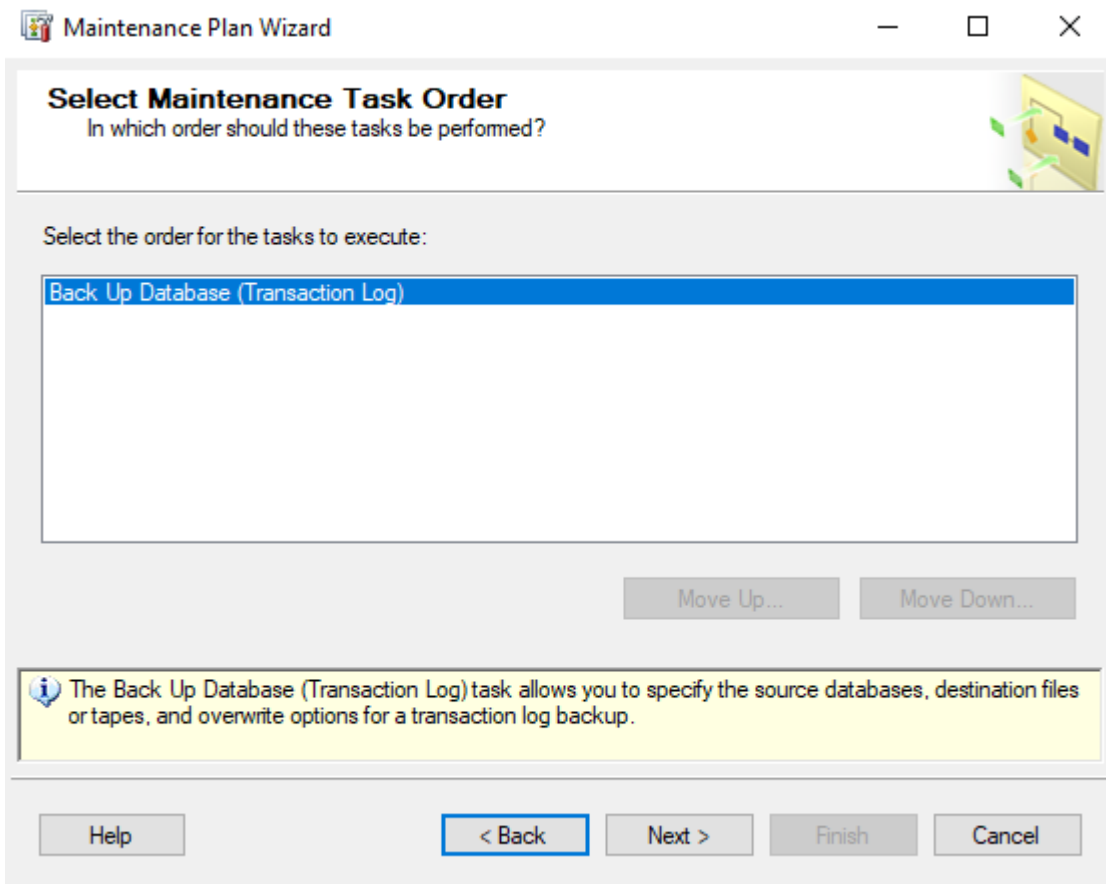
Select **Authentication** method.

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.

General Destination Options

Backup type: Transaction Log

Database(s): <Select one or more>

Backup component

☒ Database

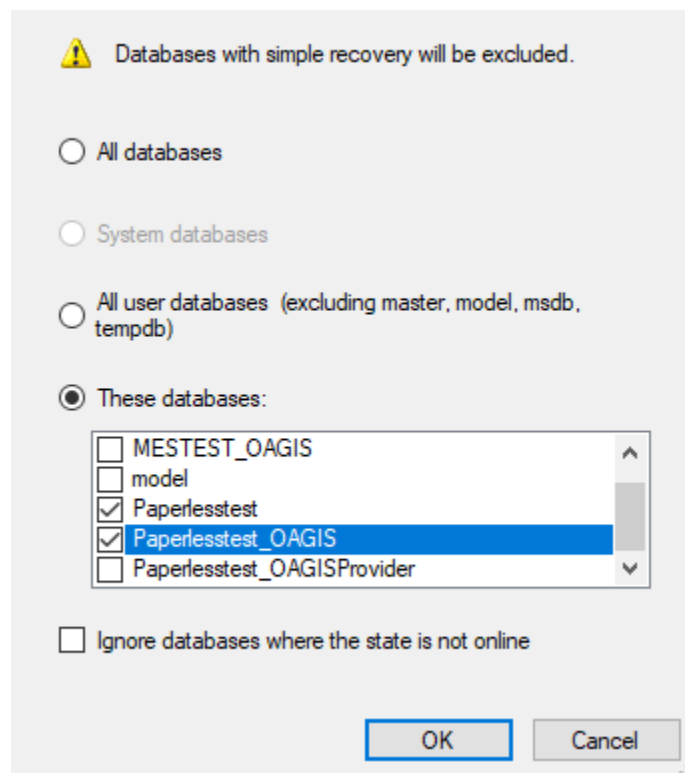
☐ Files and filegroups: ...

Back up to: Disk

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**.

Maintenance Plan Wizard

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

General | Destination | Options

Backup type: Transaction Log

Database(s): Specific databases

Backup component

☒ Database

☐ Files and filegroups: [Empty Box] [...]

Back up to: Disk (selected), Tape, URL

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.

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**.

Maintenance Plan Wizard

Define Back Up Database (Transaction Log) Task

Configure the maintenance task.

General Destination Options

☐ Back up databases across one or more files:

AddRemoveContents

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\MSSQL14.MSS... ..

SQL credential: Create...

Azure storage container:

URL prefix: https://<storageaccount>.blob.core.windows.net/

Backup file extension: tm

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

Help < Back Next > Finish >> Cancel

Click **Back** (Until you reach this screen).

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


Run as: SQL Server Agent service account

☐ 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

Click **Change**.

 New Job Schedule — □ ×

Name: Jobs in Schedule

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.

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

Run as: SQL Server Agent service account

☐ Separate schedules for each task

☒ Single schedule for the entire plan or no schedule

Schedule: Occurs every week on Sunday at 12:00:00 AM. Schedule will be used starting

Change...

Help < Back Next > Finish >> Cancel

Click **Next** (Until you reach this screen).

Maintenance Plan Wizard

Select Report Options

Select options for saving or distributing a report of the maintenance plan actions.

☒ Write a report to a text file

Folder location: C:\Program Files\Microsoft SQL Server\MSSQL14.MSSQLSER ...

☐ E-mail report

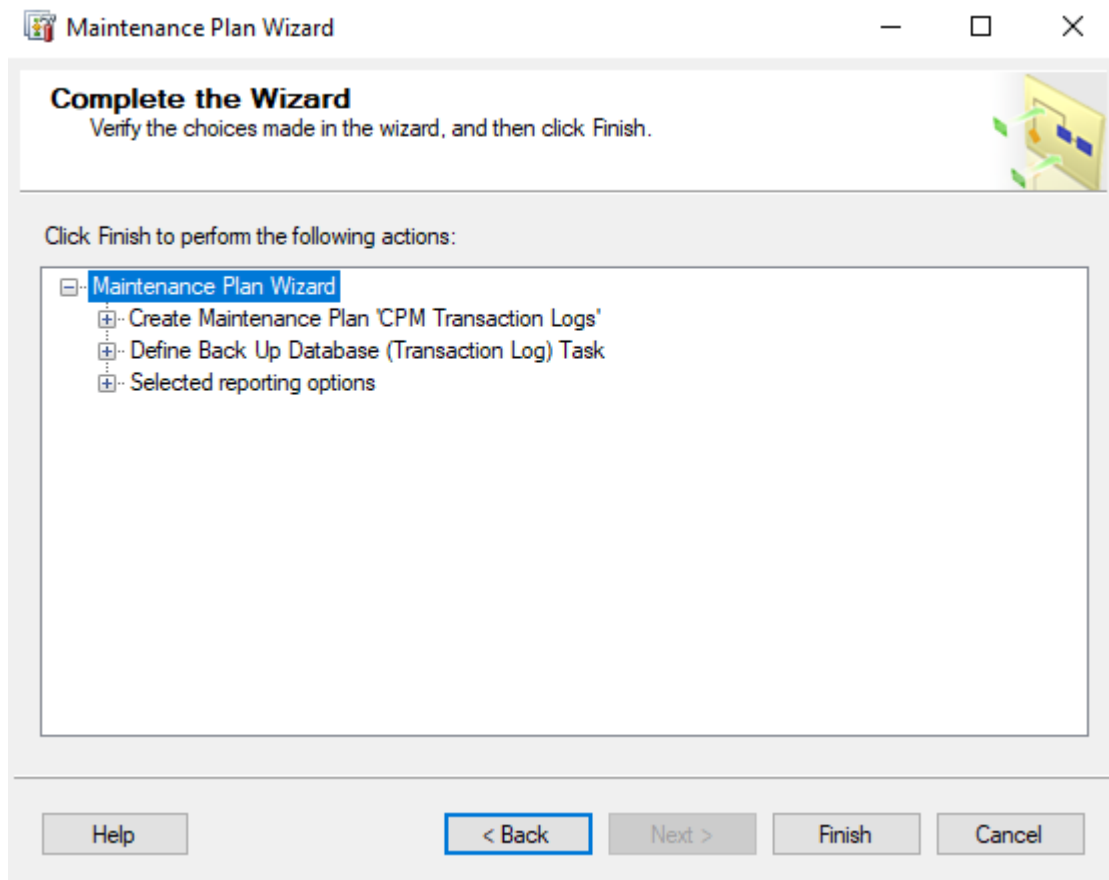
To:

Help < Back Next > Finish >> Cancel

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**.

