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

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

NAME

Set-SqlAvailabilityReplica

SYNOPSIS

Sets the settings on an availability replica.

SYNTAX

Set-SqlAvailabilityReplica [-InputObject] <AvailabilityReplica> [-AccessToken <PSObject>] [-AvailabilityMode {AsynchronousCommit | SynchronousCommit | Unknown |

ConfigurationOnly}] [-BackupPriority <Int32>] [-ConnectionModeInPrimaryRole {AllowAllConnections | AllowReadWriteConnections | Unknown}]

[-ConnectionModeInSecondaryRole {AllowNoConnections | AllowReadIntentConnectionsOnly | AllowAllConnections | Unknown}] [-Encrypt {Mandatory | Optional | Strict}]

[-EndpointUrl <String>] [-FailoverMode {Automatic | Manual | External | Unknown}] [-HostNameInCertificate <String>] [-LoadBalancedReadOnlyRoutingList <String[][]>]

[-ProgressAction <ActionPreference>] [-ReadonlyRoutingConnectionUrl <String>] [-ReadOnlyRoutingList <String[]>] [-Script] [-SeedingMode {Automatic | Manual}]

[-SessionTimeout <Int32>] [-TrustServerCertificate] [-Confirm] [-WhatIf] [<CommonParameters>]

Set-SqlAvailabilityReplica [[-Path] <String>] [-AccessToken <PSObject>] [-AvailabilityMode {AsynchronousCommit | SynchronousCommit | Unknown | ConfigurationOnly}]

[-BackupPriority <Int32>] [-ConnectionModeInPrimaryRole {AllowAllConnections | AllowReadWriteConnections | Unknown}] [-ConnectionModeInSecondaryRole

{AllowNoConnections | AllowReadIntentConnectionsOnly | AllowAllConnections | Unknown}] [-Encrypt {Mandatory | Optional | Strict}] [-EndpointUrl <String>]

[-FailoverMode {Automatic | Manual | External | Unknown}] [-HostNameInCertificate <String>] [-LoadBalancedReadOnlyRoutingList <String[][]>] [-ProgressAction

<ActionPreference>] [-ReadonlyRoutingConnectionUrl <String>] [-ReadOnlyRoutingList <String[]>] [-Script] [-SeedingMode {Automatic | Manual}] [-SessionTimeout <Int32>]

[-TrustServerCertificate] [-Confirm] [-WhatIf] [<CommonParameters>]

DESCRIPTION

The Set-SqlAvailabilityReplica cmdlet sets or modifies a variety of properties for an availability replica. 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

-AvailabilityMode <AvailabilityReplicaAvailabilityMode>

Specifies the replica availability mode.

You can specify a value of `$Null`.

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-BackupPriority <Int32>

Specifies the desired priority of the replicas in performing backups. The acceptable values for this parameter are integers from 0 through 100. Of the set of

replicas which are online and available, the replica that has the highest priority performs the backup.

A value of zero (0) indicates that the replica is not a candidate.

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-ConnectionModeInPrimaryRole <AvailabilityReplicaConnectionModeInPrimaryRole>

Specifies how the availability replica handles connections when in the primary role. The acceptable values for this parameter are:

- AllowReadWriteConnections. Allows read/write connections.

- AllowAllConnections. Allows all connections.

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-ConnectionModeInSecondaryRole <AvailabilityReplicaConnectionModeInSecondaryRole>

Specifies how the availability replica handles connections when in the secondary role. The acceptable values for this parameter are:

- AllowNoConnections. Disallows connections.

- AllowReadIntentConnectionsOnly. Allows only read-intent connections.

- AllowAllConnections. Allows all connections.

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

-EndpointUrl <String>

Specifies the URL of the database mirroring endpoint. This URL is a TCP address in the following form: `TCP://system-address:port`

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-FailoverMode <AvailabilityReplicaFailoverMode>

Specifies the failover mode.

You can specify a value of `$Null`.

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 <AvailabilityReplica>

Specifies the availability group, as an AvailabilityGroup object, to which the replica belongs.

Required? true

Position? 1

Default value None

Accept pipeline input? True (ByValue)

Accept wildcard characters? false

-LoadBalancedReadOnlyRoutingList <String[][]>

Specifies the load-balanced read-only routing list.

The routing list is a list of load-balanced sets, which in turn are lists of replicas.

For example, passing a value like

@('Server1','Server2'),@('Server3'),@('Server4')

means what we are passing 3 load-balanced sets: 1 with 2 replicas (Server1 and Server2) and 2 with just one (Server3 and Server4, respectively).

At runtime, SQL Server will look sequentially at all the load-balanced sets until finds one such that at least on replica in it is available and use it for

load-balancing.

