



Windows PowerShell Get-Help on Cmdlet 'Backup-SqlDatabase'

PS:\>Get-HELP Backup-SqlDatabase -Full

NAME

Backup-SqlDatabase

SYNOPSIS

Backs up SQL Server database objects.

SYNTAX

```
Backup-SqlDatabase [-Database] <String> [[-BackupFile] <String[]>] [-AccessToken <PSObject>] [-BackupAction  
{Database | Files | Log}] [-BackupContainer <String>]  
  
[-BackupDevice <BackupDeviceItem[]>] [-BackupSetDescription <String>] [-BackupSetName <String>] [-BlockSize  
<Int32>] [-BufferCount <Int32>] [-Checksum]  
  
[-CompressionOption {Default | On | Off}] [-ConnectionTimeout <Int32>] [-ContinueAfterError] [-CopyOnly] [-Credential  
<PSCredential>] [-DatabaseFile <String[]>]  
  
[-DatabaseFileGroup <String[]>] [-Encrypt {Mandatory | Optional | Strict}] [-EncryptionOption <BackupEncryptionOptions>]  
[-ExpirationDate <DateTime>] [-FormatMedia]  
  
[-HostNameInCertificate <String>] [-Incremental] [-Initialize] [-LogTruncationType {TruncateOnly | NoTruncate | Truncate}]  
[-MaxTransferSize <Int32>]  
  
[-MediaDescription <String>] [-MediaName <String>] [-MirrorDevices <BackupDeviceList[]>] [-NoRecovery] [-NoRewind]  
[-PassThru] [-ProgressAction <ActionPreference>]
```

[-Restart] [-RetainDays <Int32>] [-Script] -ServerInstance <String[]> [-SkipTapeHeader] [-SqlCredential <PSObject>]
[-StatementTimeout <Int32>]

[-TrustServerCertificate] [-UndoFileName <String>] [-UnloadTapeAfter] [-Confirm] [-WhatIf] [<CommonParameters>]

Backup-SqlDatabase [-Database] <String> [[-BackupFile] <String[]>] [-AccessToken <PSObject>] [-BackupAction
{Database | Files | Log}] [-BackupContainer <String>]

[-BackupDevice <BackupDeviceItem[]>] [-BackupSetDescription <String>] [-BackupSetName <String>] [-BlockSize
<Int32>] [-BufferCount <Int32>] [-Checksum]

[-CompressionOption {Default | On | Off}] [-ContinueAfterError] [-CopyOnly] [-DatabaseFile <String[]>]
[-DatabaseFileGroup <String[]>] [-Encrypt {Mandatory | Optional

| Strict}] [-EncryptionOption <BackupEncryptionOptions>] [-ExpirationDate <DateTime>] [-FormatMedia]
[-HostNameInCertificate <String>] [-Incremental] [-Initialize]

[-LogTruncationType {TruncateOnly | NoTruncate | Truncate}] [-MaxTransferSize <Int32>] [-MediaDescription <String>]
[-MediaName <String>] [-MirrorDevices

<BackupDeviceList[]>] [-NoRecovery] [-NoRewind] [-PassThru] [-Path <String[]>] [-ProgressAction <ActionPreference>]
[-Restart] [-RetainDays <Int32>] [-Script]

[-SkipTapeHeader] [-SqlCredential <PSObject>] [-StatementTimeout <Int32>] [-TrustServerCertificate] [-UndoFileName
<String>] [-UnloadTapeAfter] [-Confirm] [-WhatIf]

[<CommonParameters>]

Backup-SqlDatabase [-Database] <String> [[-BackupFile] <String[]>] [-AccessToken <PSObject>] [-BackupAction
{Database | Files | Log}] [-BackupContainer <String>]

[-BackupDevice <BackupDeviceItem[]>] [-BackupSetDescription <String>] [-BackupSetName <String>] [-BlockSize
<Int32>] [-BufferCount <Int32>] [-Checksum]