Maintenance Plan Wizard Progress

Click Stop to interrupt the operation.

**1 Remaining**5 Total
4 Success0 Error
0 Warning

Details:

Action	Status	Message
✓ Creating maintenance plan "CPM Transaction ...	Success	
✓ Adding tasks to the maintenance plan	Success	
✓ Adding scheduling options	Success	
✓ Adding reporting options	Success	
Saving maintenance plan "CPM Transaction L...		

Stop

Report ▼

Close

Maintenance Plan Wizard Progress

Click Stop to interrupt the operation.

**Success**5 Total
5 Success0 Error
0 Warning

Details:

Action	Status	Message
✓ Creating maintenance plan "CPM Transaction ...	Success	
✓ Adding tasks to the maintenance plan	Success	
✓ Adding scheduling options	Success	
✓ Adding reporting options	Success	
✓ Saving maintenance plan "CPM Transaction L...	Success	

Stop

Report ▼

Close

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**.

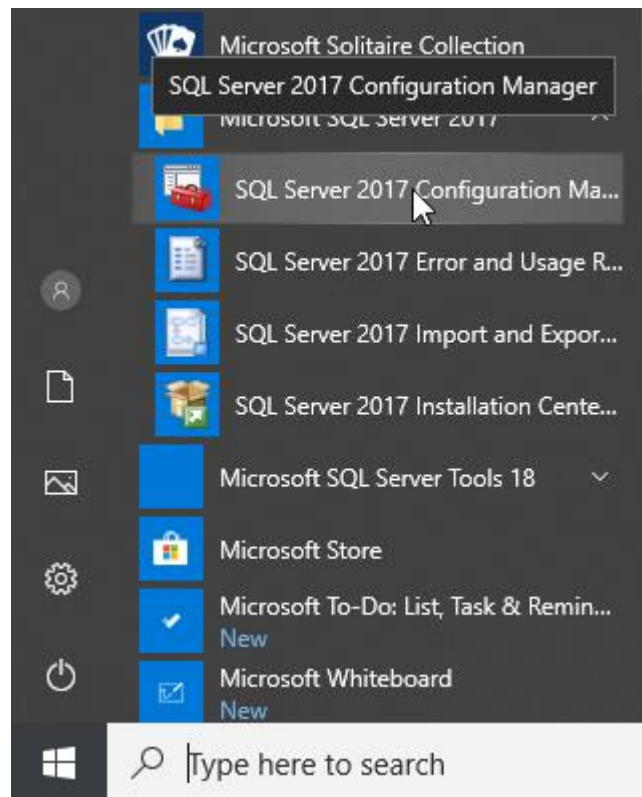
NOTE: SQL Server Agent must be running for the scheduled jobs to execute.

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

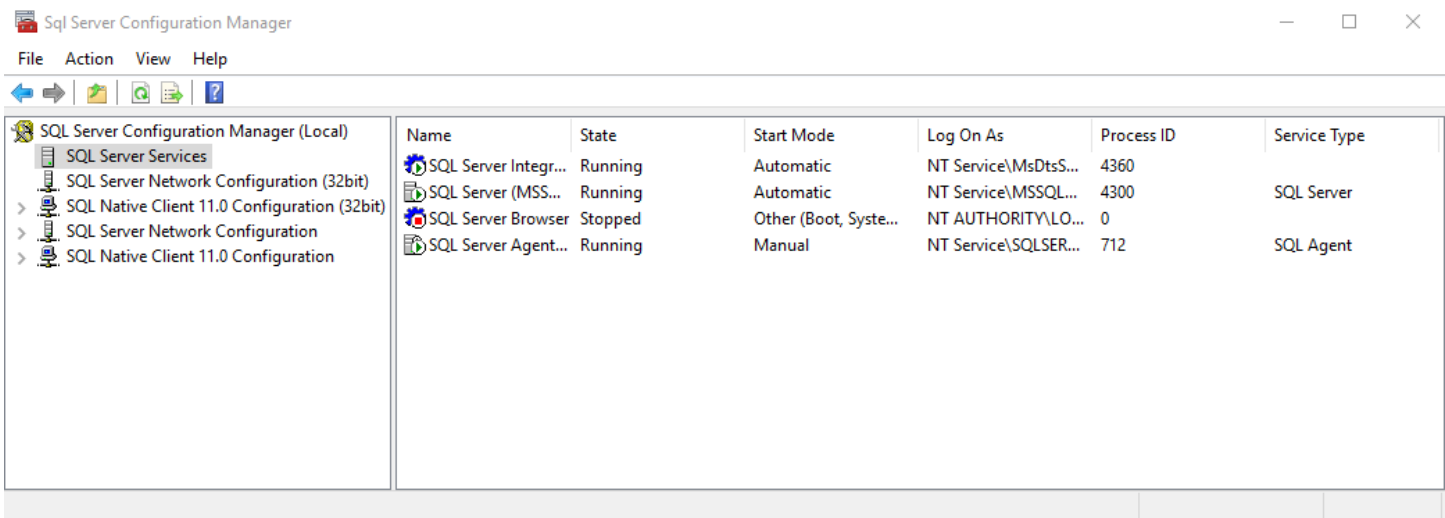
SQL SERVER 2017 AND SQL SERVER AGENT

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.

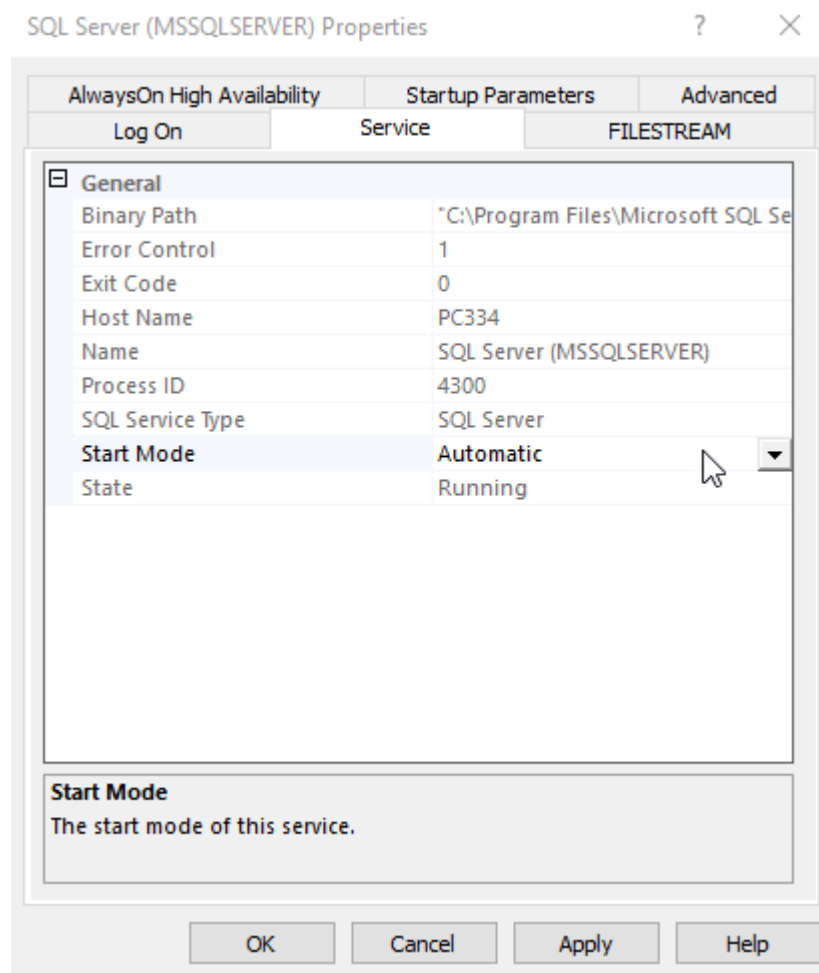
In SQL Server Configuration Manager:



Click **SQL Server Services**.

