SnapDrive® for Windows®

PowerShell Cmdlet Reference Guide

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Debug-SdHost

Troubleshoots your system setup.

Syntax

```
Debug-SdHost [-Host <String>] [<CommonParameters>]
Debug-SdHost [[-RuleCategory] <Category>] [-Host <String>] [<CommonParameters>]
```

Detailed Description

Troubleshoots your system setup. You can use this cmdlet to identify problems with the following rules: a) Validate storage connection settings b) Export-policy rule c) SMB share "continuously-available" property d) SMB share ACL setup When you are troubleshooting a clustered Data ONTAP environment, run Debug-SdHost on each node of the cluster.

Parameters

Name	Description	Required?	Pipeline Input	Default Value
Host	Specifies the name or IP address of the host on which you execute the operation. The default is your local machine.	false	true (ByPropertyName)	
RuleCategory	Indicates that you want to troubleshoot the specified category only.	false	true (ByPropertyName)	

Input Type

String, SnapDrive.Nsf.Interfaces.Category

Return Values

SnapDrive.Nsf.Interfaces.SDDebugSystem

Examples

Example 1: Debugging your host

```
Debug-SdHost
```

```
In this example syntax, you have checked your host for the various system setup problems and
 found errors with the export-policy rule, the SMB share ACL setup rule, and the SMB share
 "continuously-available" property rule.



Rule        : Storage connections.
```

```
Description : The storage connection rule verifies that the storage connection settings on
 your host system are valid and active.
Category    : General
Source      : NEXTGEN-BOX59
Severity    : Info
Problem     : N/A
Impact      : N/A
Resolution  : N/A
Message     : Success. All your storage connection settings are valid and active.

Rule        : Export-Policy Rule
Description : The export-policy rule verifies that the client trying to access the data
 objects is doing so using the SMB protocol.
Category    : SMB
Source      : NEXTGEN-BOX59
Severity    : Info
Problem     : N/A
Impact      : N/A
Resolution  : N/A
Message     : Success. The SMB protocol is set in the export-policy rule of all the virtual
 storage servers.

Rule        : SMB share ACL setup.
Description : This rule verifies that the share ACL has host permissions, and if your host is
 a part of a cluster it verifies that the share has cluster
              permissions.
Category    : Hyper V
Source      : NEXTGEN-BOX59
Severity    : Error
Problem     : Your shares do not have access control set for the host or the cluster.
Impact      : You cannot access these shares from your host.
Resolution  : Add the host or the cluster to your share's ACL.
Message     : Error. The following shares do not have host or clusters set in the ACLs: \
\CIFS_SERV\admin$,\\CIFS_SERV\ipc$.

Rule        : SMB share "continuously-available" property.
Description : This rule verifies that your SMB share contains the continuously-available
 property. The continuously-available property is mandatory for
              installating a VM.
Category    : Hyper V
Source      : NEXTGEN-BOX59
Severity    : Error
Problem     : Some of the shares do not contain the continuously-available property.
Impact      : You cannot install a VM on the share.
Resolution  : Set the share property to continuously-available.
Message     : Error. The following shares do not have continuously-available property set:
               \\CIFS_SERV\admin$,\\CIFS_SERV\sales_dbshare,\\CIFS_SERV\ACL,\\CIFS_SERV\qtree,
\\CIFS_SERV\ipc$.
```

Dismount-SdSnapshot

Facilitates dismounting a list of SMB shares that are mounted from the specified Snapshot copy as a different set of shares. You can use this cmdlet during backup verification operations. First, you can use Mount-SdSnapshot to mount database and log shares from the Snapshot copy. Next, you perform verification operations. When you have completed your backup verification, you can use this cmdlet to dismount your shares.

