



eSilo Backup: Automating MSSQL Backups

Revision 24

eSilo Backup can also be used to backup databases, including those from Microsoft SQL Server. This document describes the steps required to accomplish this using eSilo's MSSQL database backup script in conjunction with eSilo's file backup agent to provide the best database backup solution.

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Overview

eSilo utilizes the existing database backup functionality within MSSQL in order to provide backups of its databases. eSilo provides a script which will perform a complete backup of your SQL databases to a fixed location. It backs up all the user databases and checks the recovery mode in case it has to back up the log file. To use this script, you will need to extract the ZIP file to a fixed location, configure the appropriate options in at the top of the script file, and use Windows Task Scheduler to schedule the execution of the script. Then you will be able to configure eSilo Backup to back up the files generated. Please follow the steps below.

Requirements

Use of eSilo's database backup script has a few requirements that must be met:

1. **Enough free space to write the database backup files**
The amount of free space required primarily depends on the size of the database(s) being backed up. Since the script also splits the database backup files, the amount of space required could be as high as two times the size of the .bak files created. If you are unsure of the size of your database backups, you can run the script manually and multiply the size of all *.000 files by 2 to get the maximum amount of free space required.
2. **Microsoft's osql.exe command-line utility**
The osql.exe utility is installed with Microsoft SQL Server. If it is missing on your system, you will need to install it before using this script.
3. **Supporting utility programs**
The backup script uses two utility programs, esplit.exe and wtee.exe that are provided along with the script within the ZIP file.

Preparation

Download and extract the files required for database backup.

You can download the ZIP file from here:

http://downloads.esilo.com/esilo_backup_db_mssql.zip

Extract the entire "esilo_backup_db_mssql.zip" file to a folder (Ex: "d:\esilo_files\")

The ZIP archive contains the following files:

- **esilo_backup_db_mssql.cmd**
The primary backup script
- **esilo_backup_db_mssql_trn.cmd**
The backup script for backing up transaction logs
- **esplit.exe**
Utility program for splitting files into pieces
- **wtee.exe**
Utility program for outputting to the console and a file simultaneously
- **eSilo Backup - MSSQL via Script.pdf**
This documentation file

Basic Configuration

Configure the script by opening up the “esilo_backup_db_mssql.cmd” file in a text editor and modifying a few lines.

The following are the variables in the script that will most likely need to be customized:

Database instances

Update the following line:

```
set DATABASE_SERVERS_AND_INSTANCES=myserver myserver\myinstance
```

...so that it refers to your database instance(s).

Script directory

Update the following line:

```
set SCRIPT_DIR=C:\esilo_database_backups
```

...replacing “c:\esilo_database_backups” with the full path of the folder in which you placed the backup script and supporting files.

Backup directory

Update the following line:

```
set BACKUP_DIR=C:\esilo_database_backups
```

...replacing “c:\esilo_database_backups” with the full path of the folder in which you would like the database backup files to be stored. Subdirectories will be created under the path you specify, such as “C:\esilo_database_backups\backups\SERVER\INSTANCE”

Note: If you need to backup to a remote UNC path, you can specify the UNC path here. See XXX for more details

Miscellaneous Options

The following are the variables in the script that in most cases can be left with the default values, but can be customized as needed:

Split Size

Variable.....: SPLIT_SIZE
Description....: The size into which the database backup files should be split
Required.....: Yes
Default.....: 34359738368 (32 GiB)
Valid Values...: 1073741824 (1 GiB) - 68719476736 (64 GiB)

Update the following line:

```
set SPLIT_SIZE=34359738368
```

...replacing “34359738368” with size into which you would like files to be split. This value must be less than or equal to 68719476736 (64 GiB).

OSQL Path

Variable.....: OSQLEXE
Description....: Path to the Microsoft SQL Server osql command line tool
Required.....: Yes
Default.....: osql.exe

If you have more than one version of SQL Server installed, you can set this variable to the full path of the osql.exe utility for the version you want to use. Otherwise, you can leave the default value to use your system's default.

Update the following line:

```
set OSQLEXE=osql.exe
```

...replacing “osql.exe” with the full path to the osql.exe utility.