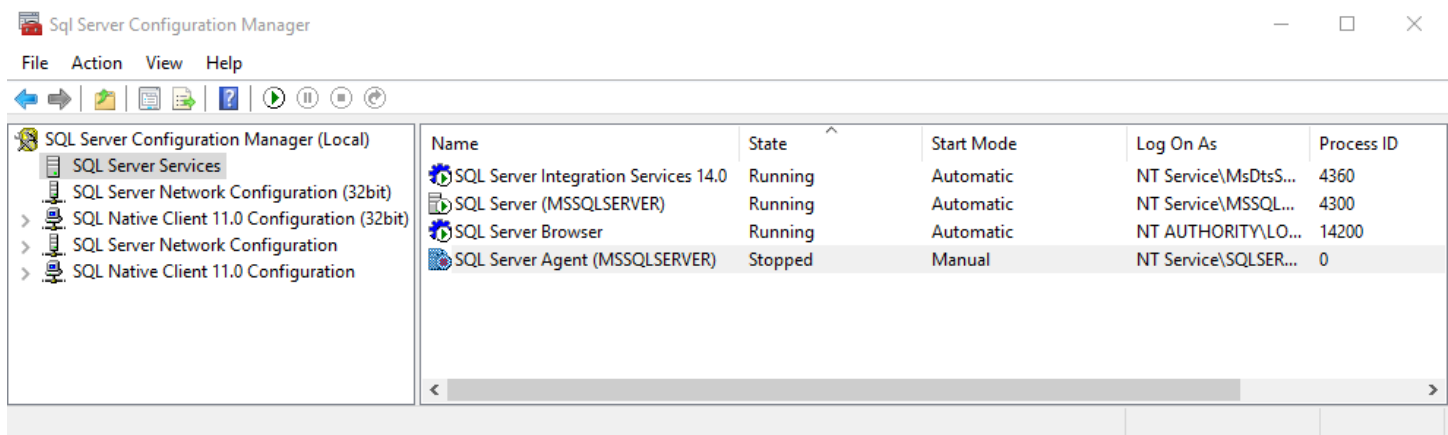


Select **SQL Server (MSSQLSERVER)** under SQL Server Services. Double click on the SQL Server Service to open the Properties box. If the database engine is not running, click **Start**. On the Service Tab, verify that the Start Mode is set to Automatic.



Click **OK** to validate your changes.

NOTE: The name of the SQL Server 2017 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 Start Mode is set to Automatic.

Click **OK**.

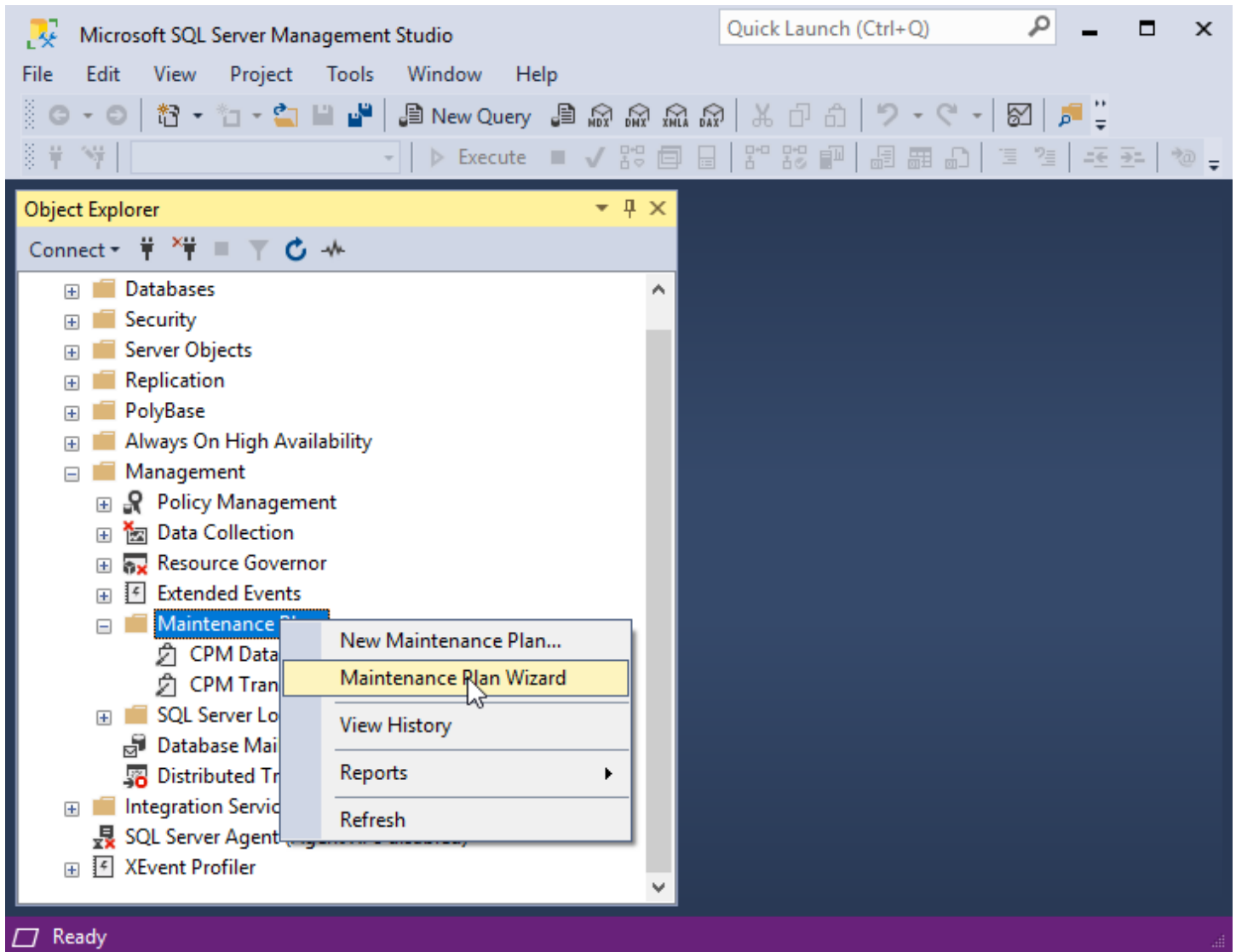
Both SQL Server and SQL Server Agent are now set to automatically start with the operating system.

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

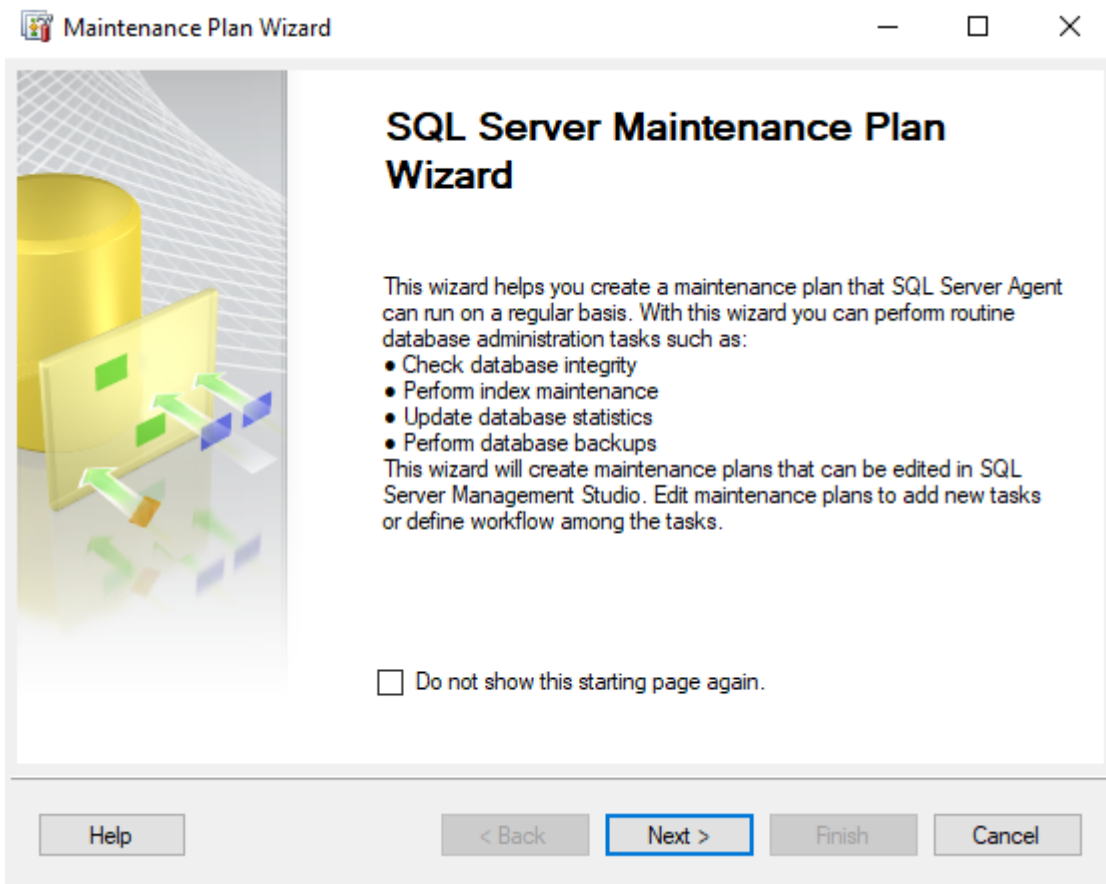
NOTE: This is not designed to be your sole backup strategy or disaster recovery plan.