Syntax

```
Dismount-SdSnapshot [-Path] <Object[]> [[-Snapshot] <String>] [-Host <String>] [-WhatIf] [-
Confirm] [<CommonParameters>]
```

Detailed Description

Facilitates dismounting the list of SMB shares that are mounted from the specified Snapshot copy as a different set of shares. You can use this cmdlet during backup verification operations. First, you can use Mount-SdSnapshot to mount database and log shares from the Snapshot copy. Next, you perform verification operations. When you have completed your backup verification, you can use this cmdlet to dismount your shares. This cmdlet is only support in SMB 3.0 environments. Related cmdlets: Mount-SdSnapshot

Parameters

Name	Description	Required?	Pipeline Input	Default Value
Path	Specifies a comma-separated list of SMB shares you want to dismount. You cannot mix a logical disk or mount point with SMB shares in the same input path.	true	true (ByValue, ByPropertyName)	
Snapshot	In SAN environments, specifies the Snapshot copy that you want to dismount.	false	true (ByValue, ByPropertyName)	
Host	Specifies the name or IP address of the host on which you execute the operation. The default is your local machine.	false	true (ByPropertyName)	
WhatIf	Describes what would happen if you executed the command without actually invoking the command functionality.	false	false	
Confirm	Prompts you for confirmation before executing the command.	false	false	

Input Type

Object[], String, SwitchParameter A volume, logical disk, or comma-separated list of shares to dismount.

Return Values

N/A

Examples

Example 1: Dismounting multiple shares that were mounted from a Snapshot copy

```
Dismount-SdSnapshot -Path "\\SQLFileserver
\DBShareSdClone607fb343_2b3c_41f6_8912_8762a1800290","\\SQLFileserver
\DBShareSdClone6bcf3df5_3384_4ba4_9b33_25bb9636a486"
```

```
You can use this example syntax to dismount your Snapshot copies mounted on the specified
 shares.
```

Get-SdInfo

Gets information about the SnapDrive for Windows instance you are running.

Syntax

```
Get-SdInfo [-Host <String>] [<CommonParameters>]
Get-SdInfo [[-Details]] [-Host <String>] [<CommonParameters>]
```

Detailed Description

You can use this cmdlet to retrieve the version number of the SnapDrive for Windows instance you are currently running. You can use the Details parameter to get additional information about Snapshot, discovery, virtualization, configuration, storage resolution, SMB shadow copy, SnapRemote, administration, and provisioning services, along with the interface name.

Parameters

Name	Description	Required?	Pipeline Input	Default Value
Host	Specifies the name or IP address of the host on which you execute the operation. The default is your local machine.	false	true (ByPropertyName)	
Details	Gets additional information about Snapshot, discovery, virtualization, configuration, storage resolution, SMB shadow copy, SnapRemote, administration, and provisioning services, along with the interface name.	false	true (ByPropertyName)	

Input Type

String, SwitchParameter

Return Values

String

Examples

Example 1: Geting detailed information about a SnapDrive for Windows instance

```
Get-SdInfo -Details
```

```
This example gets detailed information about the version and services of the SnapDrive for
 Windows instance you are running.
```

```
Get-SdInfo -Details
Version: 7.0.0.5779

Snapshot Service
InterfaceName: SDSnapshot_v1_1
Version: 7.0.0.5779
URLForInterface: net.tcp://localhost:808/SnapDrive/Snapshot
URLForWSDL:

Discovery Service
InterfaceName: SDDiscovery_v10
Version: 7.0.0.5779
URLForInterface: net.tcp://localhost:808/SnapDrive/Discovery
URLForWSDL:

Virtualization Service
InterfaceName: SnapDrive.Nsf.Interfaces.Virtualization.IVirtualMachineManagement
Version: 7.0.0.5779
URLForInterface: net.tcp://localhost:808/SnapDrive/Virtualization
URLForWSDL:

Configuration Service
InterfaceName: SnapDrive.Nsf.Interfaces.SDConfiguraiton
Version: 7.0.0.5779
URLForInterface: net.tcp://localhost:808/SnapDrive/Configuration
URLForWSDL:

StorageResolution Service
InterfaceName: SnapDrive.Nsf.Interfaces.SDStorageResolution
Version: 7.0.0.5779
URLForInterface: net.tcp://localhost:808/SnapDrive/StorageResolution
URLForWSDL:

CIFS ShadowCopy Service
InterfaceName: SnapDrive.Nsf.Interfaces.SDCIFSShadowCopyManagement
Version: 7.0.0.5779
URLForInterface: net.tcp://localhost:808/SnapDrive/CIFSShadowCopyManagement
URLForWSDL:

SnapRemote Service
InterfaceName: SDSnapRemote_v1_3
Version: 7.0.0.5779
URLForInterface: net.tcp://localhost:808/SnapDrive/SnapshotRemote
URLForWSDL:

Administration Service
InterfaceName: SDAdmin_v10
Version: 7.0.0.5779
URLForInterface: net.tcp://localhost:808/SnapDrive/SDAdminNext
URLForWSDL:

InterfaceName: SDAdmin
Version: 7.0.0.5779
URLForInterface: net.tcp://localhost:808/SnapDrive/SDAdminInfo
URLForWSDL:

Provisioning Service
InterfaceName: SnapDrive.Nsf.Interfaces.SDProvisioningManagement
Version: 7.0.0.5779
URLForInterface: net.tcp://localhost:808/SnapDrive/ProvisioningManagement
URLForWSDL:
```