[-CompressionOption {Default | On | Off}] [-ContinueAfterError] [-CopyOnly] [-DatabaseFile <String[]>]
[-DatabaseFileGroup <String[]>] [-Encrypt {Mandatory | Optional

| Strict}] [-EncryptionOption <BackupEncryptionOptions>] [-ExpirationDate <DateTime>] [-FormatMedia]
[-HostNameInCertificate <String>] [-Incremental] [-Initialize]

-InputObject <Server[]> [-LogTruncationType {TruncateOnly | NoTruncate | Truncate}] [-MaxTransferSize <Int32>]
[-MediaDescription <String>] [-MediaName <String>]

[-MirrorDevices <BackupDeviceList[]>] [-NoRecovery] [-NoRewind] [-PassThru] [-ProgressAction <ActionPreference>]
[-Restart] [-RetainDays <Int32>] [-Script]

[-SkipTapeHeader] [-SqlCredential <PSObject>] [-StatementTimeout <Int32>] [-TrustServerCertificate] [-UndoFileName

<String>] [-UnloadTapeAfter] [-Confirm] [-WhatIf]

[<CommonParameters>]

Backup-SqlDatabase [-DatabaseObject] <Database> [[-BackupFile] <String[]>] [-AccessToken <PSObject>]
[-BackupAction {Database | Files | Log}] [-BackupContainer
<String>] [-BackupDevice <BackupDeviceItem[]>] [-BackupSetDescription <String>] [-BackupSetName <String>]
[-BlockSize <Int32>] [-BufferCount <Int32>] [-Checksum]
[-CompressionOption {Default | On | Off}] [-ContinueAfterError] [-CopyOnly] [-DatabaseFile <String[]>]
[-DatabaseFileGroup <String[]>] [-Encrypt {Mandatory | Optional
| Strict}] [-EncryptionOption <BackupEncryptionOptions>] [-ExpirationDate <DateTime>] [-FormatMedia]
[-HostNameInCertificate <String>] [-Incremental] [-Initialize]
[-LogTruncationType {TruncateOnly | NoTruncate | Truncate}] [-MaxTransferSize <Int32>] [-MediaDescription <String>]
[-MediaName <String>] [-MirrorDevices
<BackupDeviceList[]>] [-NoRecovery] [-NoRewind] [-PassThru] [-ProgressAction <ActionPreference>] [-Restart]
[-RetainDays <Int32>] [-Script] [-SkipTapeHeader]
[-SqlCredential <PSObject>] [-StatementTimeout <Int32>] [-TrustServerCertificate] [-UndoFileName <String>]
[-UnloadTapeAfter] [-Confirm] [-WhatIf] [<CommonParameters>]

DESCRIPTION

The Backup-SqlDatabase cmdlet performs backup operations on a SQL Server database.

This includes full database backups, transaction log backups, and database file backups.

This cmdlet is modeled after the Microsoft.SqlServer.Management.Smo.Backup class.

The parameters on this class generally correspond to properties on that Smo object.

To back up a database by server instance path and database name, specify the server instance path in the Path parameter and the database name in the Database parameter.

To back up a database using an Smo.Server object and database name, specify the Smo.Server object in the InputObject

parameter, either directly or by using the

pipeline operator, and the database name in the Database parameter.

To back up a database by server instance and database name, specify the server instance in the ServerInstance parameter and the database name in the Database parameter.

To back up a database using an Smo.Database object, specify the Smo.Database object in the DatabaseObject parameter, either directly or by using the pipeline operator.

By default this cmdlet performs a full database backup.

Set the type of the backup by using the BackupAction parameter.

By default the backup file is stored in the default server backup location under the name databasename.bak for full and/or file backups and under the name databasename.trn for log backups. To specify a different file name, use the BackupFile parameter.

To specify a backup file location and use an auto-generated file name, specify the location by using the BackupContainer parameter.

PARAMETERS

-AccessToken <PSObject>

The access token used to authenticate to SQL Server, as an alternative to user/password or Windows Authentication.

This can be used, for example, to connect to `SQL Azure DB` and `SQL Azure Managed Instance` using a `Service Principal` or a `Managed Identity`.