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**.

Maintenance Plan Wizard

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

Name: MES Databases

Description: MES DatabasesMaintenance Plan

Run as: SQL Server Agent service account


☐ 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

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

 New Job Schedule — □ ×

Name: Jobs in Schedule

Schedule type: Recurring ▾ ☒ Enabled

One-time occurrence

Date: 7/ 9/2019 ▾ Time: 3:54:12 PM ▾

Frequency

Occurs: Weekly ▾

Recurs every: 1 ▾ week(s) on



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

Daily frequency

☒ Occurs once at: 12:00:00 AM ▾

☐ Occurs every: 1 ▾ hour(s) ▾ Starting at: 12:00:00 AM ▾
Ending at: 11:59:59 PM ▾

Duration

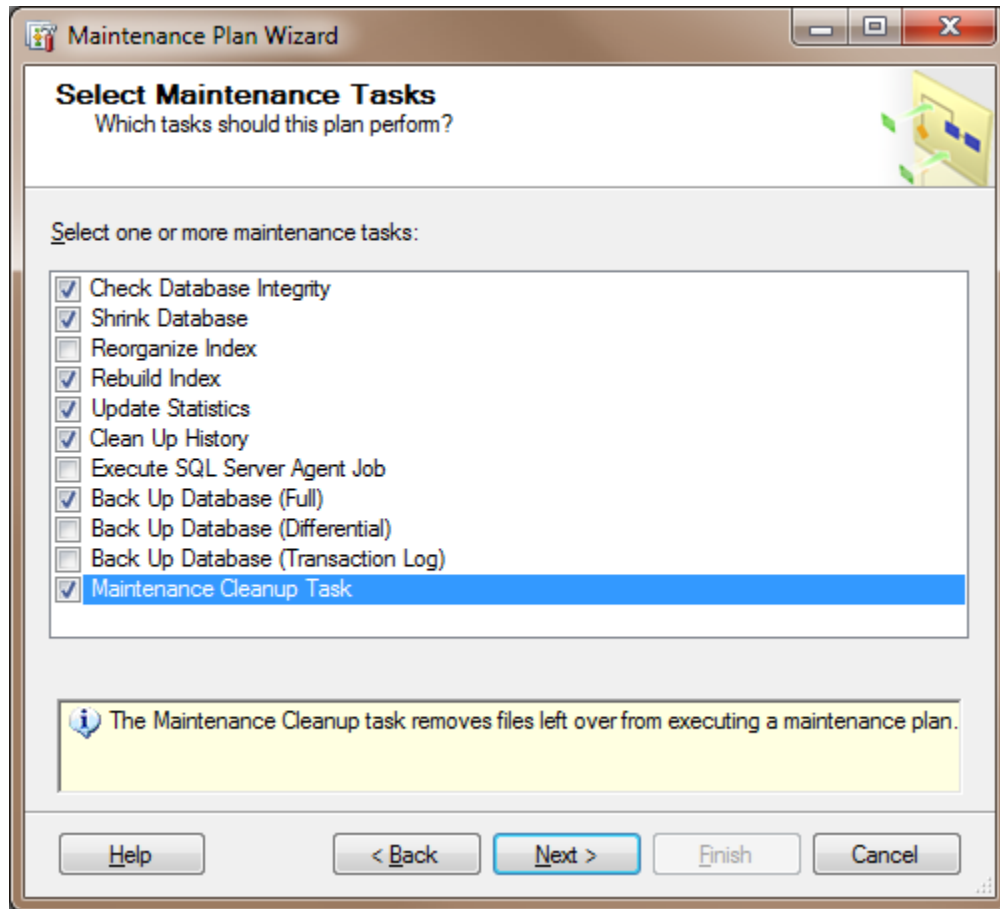
Start date: 7/ 9/2019  ▾ ☐ End date: 7/ 9/2019  ▾
☒ No end date:

Summary

Description: ⬆

OK Cancel Help

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



Select the desired Maintenance Tasks.

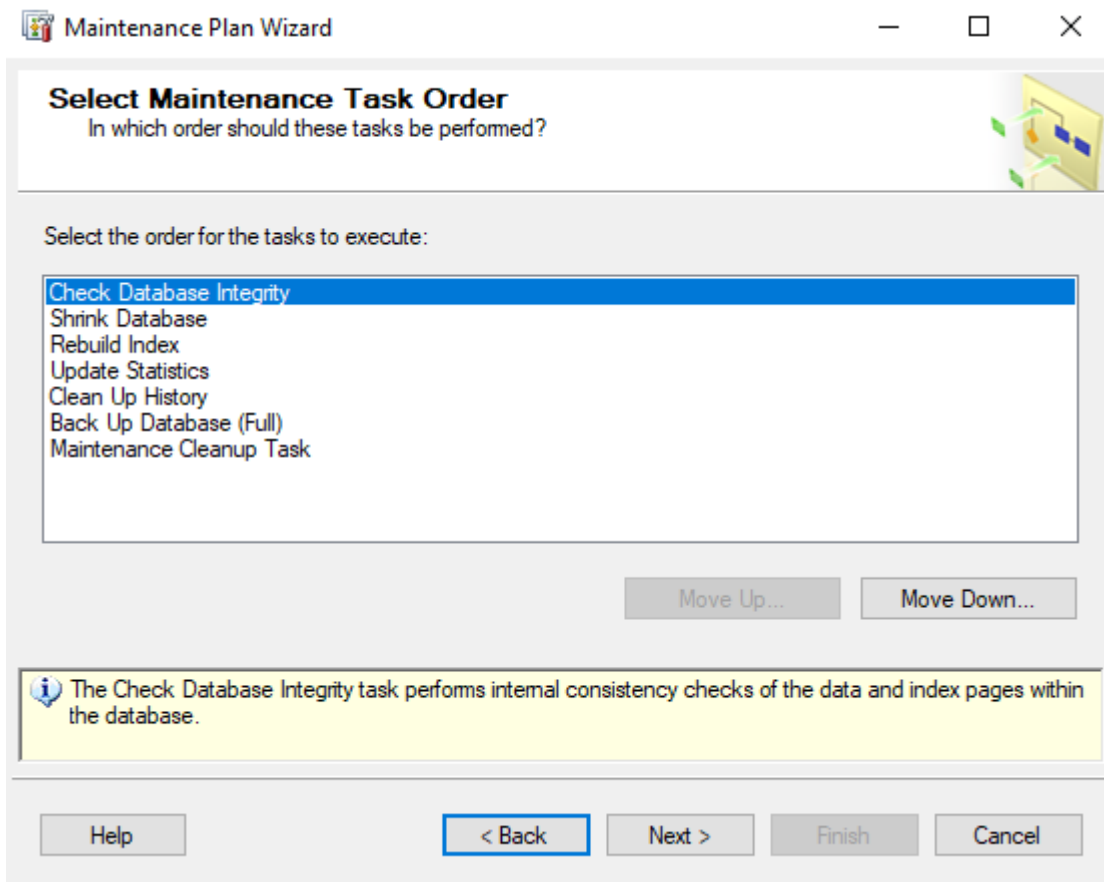
It is highly recommended that the following Maintenance Tasks be performed:

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

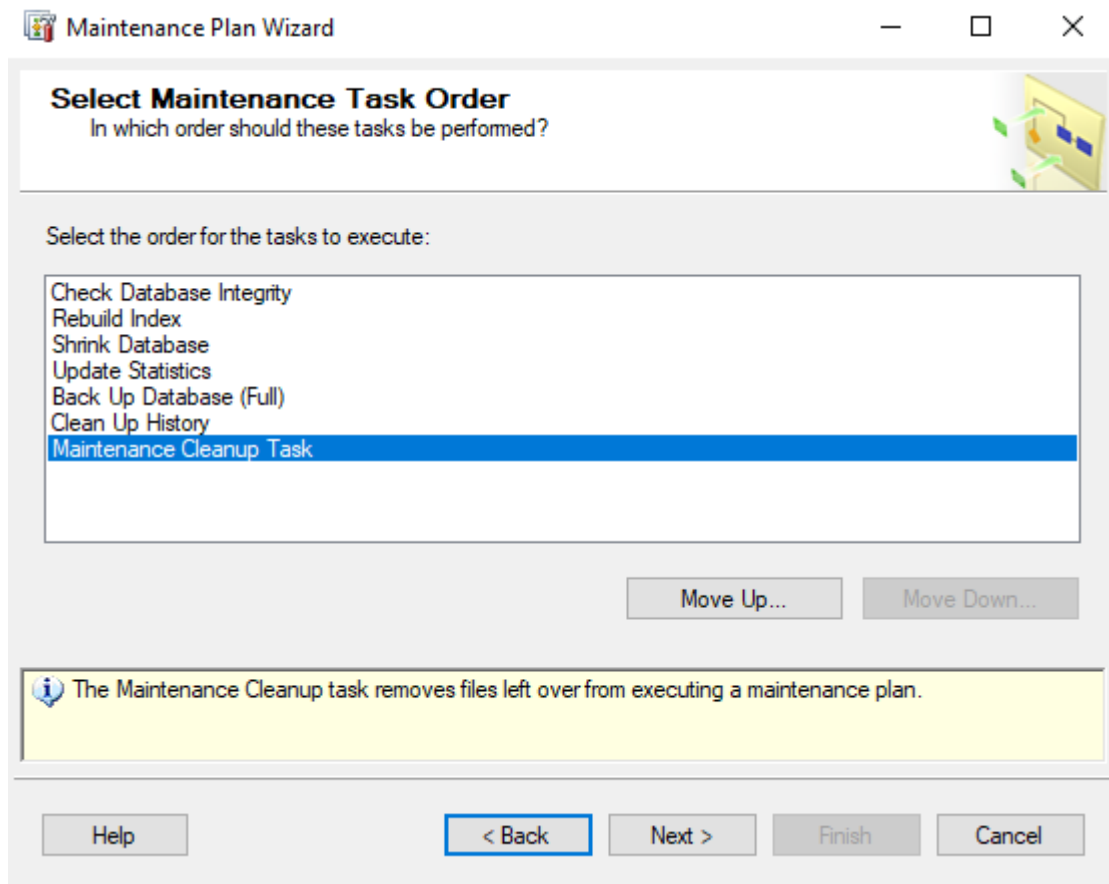


Select a Maintenance Task.

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**.

 Maintenance Plan Wizard

Define Database Check Integrity Task
Configure the maintenance task.

Databases: <Select one or more>

☒ Include indexes
☒ Physical Only
☐ Tablock
☐ Max Degree of Parallelism 1

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:

☐ model
☐ msdb
☒ Paperlesstest
☒ Paperlesstest_OAGIS
☒ Paperlesstest_OAGISProvider

☐ Ignore databases where the state is not online

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**.

Click **Next**.

The screenshot shows the 'Maintenance Plan Wizard' window, specifically the 'Define Rebuild Index Task' step. The window title is 'Maintenance Plan Wizard'. The main heading is 'Define Rebuild Index Task' with the subtitle 'Configure the maintenance task.'.

The 'Databases:' field is a dropdown menu showing '<Select one or more>'. The 'Object:' field is a dropdown menu showing a blank space. The 'Selection:' field is a dropdown menu showing a blank space.

The 'Free space options' section has two radio buttons: 'Default free space per page' (selected) and 'Change free space per page to: 20 %'.

The 'Advanced options' section has several checkboxes: 'Sort results in tempdb' (unchecked), 'Keep index online' (unchecked), 'Pad Index' (checked), and 'MAXDOP' (unchecked) with a value of '1'. Below these, there is a note: 'For index types that do not support online index rebuilds'. There are two radio buttons: 'Do not rebuild indexes' (selected) and 'Rebuild indexes offline' (unchecked). There is also a checkbox for 'Low Priority Used' (unchecked).

The 'Abort After Wait' field is a dropdown menu showing 'None'. The 'Max Duration' field is a spinner box showing '0' with the unit 'mins'.

The 'Index Stats Options' section has a 'Scan type:' dropdown menu showing 'Fast' (selected).

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

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

☐ All databases

☐ System databases

☐ All user databases (excluding master, model, msdb, tempdb)

☒ These databases:

☐ model

☐ msdb

☒ Paperlesstest

☒ Paperlesstest_OAGIS

☒ Paperlesstest_OAGISProvider

☐ Ignore databases where the state is not online

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**.

Click **Next**.

Maintenance Plan Wizard

Define Shrink Database Task

Configure the maintenance task.

Databases: <Select one or more>

Shrink database when it grows beyond: MB

Amount of free space to remain after shrink: %

☐ Retain freed space in database files

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"/>	model
<input type="checkbox"/>	msdb
<input checked="" type="checkbox"/>	Paperlesstest
<input checked="" type="checkbox"/>	Paperlesstest_OAGIS
<input checked="" type="checkbox"/>	Paperlesstest_OAGISProvider

☐ Ignore databases where the state is not online

OK Cancel

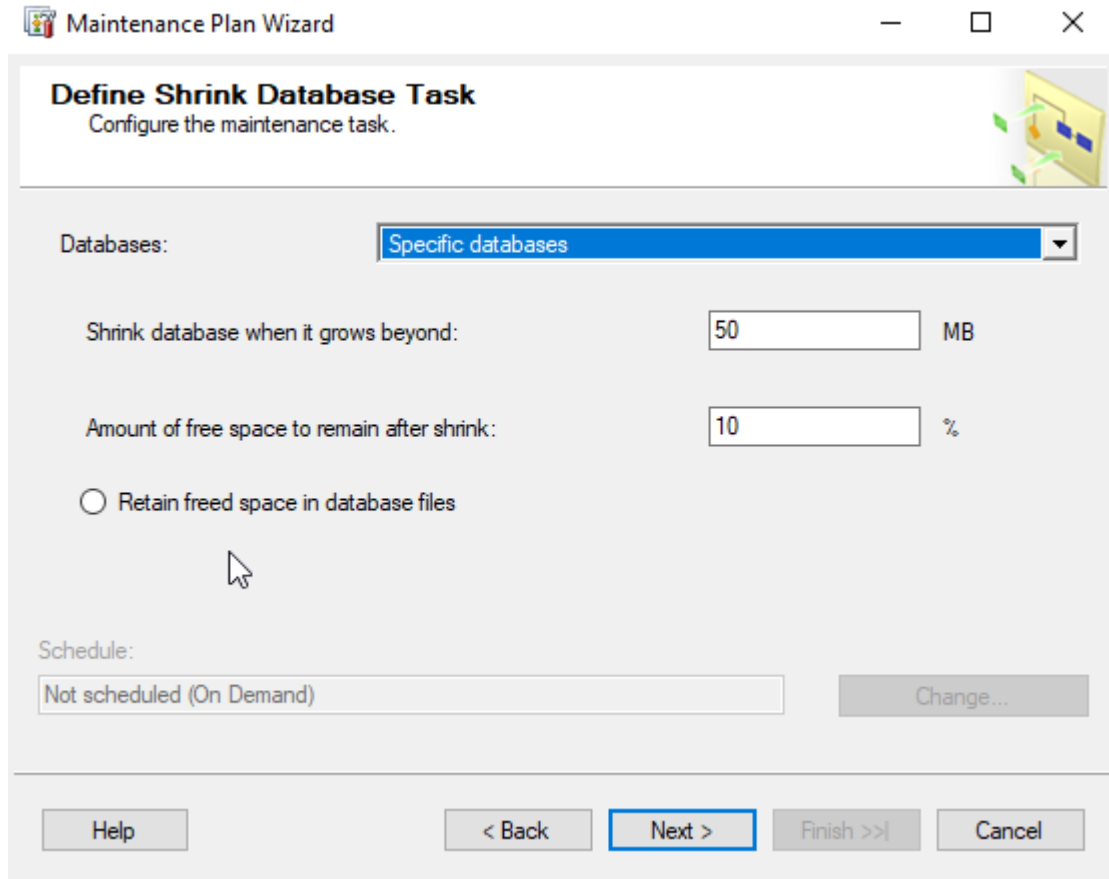
Select **These databases**.

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**.



Maintenance Plan Wizard

Define Shrink Database Task
Configure the maintenance task.

Databases: Specific databases

Shrink database when it grows beyond: MB

Amount of free space to remain after shrink: %

☐ Retain freed space in database files

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

Help < Back Next > Finish >> 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: <Select one or more>

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.

☐ All databases

☐ System databases

☐ All user databases (excluding master, model, msdb, tempdb)

☒ These databases:

☐ model

☐ msdb

☒ Paperlesstest

☒ Paperlesstest_OAGIS

☒ Paperlesstest_OAGISProvider

☐ Ignore databases where the state is not online

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**.

Click **Next**.

Maintenance Plan Wizard

Define Back Up Database (Full) Task

Configure the maintenance task.