Get-SdSMBShadowCopyEmsMessage

Gets SMB shadow copy EMS messages from the event log, so that you can find backup failure details.

Syntax

```
Get-SdSMBShadowCopyEmsMessage -Path <Object> -SearchPattern <String> [-Host <String>]
 [<CommonParameters>]
```

Detailed Description

Gets shadow copy EMS messages that contain specified SMB shadow copy ID search criteria from the virtual storage server, so that you can view the SMB shadow copy failure details.

Parameters

Name	Description	Required?	Pipeline Input	Default Value
Path	Specifies the SMB share path for shadow copy EMS messages. Enter one path only. If you enter more than one path value, the search is performed only on the first path. You cannot mix a logical disk or mount point with SMB shares in the same input path.	true	true (ByValue, ByPropertyName)	
SearchPattern	Specifies a regular expression search criteria, so that you can search for EMS messages pertaining to a specific backup failure event.	true	true (ByPropertyName)	
Host	Specifies the name or IP address of the host on which you execute the operation. The default is your local machine.	false	true (ByPropertyName)	

Input Type

Object, String Object is an instance of SDCifsShare or a string with path of the host side object.

Return Values

SnapDrive.Nsf.Interfaces.ShadowCopyEmsInfo SnapDrive.Nsf.Interfaces.ShadowCopyEmsInfo contains full information about the shadow copy EMS message.

Examples

Example 1: Getting shadow copy EMS messages for a specified ID

```
Get-SdSMBShadowCopyEmsMessage -Path \\10.53.41.218\root -SearchPattern *9831ed56-
ee2e-11e1-994b*
```

```
Gets shadow copy EMS messages that contains specified SMB shadow copy ID search criteria from
 the virtual storage server for the SMB shadow copy.
```


```
Gets shadow copy EMS messages that contains specified SMB shadow copy ID search criteria from
 the virtual storage server for the SMB shadow copy.
```


Example 2: Getting all SMB shadow copy EMS message on a virtual storage server

```
Get-SdSMBShadowCopyEmsMessage -Path \\172.17.165.40\root -SearchPattern *
```

```
Gets all shadow copy EMS messages from the virtual storage server for the SMB shadow copy.
 The message you retrieve looks similar
to example 1.
```

Get-SdSnapMirror

Gets the SnapMirror relationship status for storage system volumes you specify.

Syntax

```
Get-SdSnapMirror [[-StorageSystem] <String>] [[-Volume] <String[]>] [-Host <String>] [-
WhatIf] [-Confirm] [<CommonParameters>]
```

Detailed Description

Gets the SnapMirror relationship status for storage system volumes you specify. If you do not specify any volumes, you retrieve SnapMirror relationships for all registered virtual storage servers. This cmdlet is supported in clustered Data ONTAP 8.2 and later. Related cmdlets: Invoke-SdSnapMirrorUpdate

Parameters

Name	Description	Required?	Pipeline Input	Default Value
StorageSystem	Specifies the primary storage system name or IP address containing the volumes for which you want to retrieve the SnapMirror relationship status.	false	true (ByPropertyName)	
Volume	Indicates a comma-separated list of storage system volumes for which you want to retrieve the SnapMirror relationship status.	false	true (ByPropertyName)	
Host	Specifies the name or IP address of the host on which you execute the operation. The default is your local machine.	false	true (ByPropertyName)	
WhatIf	Describes what would happen if you executed the command without actually invoking the command functionality.	false	false	
Confirm	Prompts you for confirmation before executing the command.	false	false	

