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

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

NAME

New-StorageTier

SYNOPSIS

Creates a storage tier.

SYNTAX

New-StorageTier [-AsJob] [-CimSession <CimSession[]>] [-ColumnIsolation {PhysicalDisk | StorageEnclosure | StorageScaleUnit | StorageChassis | StorageRack}]

[-Description <String>] [-FaultDomainAwareness {PhysicalDisk | StorageEnclosure | StorageScaleUnit | StorageChassis | StorageRack}] -FriendlyName <String>

-InputObject <CimInstance[]> [-Interleave <UInt64>] [-MediaType {HDD | SSD | SCM}] [-NumberOfColumns <UInt16>] [-NumberOfDataCopies <UInt16>] [-NumberOfGroups

<UInt16>] [-PhysicalDiskRedundancy <UInt16>] [-ResiliencySettingName <String>] [-ThrottleLimit <Int32>] [<CommonParameters>]

New-StorageTier [-StoragePoolFriendlyName] <String[]> [-AsJob] [-CimSession <CimSession[]>] [-ColumnIsolation {PhysicalDisk | StorageEnclosure | StorageScaleUnit |

StorageChassis | StorageRack}] [-Description <String>] [-FaultDomainAwareness {PhysicalDisk | StorageEnclosure |

StorageScaleUnit | StorageChassis | StorageRack}]

-FriendlyName <String> [-Interleave <UInt64>] [-MediaType {HDD | SSD | SCM}] [-NumberOfColumns <UInt16>] [-NumberOfDataCopies <UInt16>] [-NumberOfGroups <UInt16>]

[-PhysicalDiskRedundancy <UInt16>] [-ResiliencySettingName <String>] [-ThrottleLimit <Int32>] [<CommonParameters>]

New-StorageTier [-AsJob] [-CimSession <CimSession[]>] [-ColumnIsolation {PhysicalDisk | StorageEnclosure | StorageScaleUnit | StorageChassis | StorageRack}]

[-Description <String>] [-FaultDomainAwareness {PhysicalDisk | StorageEnclosure | StorageScaleUnit | StorageChassis | StorageRack}] -FriendlyName <String>

[-Interleave <UInt64>] [-MediaType {HDD | SSD | SCM}] [-NumberOfColumns <UInt16>] [-NumberOfDataCopies <UInt16>] [-NumberOfGroups <UInt16>] [-PhysicalDiskRedundancy

<UInt16>] [-ResiliencySettingName <String>] -StoragePoolName <String[]> [-ThrottleLimit <Int32>] [<CommonParameters>]

New-StorageTier [-AsJob] [-CimSession <CimSession[]>] [-ColumnIsolation {PhysicalDisk | StorageEnclosure | StorageScaleUnit | StorageChassis | StorageRack}]

[-Description <String>] [-FaultDomainAwareness {PhysicalDisk | StorageEnclosure | StorageScaleUnit | StorageChassis | StorageRack}] -FriendlyName <String>

[-Interleave <UInt64>] [-MediaType {HDD | SSD | SCM}] [-NumberOfColumns <UInt16>] [-NumberOfDataCopies <UInt16>] [-NumberOfGroups <UInt16>] [-PhysicalDiskRedundancy

<UInt16>] [-ResiliencySettingName <String>] -StoragePoolUniqueId <String[]> [-ThrottleLimit <Int32>] [<CommonParameters>]

DESCRIPTION

The New-StorageTier cmdlet creates a storage tier in a storage pool.

PARAMETERS

-AsJob [<SwitchParameter>]

Runs the cmdlet as a background job. Use this parameter to run commands that take a long time to complete.

Required? false

Position? named

Default value False

Accept pipeline input? False

Accept wildcard characters? false

-CimSession <CimSession[]>

Runs the cmdlet in a remote session or on a remote computer. Enter a computer name or a session object, such as the output of a New-CimSession

(https://go.microsoft.com/fwlink/p/?LinkId=227967) or [Get-CimSession](https://go.microsoft.com/fwlink/p/?LinkId=227966)cmdlet. The default is the current session

on the local computer.

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-ColumnIsolation <FaultDomainType>

Specifies at which level columns within a virtual disk should be isolated from each other. We recommend omitting this parameter and using the defaults. The

acceptable values for this parameter are:

- PhysicalDisk

- StorageScaleUnit

- StorageChassis

- StorageEnclosure

- StorageRack

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-Description <String>

Specifies a description for the storage tier that you create.

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-FaultDomainAwareness <FaultDomainType>

Specifies at what level you want the virtual disk to be fault tolerant. The acceptable values for this parameter are:

- PhysicalDisk

- StorageScaleUnit

- StorageChassis

- StorageEnclosure

- StorageRack

For example, specify StorageScaleUnit to store data copies on separate nodes of a Storage Spaces Direct cluster. This cmdlet refers to nodes of a Storage Spaces

Direct cluster as storage scale units because you can expand the scale of the cluster by adding more nodes.