General Destination Options

Backup type: Full

Database(s): <Select one or more>

Backup component

☒ Database

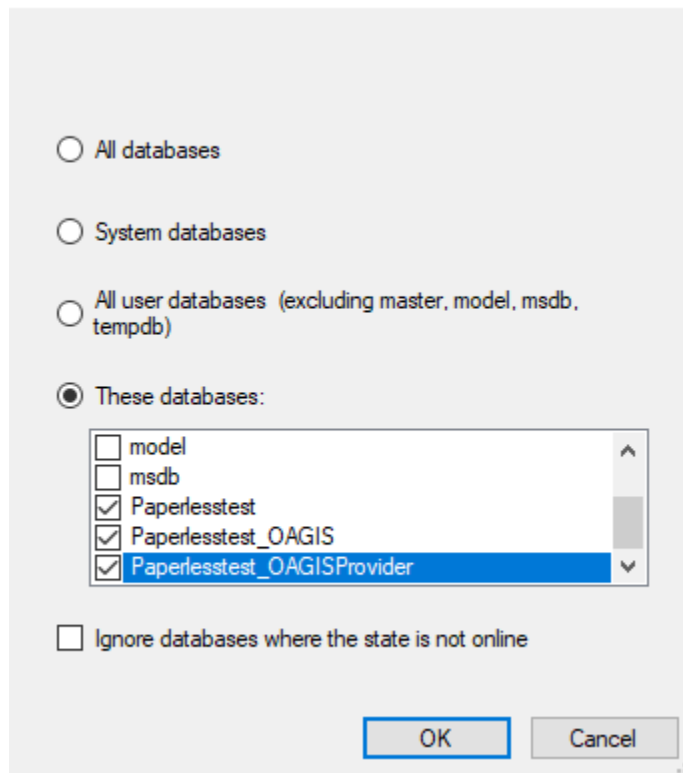
☐ Files and filegroups: ...

Back up to: Disk

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.

Click **OK**.

Maintenance Plan Wizard

Define Back Up Database (Full) Task

Configure the maintenance task.

General Destination Options

☐ 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\MSSQL14.MSS... ..

SQL credential: Create...

Azure storage container:

URL prefix: https://<storageaccount>.blob.core.windows.net/

Backup file extension: bak

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**.

Maintenance Plan Wizard

Define History Cleanup Task
Configure the maintenance task.

Select the historical data to delete:

- ☒ Backup and restore history
- ☒ SQL Server Agent job history
- ☒ Maintenance plan history

Remove historical data older than:

2 Week(s)

Schedule:

Not scheduled (On Demand) Change...

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

Select the desired historical data to delete.

Select the desired retention period.

Click **Next**.

Maintenance Plan Wizard

Define Maintenance Cleanup Task

Configure the maintenance task.

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:

Schedule:

Define the SQL Server Backup folder location.

Check **Include first-level subfolders**.

Define the desired retention period.

Click **Next**.

The screenshot shows the 'Maintenance Plan Wizard' window with the 'Select Report Options' step. The window title is 'Maintenance Plan Wizard'. The subtitle is 'Select options for saving or distributing a report of the maintenance plan actions.' There is a small icon of a folder with arrows in the top right corner. The main area contains two options: 'Write a report to a text file' (checked) and 'E-mail report' (unchecked). Under 'Write a report to a text file', there is a 'Folder location:' label, a text box containing 'C:\Program Files\Microsoft SQL Server\MSSQL14.MSSQLSER', and a browse button (...). Under 'E-mail report', there is a 'To:' label and a dropdown menu. At the bottom, there are four buttons: 'Help', '< Back', 'Next >' (highlighted with a blue border), and 'Finish >>' and 'Cancel'.

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 2017's Database Mail and a SQL Server Agent Operator first. Refer to SQL Server 2017 Books Online.

Click **Next**.

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

Maintenance Plan Wizard Progress

Click Stop to interrupt the operation.

**1 Remaining**5 Total
4 Success0 Error
0 Warning

Details:

Action	Status	Message
✓ Creating maintenance plan "MES Databases"	Success	
✓ Adding tasks to the maintenance plan	Success	
✓ Adding scheduling options	Success	
✓ Adding reporting options	Success	
Saving maintenance plan "MES Databases"		

Stop

Report ▼

Close

Maintenance Plan Wizard Progress

Click Stop to interrupt the operation.

**Success**5 Total
5 Success0 Error
0 Warning

Details:

Action	Status	Message
✓ Creating maintenance plan "MES Databases"	Success	
✓ Adding tasks to the maintenance plan	Success	
✓ Adding scheduling options	Success	
✓ Adding reporting options	Success	
✓ Saving maintenance plan "MES Databases"	Success	

Stop

Report ▼

Close

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.

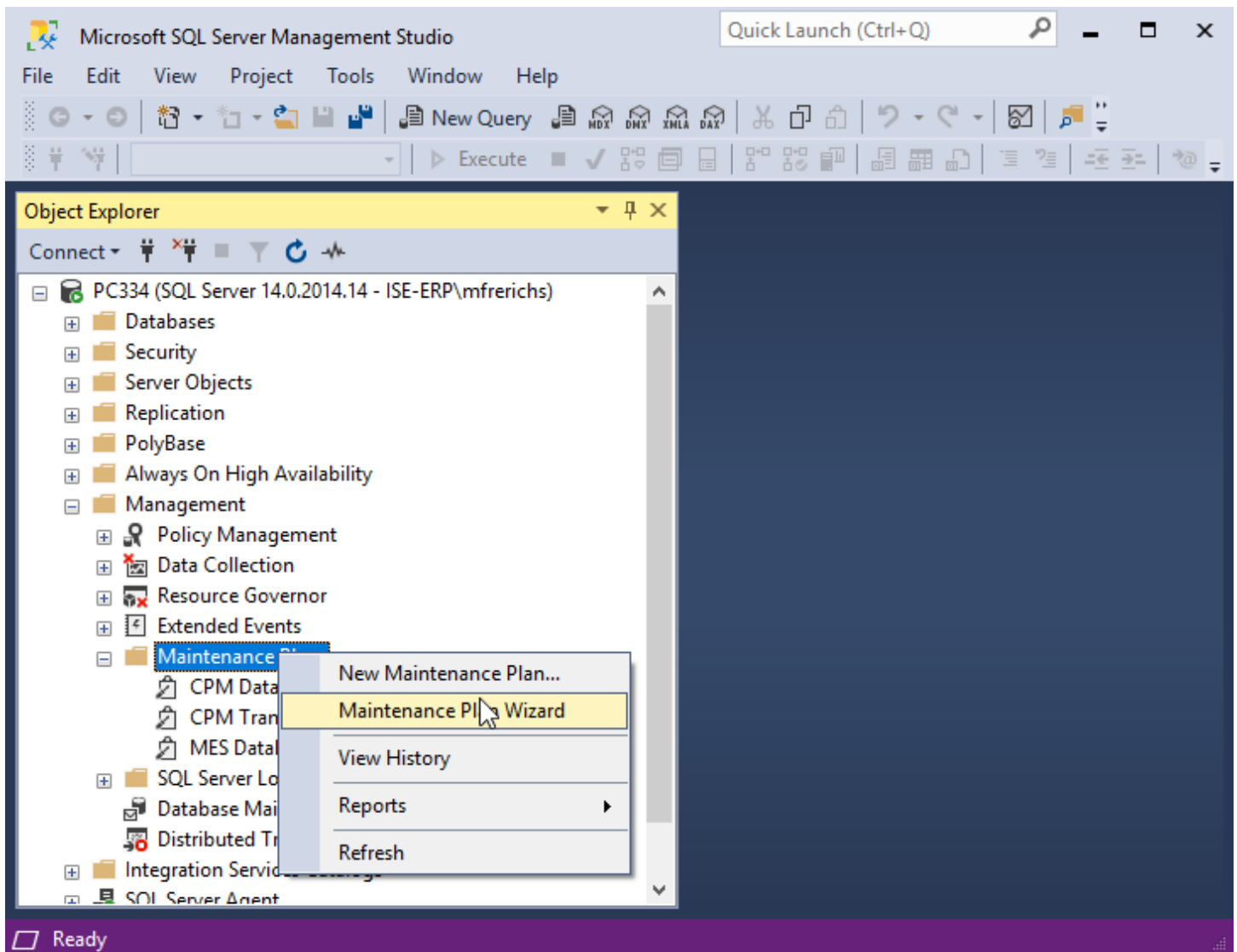
PLAN 2 – TRANSACTION LOG BACKUP

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.