Input Type

String, String[], SwitchParameter storage system volumes

Return Values

SnapDrive.Nsf.Interfaces.SnapMirrorRelationshipStatus SnapMirror relationship status

Examples

Example 1: Getting SnapMirror information for a storage system volume

```
Get-SdSnapMirror -StorageSystem 172.17.162.61 -Volume test_vol1 -Verbose
```

In this example syntax, you retrieve SnapMirror relationship status information for the volume test_vol1.

```
Get-SdSnapMirror -StorageSystem 172.17.162.61 -Volume test_vol1 -Verbose

SnapMirrorRelationshipType : data_protection
SnapMirrorPolicyName       : DPDefault
SnapMirrorRelationship     : vserver : test_vol1 ==> vserver : test_vol2
SnapMirrorState            : snapmirrored
SnapMirrorStatus           : Idle
Lag                        : 0
LagSpecified               : False
BaseSnapshotName           : snapmirror.9a000021-
fb71-11e1-8315-123478563412_2147484917.2013-07-19_124400
Message                    : Success.
```

Example 2: Getting SnapVault information for a storage system volume

```
Get-SdSnapMirror -StorageSystem 172.17.162.61 -Volume snapvault_source -Verbose
```

In this example syntax, you retrieve SnapVault relationship status information for the volume snapvault_source.

```
PS C:\Users\administrator.NEXTGEN> Get-SdSnapMirror -StorageSystem 172.17.162.61 -Volume
 snapvault_source -Verbose

SnapMirrorRelationshipType : vault
SnapMirrorPolicyName       : XDPDefault
SnapMirrorRelationship     : vserver : snapvault_source ==> vserver : snapvault_dest
SnapMirrorState            : snapmirrored
SnapMirrorStatus           : Idle
Lag                        : 0
LagSpecified               : False
BaseSnapshotName           : DATA
Message                    : Success.
```

Get-SdSnapMirrorPolicyRule

Gets the rules for managing Snapshot retention on the SnapVault secondary storage system.

Syntax

```
Get-SdSnapMirrorPolicyRule [-SourceStorageSystem] <String> [-SourceStorageSystemVolume]
 <String> [-DestinationStorageSystem] <String> [-DestinationStorageSystemVolume] <String> [-
Host <String>] [-WhatIf] [-Confirm] [<CommonParameters>]
```

Detailed Description

Gets the rules for managing Snapshot retention on the SnapVault secondary storage system.
Related cmdlets: Set-SdSnapMirrorPolicyRule, Remove-SdSnapMirrorPolicyRule

Parameters

Name	Description	Required?	Pipeline Input	Default Value
SourceStorageSystem	Specifies the primary storage system name containing the source volumes of the SnapMirror relationship for which you want to retrieve the SnapMirror policy rules. IP addresses are not supported.	true	true (ByValue, ByPropertyName)	
SourceStorageSystemVolume	Specifies the source volume of the SnapMirror relationship for which you want to retrieve the SnapMirror policy rules.	true	true (ByPropertyName)	
DestinationStorageSystem	Specifies the secondary storage system name containing the destination volumes of the SnapMirror relationship for which you want to retrieve the SnapMirror policy rules. IP addresses are not supported.	true	true (ByValue, ByPropertyName)	
DestinationStorageSystemVolume	Specifies the destination volume of the SnapMirror relationship for which you want to retrieve the SnapMirror policy rules.	true	true (ByPropertyName)	
Host	Specifies the name or IP address of the host on which you execute the operation. The default is your local machine.	false	true (ByPropertyName)	
WhatIf	Describes what would happen if you executed the command without actually invoking the command functionality.	false	false	
Confirm	Prompts you for confirmation before executing the command.	false	false	