The parameter to use can be either a string representing the token or a `PSAccessToken` object as returned by running `Get-AzAccessToken -ResourceUri https://database.windows.net``.

> This parameter is new in v22 of the module.

Required?	false
Position?	named
Default value	None
Accept pipeline input?	False
Accept wildcard characters?	false

-BackupAction <BackupActionType>

Specifies the type of backup operation to perform. Valid values are:

- Database. Backs up all the data files in the database.
- Files. Backs up data files specified in the DatabaseFile or DatabaseFileGroup parameters.
- Log. Backs up the transaction log.

Required?	false
Position?	named
Default value	None
Accept pipeline input?	False
Accept wildcard characters?	false

-BackupContainer <String>

Specifies the folder or location where the cmdlet stores backups. This can be a folder on a disk or URL for an Azure Blob container. This parameter can be useful

when backing up multiple databases in a given instance. This parameter cannot be used with a BackupDevice parameter. The BackupContainer parameter cannot be used with the BackupFile parameter.

The path used to specify the location should end with a forward slash (/).

Required?	false
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Position? named
Default value None
Accept pipeline input? False
Accept wildcard characters? false

-BackupDevice <BackupDeviceItem[]>

Specifies the devices where the backups are stored. This parameter cannot be used with the BackupFile parameter.
Use this parameter if you are backing up to tape.

Required? false
Position? named
Default value None
Accept pipeline input? False
Accept wildcard characters? false

-BackupFile <String[]>

Specifies the location and filename(s) for the backup.

This is an optional parameter.

If not specified, the backups are stored in the default backup location of the server under the name `databasename.bak` for full and file backups, or `databasename.trn` for log backups.

When backing up to multiple files, separate the filenames with commas, for example: ``-BackupFile C:\Backups\databasename2.bak,C:\Backups\databasename2.bak``

This parameter cannot be used with the ``-BackupDevice`` or ``-BackupContainer`` parameters.

Required? false
Position? 2
Default value None
Accept pipeline input? False

Accept wildcard characters? false

-BackupSetDescription <String>

Specifies the description of the backup set. This parameter is optional.

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-BackupSetName <String>

Specifies the name of the backup set.

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-BlockSize <Int32>

Specifies the physical block size for the backup, in bytes. The supported sizes are 512, 1024, 2048, 4096, 8192, 16384, 32768, and 65536 (64 KB) bytes. The default is 65536 for tape devices and 512 for all other devices.

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-BufferCount <Int32>

Specifies the number of I/O buffers to use for the backup operation. You can specify any positive integer. There is

insufficient virtual address space in the

Sqlservr.exe process for the buffers, you will receive an out of memory error.

Required?	false
Position?	named
Default value	None
Accept pipeline input?	False
Accept wildcard characters?	false

-Checksum [<SwitchParameter>]

Indicates that a checksum value is calculated during the backup operation.

Required?	false
Position?	named
Default value	False
Accept pipeline input?	False
Accept wildcard characters?	false

-CompressionOption <BackupCompressionOptions>

Specifies the compression options for the backup operation.

Required?	false
Position?	named
Default value	None
Accept pipeline input?	False
Accept wildcard characters?	false

-ConnectionTimeout <Int32>

Specifies the number of seconds to wait for a server connection before a timeout failure. The timeout value must be an integer between 0 and 65534. If 0 is specified, connection attempts do not timeout.

Required?	false
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Position? named
Default value None
Accept pipeline input? False
Accept wildcard characters? false

-ContinueAfterError [<SwitchParameter>]

Indicates that the operation continues when a checksum error occurs. If not set, the operation will fail after a checksum error.

Required? false
Position? named
Default value False
Accept pipeline input? False
Accept wildcard characters? false

-CopyOnly [<SwitchParameter>]

Indicates that the backup is a copy-only backup. A copy-only backup does not affect the normal sequence of your regularly scheduled conventional backups.

Required? false
Position? named
Default value False
Accept pipeline input? False
Accept wildcard characters? false

-Credential <PSCredential>

Specifies a PSCredential object that contains the credentials for a SQL Server login that has permission to perform this operation. This is not the SQL credential object that is used to store authentication information internally by SQL Server when accessing resources outside SQL Server.