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-FriendlyName <String>

Specifies a friendly name for the storage tier.

Required? true

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-InputObject <CimInstance[]>

Specifies the input object that is used in a pipeline command.

Required? true

Position? named

Default value None

Accept pipeline input? True (ByValue)

Accept wildcard characters? false

-Interleave <UInt64>

Specifies the interleave value to use during the creation of a storage tier. The interleave value represents the number of bytes that is written to a single

physical disk. Thus `Interleave * NumberOfColumns` yields the size of one stripe of user data.

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-MediaType <MediaType>

Specifies the media type of the storage tier. The cmdlet creates the storage tier for the media type that you specify. The acceptable values for this parameter

are:

- SSD

- SCM

- HDD

Use SCM for storage-class memory such as NVDIMMs.

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-NumberOfColumns <UInt16>

Specifies the number of columns to use for the storage tier. Columns represent the number of underlying physical disks in a tier across which one stripe of data

for a virtual disk is written.

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-NumberOfDataCopies <UInt16>

Specifies the number of data copies to create. Specify 2 to create a two-way mirror, or 3 to specify a three-way mirror or for dual-parity.

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-NumberOfGroups <UInt16>

Specifics the number of groups used by Local Reconstruction Coding (LRC) with a dual parity virtual disk. We recommend omitting this parameter and using the

defaults.

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-PhysicalDiskRedundancy <UInt16>

Specifies the physical disk redundancy value to use during the creation of a virtual disk. This value represents how many failed physical disks the virtual disk

can tolerate without data loss. The redundancy values are as follows:

- For two-way mirror spaces, the virtual disk can tolerate 1 failed physical disk without data loss.

- For three-way mirror spaces, the virtual disk can tolerate 2 failed physical disks without data loss.

- For single-parity spaces, the virtual disk can tolerate 1 failed physical disk without data loss.

- For dual-parity spaces the virtual disk can tolerate 2 failed physical disks without data loss.

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-ResiliencySettingName <String>

Specifies the resiliency setting, or storage layout, to use for the virtual disk. The acceptable values for this parameter are: Simple, Mirror, and Parity.

By default, when you specify Mirror, Storage Spaces creates a two-way mirror. When you specify Parity, Storage Spaces creates a single-parity space.

To create a three-way mirror space, specify 3 for the NumberofDataCopies parameter or 2 for the PhysicalDiskRedundancy parameter.

To create a dual-parity space, specify 2 for the PhysicalDiskRedundancy parameter and Fixed provisioning for the ProvisioningType parameter.

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-StoragePoolFriendlyName <String[]>

Specifies the friendly name of a storage pool. The cmdlet creates the storage tier in the storage pool that you specify.

Required? true

Position? 0

Default value None

Accept pipeline input? True (ByPropertyName)

Accept wildcard characters? false

-StoragePoolName <String[]>

Specifies the name of a storage pool. The cmdlet creates the storage tier in the storage pool that you specify. This human-readable name is not necessarily unique.

Required? true

Position? named

Default value None

Accept pipeline input? True (ByPropertyName)

Accept wildcard characters? false

-StoragePoolUniqueId <String[]>

Specifies the unique ID, as a string, of a storage pool. The cmdlet creates the storage tiers in the storage pool that has the ID that you specify.

Required? true

Position? named

Default value None

Accept pipeline input? True (ByPropertyName)

Accept wildcard characters? false

-ThrottleLimit <Int32>

Specifies the maximum number of concurrent operations that can be established to run the cmdlet. If this parameter is omitted or a value of `0` is entered, then

Windows PowerShellr calculates an optimum throttle limit for the cmdlet based on the number of CIM cmdlets that are running on the computer. The throttle limit

applies only to the current cmdlet, not to the session or to the computer.

Required? false

Position? named

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

Microsoft.Management.Infrastructure.CimInstance#ROOT/Microsoft/Windows/Storage/MSFT_StoragePool

You can use the pipeline operator to pass a MSFT_StoragePool object to the InputObject parameter.

OUTPUTS

Microsoft.Management.Infrastructure.CimInstance#root/microsoft/windows/storage/MSFT_StorageTier

This cmdlet outputs an object that represents the storage tier

NOTES

* When used in Failover Cluster, cmdlets from the Storage module operate on cluster level (all servers in the cluster).

---------- Example 1: Create a storage tier ----------

PS C:\> New-StorageTier -StoragePoolFriendlyName "TierPool01" -FriendlyName "Tier11" -MediaType HDD

This command creates a storage tier for hard disk drives named Tier11 in the storage pool named TierPool01.

RELATED LINKS

https://learn.microsoft.com/powershell/module/storage/new-storagetier?view=windowsserver2022-ps&wt.mc_id=ps-gethelp

Get-StorageTier

Remove-StorageTier

Resize-StorageTier

Set-StorageTier