Windows PowerShell Get-Help on Cmdlet 'New-SqlColumnEncryptionKeyEncryptedValue'

PS:\>Get-HELP New-SqlColumnEncryptionKeyEncryptedValue -Full

NAME

New-SqlColumnEncryptionKeyEncryptedValue

SYNOPSIS

Creates the encrypted value of a column encryption key.

SYNTAX

New-SqlColumnEncryptionKeyEncryptedValue [-TargetColumnMasterKeySettings] <SqlColumnMasterKeySettings> [[-ColumnMasterKeySettings] <SqlColumnMasterKeySettings>]

[[-EncryptedValue] <String>] [-KeyVaultAccessToken <String>] [-ManagedHsmAccessToken <String>] [-ProgressAction <ActionPreference>] [<CommonParameters>]

DESCRIPTION

The New-SqlColumnEncryptionKeyEncryptedValue cmdlet creates the encrypted value of a column encryption key. The returned encrypted value is a hexadecimal string.

The cmdlet supports two modes of operation:

- If no encrypted value is specified, the cmdlet generates a new plaintext symmetric key and encrypts the key with the specified column master key.

- If an encrypted value is specified, the cmdlet first decrypts the specified encrypted value and then re-encrypts the obtained plaintext key with the specified

column master key. The cmdlet communicates with a key store holding the column master key. If the key is stored in Azure, you need to specify a valid

authentication token for a key vault or a managed HSM holding the key. Alternatively, you can authenticate to Azure with Add-SqlAzureAuthenticationContext before

calling this cmdlet.

> `Module requirements: version 21+ on PowerShell 5.1; version 22+ on PowerShell 7.x.`

PARAMETERS

-ColumnMasterKeySettings <SqlColumnMasterKeySettings>

Specifies the SqlColumnMasterKeySettings object that this cmdlet uses to find where the column master key is stored.

Required? false

Position? 1

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-EncryptedValue <String>

Specifies the existing encrypted value.

If you specify a value for this parameter, the cmdlet will first decrypt this value using the column master key referenced by the ColumnMasterKeySettings

parameter and then re-encrypt it using the column master key referenced by the TargetColumnMasterKeySettings parameter.

Required? false

Position? 2

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-KeyVaultAccessToken <String>

Specifies an access token for key vaults in Azure Key Vault. Use this parameter if the column master key for encrypting or decrypting a symmetric column

encryption key is stored in a key vault in Azure Key Vault.

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-ManagedHsmAccessToken <String>

Specifies an access token for managed HSMs in Azure Key Vault. Use this parameter if the column master key for encrypting or decrypting a symmetric column

encryption key is stored in a managed HSM in Azure Key Vault.

Required? false

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

-TargetColumnMasterKeySettings <SqlColumnMasterKeySettings>

Specifies the SqlColumnMasterKeySettings object that this cmdlet uses to determine where the column master key, to be used to encrypt the new encrypted value, is

stored.

Required? true

Position? 0

Default value None

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

OUTPUTS

String

NOTES

- Example 1: Generate a key and encrypt it using a certificate -

$cmkSettings = New-SqlCertificateStoreColumnMasterKeySettings -CertificateStoreLocation 'CurrentUser' -certificateThumbprint 'f2260f28d909d21c642a3d8e0b45a830e79a1420'

New-SqlColumnEncryptionKeyEncryptedValue -TargetColumnMasterKeySettings $cmkSettings

Example 2: Generate a column encryption key value and encrypt it using a column master key that is a key stored in a key vault in Azure Key Vault.

#?Obtain?an?access?token for key vaults.

$keyVaultAccessToken?=?(Get-AzAccessToken?-ResourceUrl?https://vault.azure.net).Token

#?Pass?the?token?to?the?cmdlet.?It?will?use?the?token?to?communicate?with?the?key vault?containing?the?column?master?key?to?sign?the?column?master?key?metadata?properties.

$cmkSettings?=?New-SqlAzureKeyVaultColumnMasterKeySettings?-KeyUrl?'https://myvault.vault.azure.net/keys/CMK/4c05f1a41b12488f9cba2ea964b6a700'?-AllowEnclaveComputations?-KeyVaultAccessToken $keyVaultAccessToken

#?Generate?a?column?encryption?key?value?and?encrypt?it?with?the?column?master?key.?Pass?the?access?token,?so that the cmdlet can communicate with Azure Key Vault.