Required? false
Position? named

Default value None
Accept pipeline input? False
Accept wildcard characters? false

-Database <String>

Specifies the name of the database to back up. This parameter cannot be used with the DatabaseObject parameter.

When this parameter is specified, the Path,

InputObject, or ServerInstance parameters must also be specified.

Required? true
Position? 1
Default value None
Accept pipeline input? False
Accept wildcard characters? false

-DatabaseFile <String[]>

Specifies one or more database files to back up. This parameter is only used when BackupAction is set to Files. When BackupAction is set to Files, either the

DatabaseFileGroups or DatabaseFiles parameter must be specified.

Required? false
Position? named
Default value None
Accept pipeline input? False
Accept wildcard characters? false

-DatabaseFileGroup <String[]>

Specifies the database file groups targeted by the backup operation. This parameter is only used when BackupAction property is set to Files. When BackupAction

parameter is set to Files, either the DatabaseFileGroups or DatabaseFiles parameter must be specified.

Required? false
Position? named

Default value None
Accept pipeline input? False
Accept wildcard characters? false

-DatabaseObject <Database>

Specifies the database object for the backup operation.

Required? true
Position? 1
Default value None
Accept pipeline input? True (ByValue)
Accept wildcard characters? false

-Encrypt <String>

The encryption type to use when connecting to SQL Server.

This value maps to the `Encrypt` property `SqlConnectionEncryptOption` on the SqlConnection object of the Microsoft.Data.SqlClient driver.

In v22 of the module, the default is `Optional` (for compatibility with v21). In v23+ of the module, the default value will be 'Mandatory', which may create a breaking change for existing scripts.

> This parameter is new in v22 of the module.

Required? false
Position? named
Default value None
Accept pipeline input? False
Accept wildcard characters? false

-EncryptionOption <BackupEncryptionOptions>

Specifies the encryption options for the backup operation.

Required? false
Position? named
Default value None
Accept pipeline input? False
Accept wildcard characters? false

-ExpirationDate <DateTime>

Specifies the date and time when the backup set expires and the backup data is no longer considered valid. This can only be used for backup data stored on disk or tape devices. Backup sets older than the expiration date are available to be overwritten by a later backup.

Required? false
Position? named
Default value None
Accept pipeline input? False
Accept wildcard characters? false

-FormatMedia [<SwitchParameter>]

Indicates that the tape is formatted as the first step of the backup operation. This doesnot apply to a disk backup.

Required? false
Position? named
Default value False
Accept pipeline input? False
Accept wildcard characters? false

-HostNameInCertificate <String>

The host name to be used in validating the SQL Server TLS/SSL certificate. You must pass this parameter if your SQL Server instance is enabled for Force

Encryption and you want to connect to an instance using hostname/shortname. If this parameter is omitted then passing the Fully Qualified Domain Name (FQDN) to

-ServerInstance is necessary to connect to a SQL Server instance enabled for Force Encryption.

> This parameter is new in v22 of the module.

Required?	false
Position?	named
Default value	None
Accept pipeline input?	False
Accept wildcard characters?	false

-Incremental [<SwitchParameter>]

Indicates that a differential backup is performed.

Required?	false
Position?	named
Default value	False
Accept pipeline input?	False
Accept wildcard characters?	false

-Initialize [<SwitchParameter>]

Indicates that devices associated with the backup operation are initialized. This overwrites any existing backup sets on the media and makes this backup the first backup set on the media.

Required?	false
Position?	named
Default value	False
Accept pipeline input?	False
Accept wildcard characters?	false

-InputObject <Server[]>

Specifies the server object for the backup location.

Required?	true
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Position? named
Default value None
Accept pipeline input? True (ByValue)
Accept wildcard characters? false

-LogTruncationType <BackupTruncateLogType>

Specifies the truncation behavior for log backups. Valid values are:

-- TruncateOnly

-- NoTruncate

-- Truncate

The default value is Truncate.

