Windows PowerShell Get-Help on Cmdlet 'Set-SqlAvailabilityGroup'

PS:\>Get-HELP Set-SqlAvailabilityGroup -Full

NAME

Set-SqlAvailabilityGroup

SYNOPSIS

Sets settings on an availability group.

SYNTAX

Set-SqlAvailabilityGroup [-InputObject] <AvailabilityGroup> [-AccessToken <PSObject>] [-AutomatedBackupPreference {Primary | SecondaryOnly | Secondary | None | Unknown}] [-DatabaseHealthTrigger <Boolean>] [-Encrypt {Mandatory | Optional | Strict}] [-FailureConditionLevel {OnServerDown | OnServerUnresponsive | OnCriticalServerErrors | OnModerateServerErrors | OnAnyQualifiedFailureCondition | Unknown}] [-HealthCheckTimeout <Int32>] [-HostNameInCertificate <String>] [-ProgressAction <ActionPreference>] [-RequiredSynchronizedSecondariesToCommit <Int32>] [-Script] [-TrustServerCertificate] [-Confirm] [-WhatIf] [<CommonParameters>]

Set-SqlAvailabilityGroup [[-Path] <String>] [-AccessToken <PSObject>] [-AutomatedBackupPreference {Primary | SecondaryOnly | Secondary | None | Unknown}] [-DatabaseHealthTrigger <Boolean>] [-Encrypt {Mandatory | Optional | Strict}] [-FailureConditionLevel {OnServerDown |

OnServerUnresponsive | OnCriticalServerErrors |

OnModerateServerErrors | OnAnyQualifiedFailureCondition | Unknown}] [-HealthCheckTimeout <Int32>] [-HostNameInCertificate <String>] [-ProgressAction

<ActionPreference>] [-RequiredSynchronizedSecondariesToCommit <Int32>] [-Script] [-TrustServerCertificate] [-Confirm] [-WhatIf] [<CommonParameters>]

DESCRIPTION

The Set-SqlAvailabilityGroup cmdlet modifies settings on an existing availability group in Always On Availability Groups. You can modify the automated backup

preference, the failure condition level, and the health check timeout. You must run this cmdlet on the server instance that hosts the primary replica.

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 -ResourceUrl

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

-AutomatedBackupPreference <AvailabilityGroupAutomatedBackupPreference>

Specifies the automated backup preference for the availability group. The acceptable values for this parameter are:

- Primary. Specifies that the backups always occur on the primary replica. This option supports the use of features not available when backup runs on a secondary replica, such as differential backups. - SecondaryOnly. Specifies that backups are never performed on primary replicas. If the primary replica is the only replica online, the backup does not occur. - Secondary. Specifies that backups occur on secondary replicas, unless the primary replica is the only replica online. Then the backup occurs on the primary replica. - None. Specifies that the primary or secondary status is not taken into account when deciding which replica performs backups. Instead, backup priority and online status determine which replica performs backups.

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-DatabaseHealthTrigger <Boolean>

Specifies whether to trigger an automatic failover of the availability group if any user database replica within an availability group encounters a database failure condition.

Required? false

Position? named

Default value None

Accept pipeline input? False

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

-FailureConditionLevel <AvailabilityGroupFailureConditionLevel>

Specifies the automatic failover behavior of the availability group. The acceptable values for this parameter are:

- OnServerDown. Failover or restart if the SQL Server service stops.

- OnServerUnresponsive. Failover or restart if any condition of lower value is satisfied, plus when the SQL Server

service is connected to the cluster and the HealthCheckTimeout threshold is exceeded, or if the availability replica currently

in primary role is in a failed state. - OnCriticalServerError. Failover or restart if any condition of lower value is satisfied, plus when an internal

critical server error occurs, which include out of memory condition, serious write-access

violation, or too much dumping. - OnModerateServerError. Failover or restart if any condition of lower value is satisfied, plus if a moderate Server

error occurs, wich includes persistent out of memory condition. -OnAnyQualifiedFailureConditions. Failover or restart if any

condition of lower value is satisfied, plus if a qualifying failure condition occurs, which includes engine worker thread

exhaustion and unsolvable deadlock detected.

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-HealthCheckTimeout <Int32>

Specifies the length of time, in milliseconds, after which Always On Availability Groups declares an unresponsive server to be unhealthy.