So, in the example above, if both Server1 and Server2 are not available, but Server3 is, SQL Server will pick Server3.

> This cmdlet only sets the read-only routing list and does not check on the availablility of the specified replicas.

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-Path <String>

Specifies the path of the availability group to which the replica belongs. 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

-ReadonlyRoutingConnectionUrl <String>

Specifies the fully-qualified domain name (FQDN) and port to use when routing to the replica for read-only connections, as in the following example:

`TCP://DBSERVER8.manufacturing.Contoso.com:7024`

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-ReadOnlyRoutingList <String[]>

Specifies an ordered list of replica server names that represent the probe sequence for connection director to use when redirecting read-only connections through

this availability replica. This parameter applies if the availability replica is the current primary replica of the availability group.

Required? false

Position? named

Default value None

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

-SeedingMode <AvailabilityReplicaSeedingMode>

Specifies how the secondary replica will be initially seeded.

Allowed values: - Automatic. Enables direct seeding. This method will seed the secondary replica over the network. This method does not

require you to backup and restore a copy of the primary database on the replica. - Manual. Specifies manual seeding. This method requires you to

create a backup of the database on the primary replica and manually restore that backup on the secondary replica.

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-SessionTimeout <Int32>

Specifies the amount of time, in seconds, to wait for a response between the primary replica and this replica before the connection fails.

Required? false

Position? named

Default value None

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.AvailabilityReplica

OUTPUTS

NOTES

Example 1: Modify a replica availability mode and automatic failover

PS C:\> Set-SqlAvailabilityReplica -AvailabilityMode "SynchronousCommit" -FailoverMode Automatic -Path "SQLSERVER:\Sql\PrimaryServer\InstanceName\AvailabilityGroups\MainAG\AvailabilityReplicas\Replica02"

This command modifies the replica named `Replica02` in the availability group named `MainAG` to use `synchronous-commit` availability mode and to support `automatic failover`.

Example 2: Modify a replica to support forced manual failover

PS C:\> Set-SqlAvailabilityReplica -AvailabilityMode AsynchronousCommit -FailoverMode Manual -Path "SQLSERVER:\Sql\PrimaryServer\InstanceName\AvailabilityGroups\MainAG\AvailabilityReplicas\Replica02"

This command modifies the replica named `Replica02` in the availability group named `MainAG` to use `asynchronous-commit` availability mode and to support only `forced manual failover`, which could incur data loss.

---- Example 3: Allow all connections in the secondary role ----

PS C:\> Set-SqlAvailabilityReplica -ConnectionModeInSecondaryRole AllowAllConnections -Path

"SQLSERVER:\Sql\PrimaryServer\InstanceName\AvailabilityGroups\MainAG\AvailabilityReplicas\Replica02"

This command modifies the replica `Replica02` in the availability group `MainAG` to allow all connections in the secondary role. This lets you offload read-only data

processing workloads to secondary replicas.

Example 4: Configure a primary replica and secondary replica for readonly routing

```
PS C:\> Set-Location "SQLSERVER:\SQL\PrimaryServer\default\AvailabilityGroups\MainAG"
PS C:\> $PrimaryReplica = Get-Item "AvailabilityReplicas\PrimaryServer"
PS C:\> $SecondaryReplica = Get-Item "AvailabilityReplicas\SecondaryServer"
PS C:\> Set-SqlAvailabilityReplica -ReadOnlyRoutingConnectionUrl "TCP://PrimaryServer.domain.com:5022" -InputObject $PrimaryReplica
PS C:\> Set-SqlAvailabilityReplica -ReadOnlyRoutingConnectionUrl "TCP://SecondaryServer.domain.com:5022" -InputObject $SecondaryReplica
PS C:\> Set-SqlAvailabilityReplica -ReadOnlyRoutingList "SecondaryServer","PrimaryServer" -InputObject $PrimaryReplica
```

The first command changes location to a location in the SQLSERVER: provider.

The fourth command assigns a read-only routing URL to the primary replica. Then it sets the read-only routing list on the primary replica.

---------- Example 5: Modify backup priority ----------

```
PS C:\> Set-SqlAvailabilityReplica -BackupPriority 60 -Path "SQLSERVER:\Sql\Computer\Instance\AvailabilityGroups\MainAG\AvailabilityReplicas\Replica02"
```

This command sets the backup priority of the availability replica `Replica02` to `60`. This priority is used by the server instance that hosts the primary replica to

decide which replica should service an automated backup request on a database in the availability group. The replica that has the highest priority is chosen.

RELATED LINKS

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

New-SqlAvailabilityReplica

Remove-SqlAvailabilityReplica

Test-SqlAvailabilityReplica