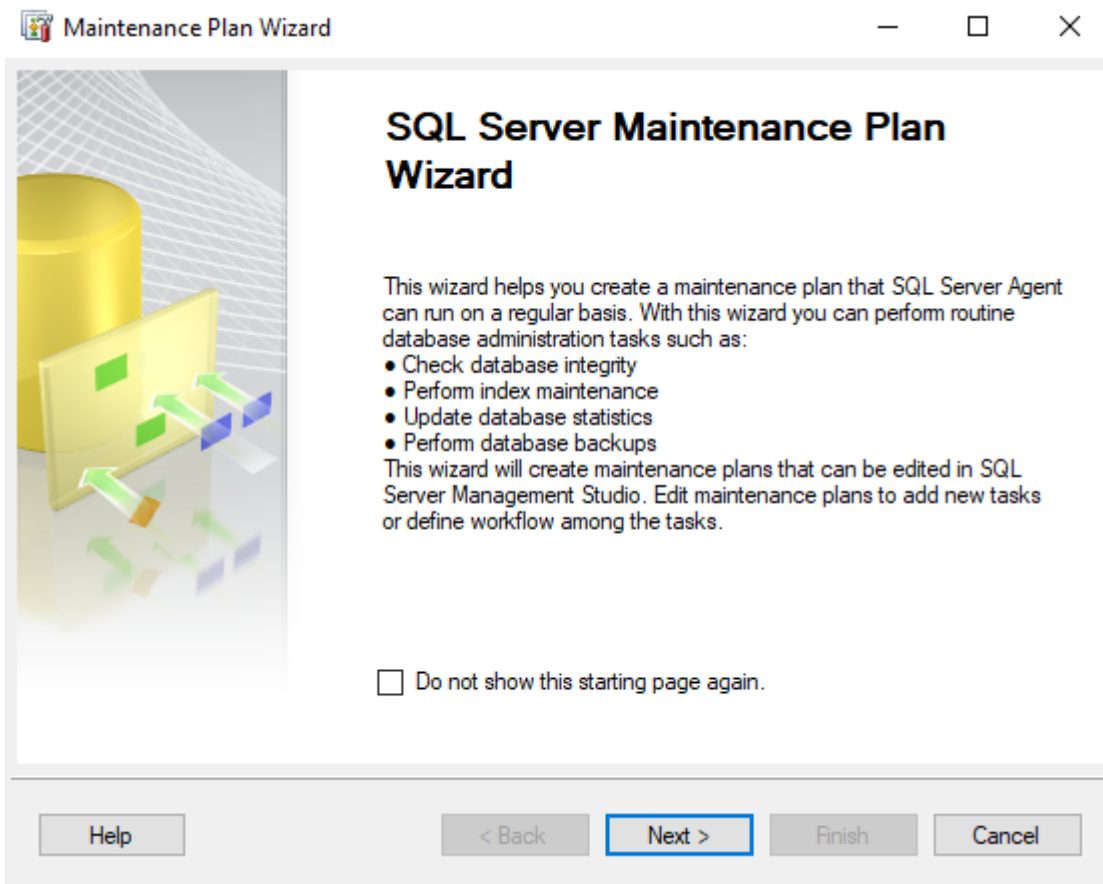
In Microsoft SQL Server Management Studio:



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 'Select Plan Properties' dialog box in the Maintenance Plan Wizard. The title bar reads 'Maintenance Plan Wizard'. The main heading is 'Select Plan Properties' with the subtitle '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 dialog contains several fields and options:

- Name:** A text box containing 'MES Transaction Logs'.
- Description:** A text box containing 'MES Transaction Logs Backup'.
- Run as:** A dropdown menu showing 'SQL Server Agent service account'.
- Scheduling options:** Two radio buttons: 'Separate schedules for each task' (unselected) and 'Single schedule for the entire plan or no schedule' (selected).
- Schedule:** A text box showing 'Not scheduled (On Demand)'.
- Change... button:** A button to the right of the 'Schedule' text box, with a red arrow pointing to it.
- Navigation buttons:** At the bottom, there are buttons for 'Help', '< Back', 'Next >' (highlighted with a blue border), 'Finish', and 'Cancel'.

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.

New Job Schedule

Name: Jobs in Schedule

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.

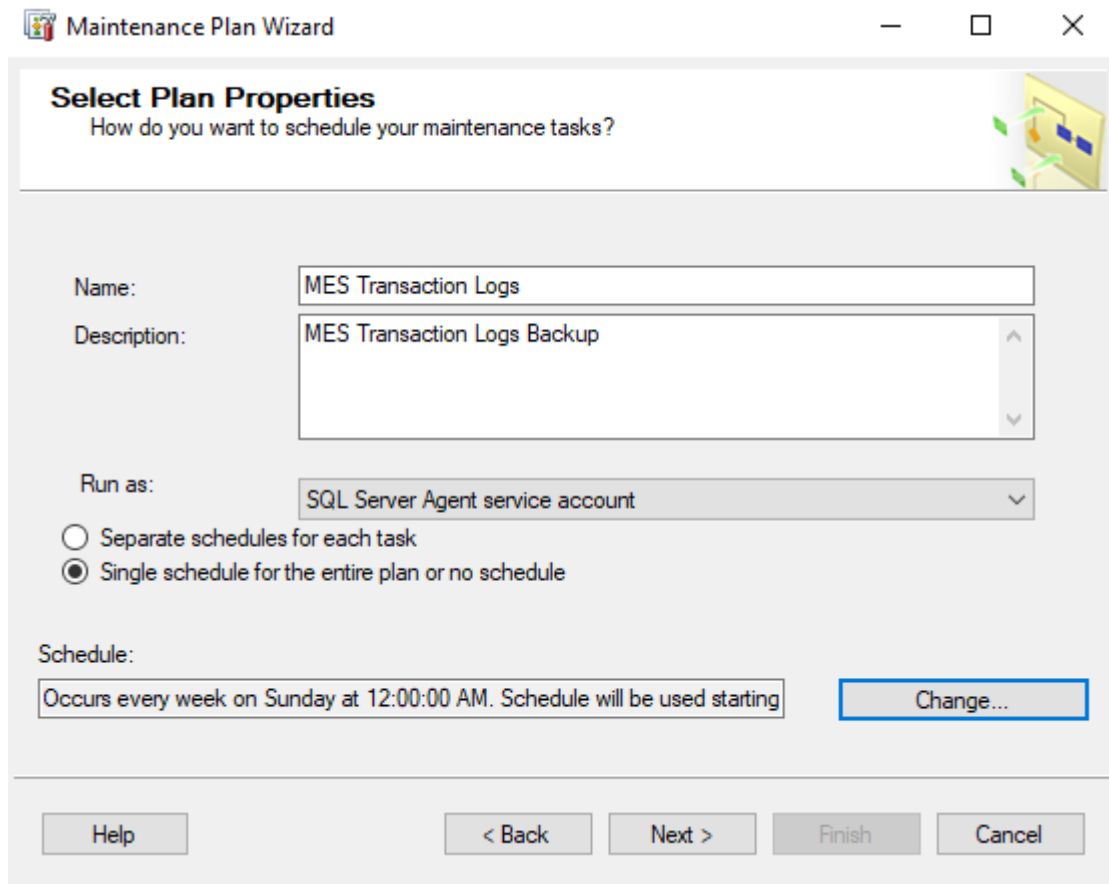
NOTE: Frequency of the Transaction Log Backup is dependent on backup strategy and disaster recovery planning.

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.

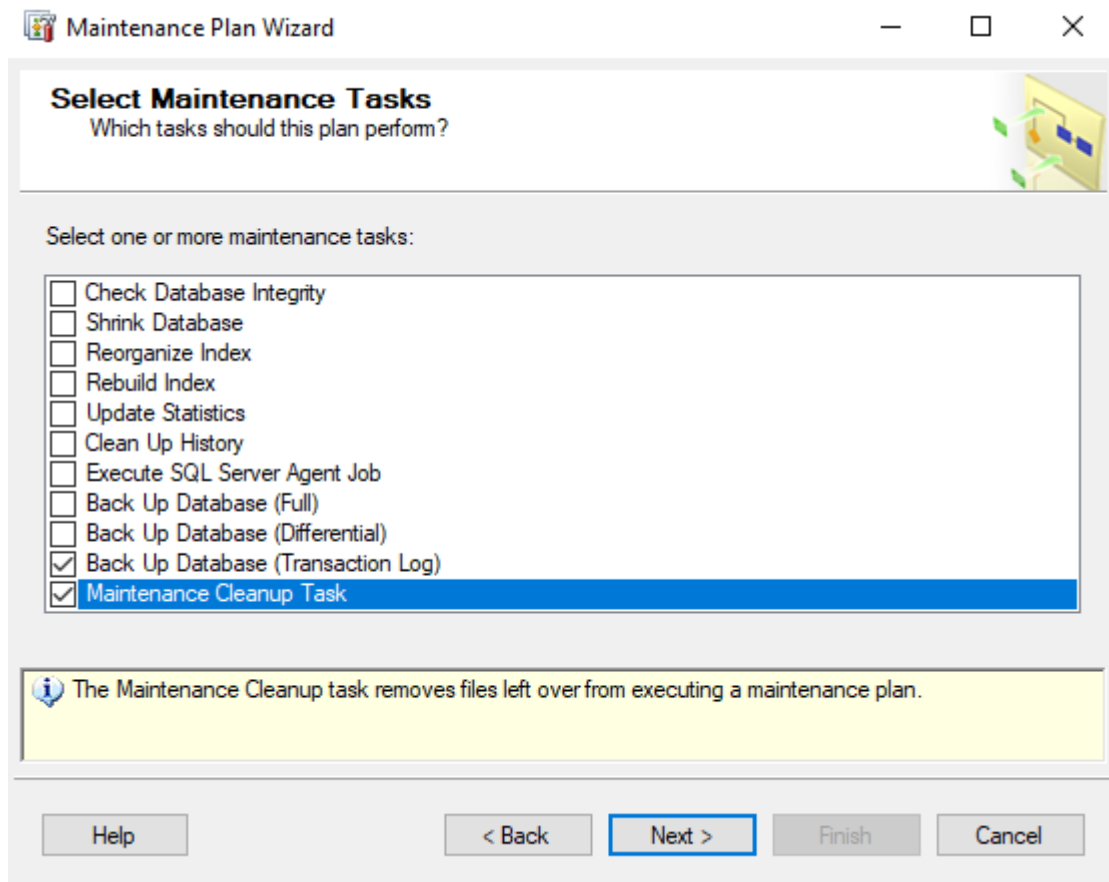
Click **OK**.