Required? false

Position? named

Default value None

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

-InputObject <AvailabilityGroup>

Specifies the availability group, as an AvailabilityGroup object, that this cmdlet modifies.

Required? true

Position? 1

Default value None

Accept pipeline input? True (ByValue)

Accept wildcard characters? false

-Path <String>

Specifies the path of the availability database that cmdlet modifies. If you do not specify this parameter, this cmdlet uses current working location.

Required? false

Position? 1

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

-RequiredSynchronizedSecondariesToCommit <Int32>

The number of synchronous commit secondaries that must be available to be able to commit on the primary.

If a `SYNCHRONOUS_COMMIT` secondary is disconnected from the primary for some time, the primary demotes it to `ASYNCHRONOUS_COMMIT` to avoid blocking commits. If

the primary then becomes unavailable and the user wishes to fail over to one of these secondaries, they may incur data loss. By setting

RequiredSynchronizedSecondariesToCommit to some number, the user can prevent the data loss since the primary will start blocking commits if too many secondaries

are demoted to `ASYNCHRONOUS_COMMIT`.

The default value of this setting is 0, which means the primary will never block commits. This is identical to the behavior before SQL Server 2017.

Required? false

Position? named

Default value 0

Accept pipeline input? False

Accept wildcard characters? false

-Script [<SwitchParameter>]

Indicates that this cmdlet returns a Transact-SQL script that performs the task that this cmdlet performs.

Required? false

Position? named

Default value False

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

-Confirm [<SwitchParameter>]

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.

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

Microsoft.SqlServer.Management.Smo.AvailabilityGroup

OUTPUTS

NOTES

------ Example 1: Change the health check timeout period ------

PS C:\> Set-SqlAvailabilityGroup -Path "SQLSERVER:\Sql\PrimaryServer\InstanceName\AvailabilityGroups\MAinAG" -HealthCheckTimeout 120000

This command changes the health check timeout property on the availability group named `MainAG` to `120` seconds, or two minutes. If automatic failover is enabled,

after this length of time, Always On Availability Groups initiates an automatic failover will be initiated.

-------- Example 2: Change automated backup preference --------

PS C:\> Set-SqlAvailabilityGroup -Path "SQLSERVER:\Sql\PrimaryServer\InstanceName\AvailabilityGroups\MainAG" -AutomatedBackupPreference SecondaryOnly

This command changes the automated backup preference on the availability group named `MainAG` to be `SecondaryOnly`. Automated backups of databases in this

availability group do not occur on the primary replica. Instead, automated backups occur on the secondary replica that has the highest backup priority.

-------- Example 3: Change the failure condition level --------

PS C:\> Set-SqlAvailabilityGroup -Path "SQLSERVER:\Sql\PrimaryServer\InstanceName\AvailabilityGroups\MainAG" -FailureConditionLevel OnServerDown

This command changes the failure condition level on the availability group named `MainAG` to be `OnServerDown`. If the server instance that hosts the primary replica

goes offline and if automatic failover is enabled, Always On Availability Groups starts an automatic failover.

Example 4: Change the number of `SYNCHRONOUS_COMMIT` secondaries that must be available for transactions to commit on the primary

```
# Get server and AG
PS C:\> CD 'SQLSERVER:\SQL\some-hostname\Default'
PS SQLSERVER:\SQL\some-hostname\Default> $server = Get-Item $PWD
PS SQLSERVER:\SQL\some-hostname\Default> $ag = $server.AvailabilityGroups[0]
# Alter AG with RequiredCopiesToCommit = 4
PS SQLSERVER:\SQL\some-hostname\Default> $ag | Set-SqlAvailabilityGroup -RequiredSynchronizedSecondariesToCommit 4
```

Note: an exception will be thrown if the -RequiredSynchronizedSecondariesToCommit parameter is used when

the target server version is SQL Server 2016 or lower.

RELATED LINKS

Online Version: https://learn.microsoft.com/powershell/module/sqlserver/set-sqlavailabilitygroup

Join-SqlAvailabilityGroup

New-SqlAvailabilityGroup

Remove-SqlAvailabilityGroup

Switch-SqlAvailabilityGroup

Test-SqlAvailabilityGroup