SQL Authentication Options

If your database does not support Windows authentication, you can set SQL_AUTHMODE equal to "SQL" and provide the SQL Server username using the SQL_USERNAME variable and the SQL Server password using the SQL_PASSWORD variable. If you use the default authentication method of WINDOWS, no username or password is required.

The following are the variables in the script that are used for customizing SQL authentication:

Authentication Method

Variable.....: SQL_AUTHMODE
Description....: The authentication method to use when connecting to the database.
Required.....: Yes
Valid Values...: WINDOWS | SQL
Default.....: WINDOWS

SQL Username

Variable.....: SQL_USERNAME
Description....: The username for authenticating with the SQL Server
Required.....: Only if SQL_AUTHMODE is set to SQL
Default.....: sa

SQL Password

Variable.....: SQL_PASSWORD
Description....: The password for authenticating with the SQL Server
Required.....: Only if SQL_AUTHMODE is set to SQL
Default.....: password

Using Network Paths

If you will be writing the backup files to a network path, you will need to do the following:

1. Set the BACKUP_PATH to the full UNC path (e.g. \\server\share\folder) in which you would like the backup files stored.

Note: Do not set BACKUP_PATH to the network-mapped drive (e.g. Z:\share). This will not work because SQL Server does not have access to network mapped drive letters.

2. Set NET_PATH equal to the UNC share (e.g. \\server\share) with which you would like to authenticate (and mount if NET_DRIVE is specified).
3. If you will be mapping the UNC path to a drive letter (to be used by eSilo Backup), set NET_DRIVE to the drive letter you would like to use (e.g. Z)
4. If Authentication is required to access the NET_PATH you specified, you will also need to:
 1. Set NET_USERNAME to the username of the Windows user with permissions to access the network path (e.g. johnsmith)
 2. Set NET_PASSWORD to the password of the Windows user with the permissions to access the network path (e.g. MyPassword123)
5. Configure eSilo Backup to backup the appropriate folder on the mapped drive (e.g. Z:\backups)
6. Change the credentials with which the “SQL Server (INSTANCENAME)” service runs
7. Restart the “SQL Server (INSTANCENAME)” service
8. Ensure that the set of credentials used to run the service has permission to access the UNC path you specify with BACKUP_DIR

The following are the variables in the script that are used for customizing network path authentication and mounting:

Network Path

Variable.....: NET_PATH
Description....: The network path to access (and mount if NET_DRIVE is specified)
Required.....: Only if NET_DRIVE is specified, otherwise optional
Valid Values...: Any valid UNC path
Default.....: (none)

Network Drive

Variable.....: NET_DRIVE
Description....: The drive letter to which the network path should be mounted
Required.....: No
Valid Values...: Any valid unused drive letter
Default.....: (none)

Network Username

Variable.....: NET_USERNAME
Description....: The username for connecting to the SQL Server
Required.....: Only if AUTH_METHOD is set to SQL
Default.....: (none)

Network Password

Variable.....: NET_PASSWORD
Description....: The authentication method to use when connecting to the database.
Required.....: Only if AUTH_METHOD is set to SQL
Default.....: (none)

Test Backup Script

After configuring the backup script, you should test it by running it manually and verifying that it completes successfully, including connecting to the database, authenticating with the database, connecting to and mapping any needed network drives, writing out all backup files, and splitting them into pieces.

Configure eSilo Backup Schedule

After configuring and testing the backup script, you need to modify your eSilo Backup schedule so that it executes the script as a Pre-Backup command. You can do this by following these steps:

1. Open eSilo Backup and log in as the user running the SQL backup schedule
2. Open your backup schedule (Schedule → Edit → <Your Schedule Name>)
3. Click on the “Files to Backup” tab
4. Locate the folder in which your script was configured to store the database backup files and place a check in the checkbox next to it
5. Click on the “Advanced Options” tab
6. Click the “...” button next to the “Pre-Backup Command” option
7. Select the `esilo_backup_db_mssql.cmd` file that you customized
8. Place a check in the checkbox next to “Abort backup if Pre-Backup command fails” – This will ensure that you will be notified via email if the backup script fails.

Support

For additional information and assistance, please contact eSilo support:

E-mail.....: support@esilo.com

Phone.....: 561-747-6880

Fax.....: 561-747-6488

Toll Free.....: (800) 747-9255

After Hours.....: (866) 598-1358 (hours not between 9:00am and 5:00pm EST)