Required? false
Position? named
Default value None
Accept pipeline input? False
Accept wildcard characters? false

-MaxTransferSize <Int32>

Specifies the maximum number of bytes to be transferred between the backup media and the instance of SQL Server.

The possible values are multiples of 65536 bytes

(64 KB), up to 4194304 bytes (4 MB).

Required? false
Position? named
Default value None
Accept pipeline input? False

Accept wildcard characters? false

-MediaDescription <String>

Specifies the description for the medium that contains the backup set. This parameter is optional.

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-MediaName <String>

Specifies the name used to identify the media set.

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-MirrorDevices <BackupDeviceList[]>

Specifies an array of BackupDeviceList objects used by the mirrored backup.

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-NoRecovery [<SwitchParameter>]

Indicates that the tail end of the log is not backed up. When restored, the database is in the restoring state. When not set, the tail end of the log is backed

up. This only applies when the BackupAction parameter is set to Log.

Required?	false
Position?	named
Default value	False
Accept pipeline input?	False
Accept wildcard characters?	false

-NoRewind [<SwitchParameter>]

Indicates that a tape drive is left open at the ending position when the backup completes. When not set, the tape is rewound after the operation completes. This does not apply to disk or URL backups.

Required?	false
Position?	named
Default value	False
Accept pipeline input?	False
Accept wildcard characters?	false

-PassThru [<SwitchParameter>]

Indicates that the cmdlet outputs the Smo.Backup object that performed the backup.

Required?	false
Position?	named
Default value	False
Accept pipeline input?	False
Accept wildcard characters?	false

-Path <String[]>

Specifies the path to the instance of SQL Server to execute the backup operation. This is an optional parameter. If not specified, the value of this parameter defaults to the current working location.

Required?	false
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Position? named
Default value None
Accept pipeline input? False
Accept wildcard characters? false

-ProgressAction <ActionPreference>

Determines how PowerShell responds to progress updates generated by a script, cmdlet, or provider, such as the progress bars generated by the Write-Progress

cmdlet. The Write-Progress cmdlet creates progress bars that show a command's status.

Required? false
Position? named
Default value None
Accept pipeline input? False
Accept wildcard characters? false

-Restart [<SwitchParameter>]

Indicates that the cmdlet continues processing a partially completed backup operation. If not set, the cmdlet restarts an interrupted backup operation at the

beginning of the backup set.

Required? false
Position? named
Default value False
Accept pipeline input? False
Accept wildcard characters? false

-RetainDays <Int32>

Specifies the number of days that must elapse before a backup set can be overwritten. This can only be used for backup data stored on disk or tape devices.

Required? false
Position? named

Default value None
Accept pipeline input? False
Accept wildcard characters? false

-Script [<SwitchParameter>]

Indicates that this cmdlet outputs a Transact-SQL script that performs the backup operation.

Required? false
Position? named
Default value False
Accept pipeline input? False
Accept wildcard characters? false

-ServerInstance <String[]>

Specifies the name of a SQL Server instance. This server instance becomes the target of the backup operation.

Required? true
Position? named
Default value None
Accept pipeline input? True (ByPropertyName, ByValue)
Accept wildcard characters? false

-SkipTapeHeader [<SwitchParameter>]

Indicates that the tape header is not read.

Required? false
Position? named
Default value False
Accept pipeline input? False
Accept wildcard characters? false

-SqlCredential <PSObject>

Specifies an SQL Server credential object that stores authentication information. If you are backing up to **Page 18/25**
BOS storage

service, you must specify this parameter.

The authentication information stored includes the Storage account name and the associated access key values. Do not specify this parameter for disk or tape.

Required?	false
Position?	named
Default value	None
Accept pipeline input?	False
Accept wildcard characters?	false

-StatementTimeout <Int32>

Set the timeout (in seconds) for the back-up operation.

If the value is 0 or the StatementTimeout parameter is not specified, the restore operation is not going to timeout.

Required?	false
Position?	named
Default value	0
Accept pipeline input?	False
Accept wildcard characters?	false

-TrustServerCertificate [<SwitchParameter>]

Indicates whether the channel will be encrypted while bypassing walking the certificate chain to validate trust.