The screenshot shows the 'Maintenance Plan Wizard' window, specifically the 'Select Plan Properties' step. The window title is 'Maintenance Plan Wizard'. The subtitle is 'Select Plan Properties' with the question '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 main area contains the following fields and options:

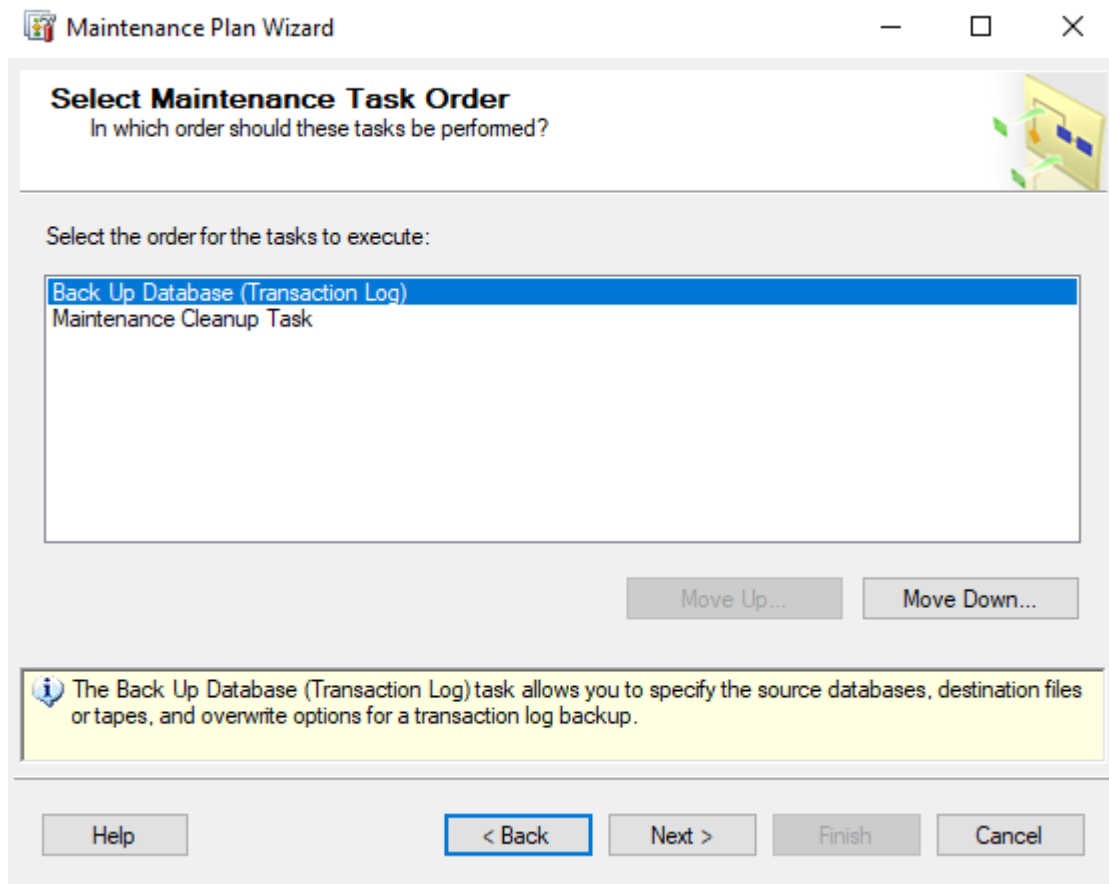
- Name:** A text box containing 'MES Transaction Logs'.
- Description:** A text box containing 'MES Transaction Logs Backup'.
- Run as:** A dropdown menu showing 'SQL Server Agent service account'.
- Scheduling options:** Two radio buttons. The first is 'Separate schedules for each task' (unselected). The second is 'Single schedule for the entire plan or no schedule' (selected).
- Schedule:** A text box containing 'Occurs every week on Sunday at 12:00:00 AM. Schedule will be used starting'. To the right of this text box is a button labeled 'Change...'.

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

General Destination Options

Backup type: Transaction Log

Database(s): <Select one or more>

Backup component

☒ Database

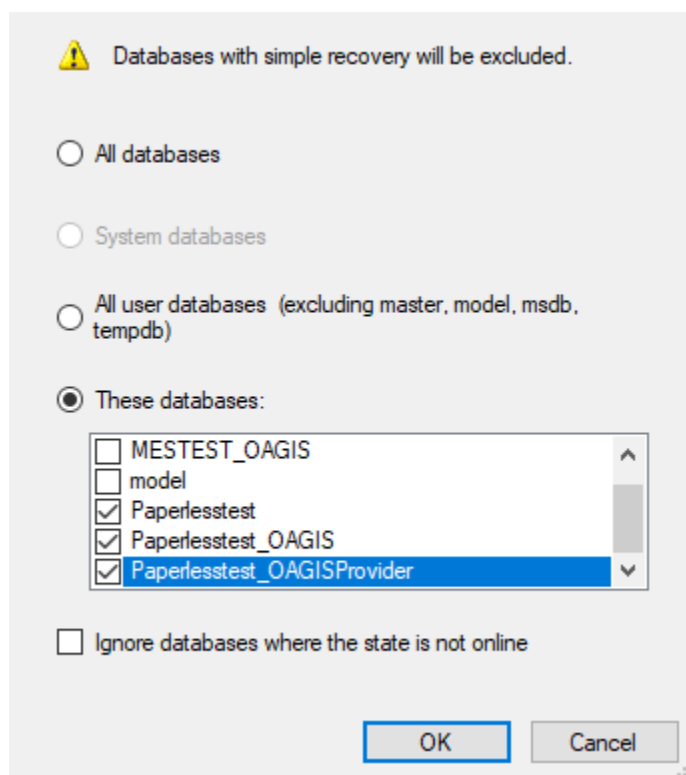
☐ Files and filegroups: ...

Back up to: Disk

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.

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**.

Maintenance Plan Wizard

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

General | **Destination** | Options

☐ Back up databases across one or more files:

☒ Create a backup file for every database
☐ Create a sub-directory for each database

Folder: C:\Program Files\Microsoft SQL Server\MSSQL14.MSS

SQL credential:
 Azure storage container:
 URL prefix: https://<storageaccount>.blob.core.windows.net/
 Backup file extension: tm

Schedule:
 Not scheduled (On Demand)

Help < Back **Next >** Finish >> 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**.

Maintenance Plan Wizard

Define Maintenance Cleanup Task

Configure the maintenance task.

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)

Define the SQL Server Backup folder location.

Check **Include first-level subfolders**.

Define the desired retention period.

Maintenance Plan Wizard

Define Maintenance Cleanup Task

Configure the maintenance task.

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:

Schedule:

Click **Next**.

The screenshot shows the 'Maintenance Plan Wizard' window, specifically the 'Select Report Options' step. The window title is 'Maintenance Plan Wizard'. The subtitle is 'Select options for saving or distributing a report of the maintenance plan actions.' There is a small icon of a folder with arrows in the top right corner. The main area contains two options: 'Write a report to a text file' (checked) and 'E-mail report' (unchecked). Under 'Write a report to a text file', there is a 'Folder location:' label and a text box containing 'C:\Program Files\Microsoft SQL Server\MSSQL14.MSSQLSER' with a browse button '...' to its right. Under 'E-mail report', there is a 'To:' label and a dropdown menu. At the bottom, there are four buttons: 'Help', '< Back', 'Next >' (highlighted with a blue border), and 'Finish >>' and 'Cancel'.

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 2017's Database Mail and a SQL Server Agent Operator first. Refer to SQL Server 2017 Books Online.

Click **Next**.

Maintenance Plan Wizard Progress

Click Stop to interrupt the operation.

**1 Remaining**5 Total
4 Success0 Error
0 Warning

Details:

Action	Status	Message
✓ Creating maintenance plan "MES Transaction ...	Success	
✓ Adding tasks to the maintenance plan	Success	
✓ Adding scheduling options	Success	
✓ Adding reporting options	Success	
Saving maintenance plan "MES Transaction L...		

Stop

Report ▼

Close

Maintenance Plan Wizard Progress

Click Stop to interrupt the operation.

**Success**5 Total
5 Success0 Error
0 Warning

Details:

Action	Status	Message
✓ Creating maintenance plan "MES Transaction ...	Success	
✓ Adding tasks to the maintenance plan	Success	
✓ Adding scheduling options	Success	
✓ Adding reporting options	Success	
✓ Saving maintenance plan "MES Transaction L...	Success	

Stop

Report ▼

Close

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.