New-SqlColumnEncryptionKeyEncryptedValue?-TargetColumnMasterKeySettings?$cmkSettings?-KeyVaultAccessToken?$keyVaultAccessToken

Example 3: Decrypt an existing encrypted key value, which was produced using a column master key that is a certificate. Re-encrypt the key value using a column master key that is a key in Azure Key Vault.

```
# Connect to Azure account.
Import-Module?Az.Accounts?-MinimumVersion?2.2.0
Connect-AzAccount

#?Obtain?an?access?token for key vaults.
$keyVaultAccessToken?=?(Get-AzAccessToken?-ResourceUrl?https://vault.azure.net).Token

#?Create?a?SqlColumnMasterKeySettings?object?referencing?a?certificate.

$currentCmkSettings?=?New-SqlCertificateStoreColumnMasterKeySettings?-CertificateStoreLocation?'CurrentUser'?-certificateThumbprint?'f2260f28d909d21c642a3d8e0b45a830e7
9a1420'

#?Create?a?SqlColumnMasterKeySettings?object,?referencing?a?column?master?key?in?a key vault in Azure?Key?Vault.

$targetCmkSettings?=?New-SqlAzureKeyVaultColumnMasterKeySettings?-KeyUrl?'https://myvault.vault.azure.net/keys/CMK/4c05f1a41b12488f9cba2ea964b6a700'

#?Decrypt?a?column?encryption?key?value?using the current column master key and?re-encrypt it?with?the?new
column?master?key.?Pass?the?access?token,?so?that?the?cmdlet?can?communicate?with?Azure?Key?Vault.

New-SqlColumnEncryptionKeyEncryptedValue?-TargetColumnMasterKeySettings?$targetCmkSettings?-ColumnMasterKeySettings?$currentCmkSettings?-KeyVaultAccessToken?$keyVaultAccessToken?-EncryptedValue?'0x016E0000016300750072007200720065006E00740075007300650072002F006D0079002F00620033003900390034003500620037003100310033003700370035003200640038006100310031003300390066003500620064003600640038006600370033003800660032003300620036003200300030792
5663D2C3E275DD272E15E606927DA4326F5735C2C8E84F91B9EFE44F503ED01C13098
4E83AF4513F8A4A8D0878D42364E958291AE25111A868D25B69FC5143EEC04131DA27D05F3442CB665ACB4BB3F6A
7A9F07DBD5D212A772414A2CCA03BEBEB7BF0E22C644C715D739B983872AFB2D390229A0B53
```

11BCA07E3C1D857EE8982320BBBE9382C960B9674E3CC3D618AD623D6A362BEAEF68B1B1BB49660DD643A4375A
9285CD9EAA5B13BFE2792DA92025351E7B6067BA07B6178D03041F40F00D84326627094C9D694

4DD912497B080058A529D2DA11C8D609604449714420B4E44ECD1EB26DEE18BF712146A51DD99A02E3D4EE692A5
03CF02F874497010772DE743DDFB2A74801AC9A94C876D1F93554B70CE0ECC437E7FC28BC11A

08222977CDA807E256ED536C41700C631878226E513AFE1199A1DB4732F975AA09A1E75B8A19802AE018871A7A0A
D5B1E29B942F30490EDABD310A4170B991EBCFDA2AFE43285D5406476204B381D8A33EEB0B9

67073B4C0127B1C7F0281AB310EE4B9A3C2D3EAB44A1F5D15D4739FFAEF6110ED4808446F6A05DBF4121B2B33A0
AF5A457CD38F895B8F7ABDF792E3ADBC3AF55B1442625F88F80127D08DE9E4AC1BB2AAA46843

A477135053CEEFA4327D8C999C16D8B49C225F34AD7588A5F9E93FB5532B1F1DC5AFB3CE23DDC8DC12327DD6B5
985104D14F4A1BC0F61F0AACD'

RELATED LINKS

Online Version: https://learn.microsoft.com/powershell/module/sqlserver/new-sqlcolumnencryptionkeyencryptedvalue

Add-SqlColumnEncryptionKeyValue

Remove-SqlColumnEncryptionKeyValue

New-SqlCertificateStoreColumnMasterKeySettings

New-SqlAzureKeyVaultColumnMasterKeySettings