In v22 of the module, the default is ``$true`` (for compatibility with v21). In v23+ of the module, the default value will be ``$false``, which may create a breaking change for existing scripts.

> This parameter is new in v22 of the module.

Required?	false
Position?	named
Default value	False

Accept pipeline input? False

Accept wildcard characters? false

-UndoFileName <String>

Specifies the name of the undo file used to store uncommitted transactions that are rolled back during recovery.

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-UnloadTapeAfter [<SwitchParameter>]

Indicates that the tape device is rewound and unloaded when the operation finishes. If not set, no attempt is made to rewind and unload the tape medium. This does not apply to disk or URL backups.

Required? false

Position? named

Default value False

Accept pipeline input? False

Accept wildcard characters? false

-Confirm [<SwitchParameter>]

Prompts you for confirmation before running the cmdlet. Prompts you for confirmation before running the cmdlet.

Required? false

Position? named

Default value False

Accept pipeline input? False

Accept wildcard characters? false

-WhatIf [<SwitchParameter>]

Shows what would happen if the cmdlet runs. The cmdlet is not run. Shows what would happen if the cmdlet runs. The cmdlet is not run.

Required?	false
Position?	named
Default value	False
Accept pipeline input?	False
Accept wildcard characters?	false

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<https://go.microsoft.com/fwlink/?LinkID=113216>).

INPUTS

SMO.Server

Microsoft.SqlServer.Management.Smo.Database

Microsoft.SqlServer.Management.Smo.Server[]

Specifies an SMO.Server object referring to the instance of SQL Server on which the backup operation occurs.

System.String[]

OUTPUTS

System.Object

NOTES

----- Example 1: Backup a complete database -----

```
PS C:\> Backup-SqlDatabase -ServerInstance "Computer\Instance" -Database "MainDB"
```

This command creates a complete database backup of the database named 'MainDB' to the default backup location of the server instance 'Computer\Instance'. The backup

file is named 'MainDB.bak'.

----- Example 2: Backup a database based on location -----

```
PS C:\> Set-Location "SQLSERVER:\SQL\Computer\Instance"
```

```
PS SQLSERVER:\SQL\Computer\Instance> Backup-SqlDatabase -Database "MainDB"
```

This command creates a complete database backup of the database 'MainDB' to the default backup location of the server instance 'Computer\Instance'. The current

working directory is used to determine the server instance where the backup occurs.

----- Example 3: Backup the transaction log -----

```
PS C:\> Backup-SqlDatabase -ServerInstance "Computer\Instance" -Database "MainDB" -BackupAction Log
```

This command creates a backup of the transaction log of the database 'MainDB' to the default backup location of the server instance 'Computer\Instance'. The backup

file is named 'MainDB.trn'.

--- Example 4: Backup a database and prompt for credentials ---

```
PS C:\> Backup-SqlDatabase -ServerInstance "Computer\Instance" -Database "MainDB" -Credential (Get-Credential "sa")
```

This command creates a complete database backup of the database 'MainDB' using the 'sa' SQL Server login. This command prompts for a password to complete the authentication.

----- Example 5: Backup a database to a network file share -----

```
PS C:\> Backup-SqlDatabase -ServerInstance "Computer\Instance" -Database "MainDB" -BackupFile  
"\\mainserver\databasebackup\MainDB.bak"
```

This command creates a complete database backup of the database 'MainDB' to the file '\\mainserver\databasebackup\MainDB.bak'.

----- Example 6: Backup all databases in a server instance -----

```
PS C:\> Get-ChildItem "SQLSERVER:\SQL\Computer\Instance\Databases" | Backup-SqlDatabase
```

This command backs up all databases on the server instance 'Computer\Instance' to the default backup location. The backup files are named <database name>.bak.

Example 7: Backup all databases in a server instance to a network file share

```
PS C:\> Set-Location "SQLSERVER:\SQL\Computer\Instance\Databases"  
PS SQLSERVER:\SQL\Computer\Instance\Databases> foreach ($database in (Get-ChildItem)) {  
    $dbName = $database.Name  
    Backup-SqlDatabase -Database $dbName -BackupFile "\\mainserver\databasebackup\$dbName.bak" }
```

This command creates a full backup for each database on the server instance 'Computer\Instance' to the share '\\mainserver\databasebackup'. The backup files are named <database name>.bak.

----- Example 8: Backup all files in secondary file groups -----

```
PS C:\> Backup-SqlDatabase -ServerInstance "Computer\Instance" -Database "MainDB" -BackupAction Files  
-DatabaseFileGroup "FileGroupJan","FileGroupFeb"
```

This command creates a full file backup of every file in the secondary filegroups 'FileGroupJan' and 'FileGroupFeb'.

----- Example 9: Create a differential backup -----

```
PS C:\> Backup-SqlDatabase -ServerInstance "Computer\Instance" -Database "MainDB" -Incremental
```

This command creates a differential backup of the database 'MainDB' to the default backup location of the server instance 'Computer\Instance'. The backup file is

named "MainDB.bak".

----- Example 10: Create a backup to a tape drive -----

```
PS C:\> $TapeDevice = New-Object Microsoft.Sqlserver.Management.Smo.BackupDeviceItem("\\.\tape0", "Tape")
```

```
PS C:\> Backup-SqlDatabase -ServerInstance "Computer\Instance" -Database "MainDB" -BackupDevice $TapeDevice
```

This command creates a full backup of the database MainDB to the tape device "\\.\tape0". To represent this device, the command constructs an instance of the

Microsoft.Sqlserver.Management.Smo.BackupDeviceItem object. The constructor takes two arguments, the name of the backup device and the type of the backup device. This

BackupDeviceItem object is passed to the BackupDevice parameter of the Backup-SqlDatabase cmdlet.

Example 11: Backup a database to the Azure Blob Storage service

```
PS C:\> Backup-SqlDatabase -ServerInstance "Computer\Instance" -Database "MainDB" -BackupContainer  
"https://storageaccountname.blob.core.windows.net/containername"  
-SqlCredential "SQLCredentialName"
```

This command creates a full backup of the database 'MainDB' to the Windows Azure Blob Storage service. It uses BackupContainer to specify the location (URL) of the

Windows Azure Blob container. The name of the backup file is auto-generated. The SqlCredential parameter is used to specify the name of the SQL Server credential that

stores the authentication information.

Example 12: Backup a database to the Azure Blob Storage service and specify the file name

```
PS C:\> Backup-SqlDatabase -ServerInstance "Computer\Instance" -Database "MainyDB" -BackupFile  
"https://storageaccountname.blob.core.windows.net/containername/MainDB.bak" -SqlCredential "SQLCredentialName"
```

This command creates a full backup of the database MainDB to the Windows Azure Blob Storage service. It uses the

BackupFile parameter to specify the location (URL)

and the backup file name. The SqlCredential parameter is used to specify the name of the SQL Server credential.

Example 13: Backup all databases to the Azure Blob Storage service

```
PS C:\> Get-ChildItem "SQLSERVER:\SQL\Computer\Instance\Databases" | Backup-SqlDatabase -BackupContainer  
"https://storageaccountname.blob.core.windows.net/containername" -SqlCredential "SQLCredentialName"
```

This command backs up all databases on the server instance 'Computer\Instance' to the Windows Azure Blob Storage service location by using the BackupContainer

parameter. The backup file names are auto generated.

----- Example 14: Create an encrypted backup -----

```
PS C:\> $EncryptionOption = New-SqlBackupEncryptionOption -Algorithm Aes256 -EncryptorType ServerCertificate  
-EncryptorName "BackupCert"
```

```
PS C:\> Backup-SqlDatabase -ServerInstance "." -Database "MainDB" -BackupFile "MainDB.bak" -CompressionOption  
On -EncryptionOption $EncryptionOption
```

This example creates the encryption options and uses it as a parameter value in Backup-SqlDatabase to create an encrypted backup.

RELATED LINKS

Online Version: <https://learn.microsoft.com/powershell/module/sqlserver/backup-sqldatabase>

Restore-SqlDatabase