Input Type

String, SwitchParameter

Return Values

SnapDrive.Nsf.Interfaces.RetentionPolicyRule

Examples

Example 1: Getting SnapMirror policy rule information from the policy for a SnapMirror relationship

```
Get-SdSnapMirrorPolicyRule -SourceStorageSystem vs1 -SourceStorageSystemVolume src_vol -
DestinationStorageSystem vs2 -DestinationStorageSystemVolume dest_vol01 -verbose
Get the SnapMirror policy rules from the policy on the specified relationship.



SnapLabel              : daily
NumberOfSnapsToKeep    : 10
PreserveSnaps          :
PreserveSnapsSpecified : False
WarnThreshold          : 0
SnapMirrorPolicy       : snapvault_policy

SnapLabel              : weekly
NumberOfSnapsToKeep    : 3
PreserveSnaps          :
PreserveSnapsSpecified : False
WarnThreshold          : 2
SnapMirrorPolicy       : snapvault_policy

SnapLabel              : mothly
NumberOfSnapsToKeep    : 4
PreserveSnaps          :
PreserveSnapsSpecified : False
WarnThreshold          : 3
SnapMirrorPolicy       : snapvault_policy

The getting SnapMirror policy rules operation is successful.
```

Get-SdSnapshot

Lists the Snapshot copies for a specified set of volumes, logical disks, or SMB shares.

Syntax

```
Get-SdSnapshot [-Path] <Object[]> [[-Snapshot] <String>] [[-VersionUuid] <String>] [-
GetAllSnapshots] [-GetSecondarySnapshots] [-Host <String>] [<CommonParameters>]
Get-SdSnapshot [-StorageSystem] <String> [-VolumeName] <String> [[-Snapshot] <String>]
 [[-VersionUuid] <String>] [-GetAllSnapshots] [-GetSecondarySnapshots] [-Host <String>]
 [<CommonParameters>]
```

Detailed Description

Lists the Snapshot copies for a specified set of volumes, logical disks, or SMB shares. You can also use this cmdlet to get information about a specific Snapshot copy. You retrieve limited information when you run Get-SdSnapshot on a LUN in a 7-Mode environment. Related cmdlets: New-SdSnapshot Remove-SdSnapshot, Rename-SdSnapshot and Restore-SdSnapshot

Parameters

Name	Description	Required?	Pipeline Input	Default Value
Path	Specifies a volumes, logical disks, or a comma-separated list of SMB shares. You cannot mix a logical disk or mount point with SMB shares in the same input path.	true	true (ByValue, ByPropertyName)	
Snapshot	Names the Snapshot copy about which you want information. If you do not use this parameter, all the Snapshot copies for the specified list of SMB shares, Windows volume, or Windows logical disk is returned.	false	true (ByPropertyName)	
VersionUuid	Indicates the version of the Snapshot copy about which you want information. You can use this in an SMB environments only.	false	true (ByPropertyName)	
GetAllSnapshots	Indicates that you want to get information about both primary and secondary Snapshot copies. The default behavior is to enumerate only the primary Snapshot copies. You can use this in an SMB environment only.	false	false	
GetSecondarySnapshots	Indicates that you want to retrieve information about secondary Snapshot copies only. You can use this in a SMB environment only.	false	false	
Host	Specifies the name or IP address of the host on which you execute the operation. The default is your local machine.	false	true (ByPropertyName)	
StorageSystem	Specifies the name of the storage system on which the Snapshot copies are located.	true	true (ByValue, ByPropertyName)	
VolumeName	Specifies the name of the volume you are querying.	true	true (ByValue, ByPropertyName)	

Input Type

Object[], String, SwitchParameter Comma-separated list of SMB shares. The following types are allowed in the array: string; "SnapDrive.Nsf.Interfaces.SDCIFSShare"; "SDStorageResource"

Return Values

SnapDrive.Nsf.Interfaces.SDSnapshot The Snapshot objects for the specified list of SMB shares.

Examples

Example 1: Getting Snapshot copies for the specified list of SMB shares

```
Get-SdSnapshot -path "\\CifsServer\sqlshare", "\\CifsServer\sqlshare2"
```

This example syntax gets a list of Snapshot copies for the list of SMB shares you provide.

```
PS C:\Users\administrator.NEXTGEN> Get-SdSnapshot -Path "\\CIFS_SERV\snapvault_source", "\
\CIFS_SERV\test_vol1" -Verbose
VERBOSE: Validating input paths.

AccessTime                          : 1373664154
AccessTimeDT                        : 7/12/2013 9:22:34 PM
Busy                                : False
ContainsLunClones                   :
CumulativePercentageOfTotalBlocks   : 0
CumulativePercentageOfUsedBlocks    : 1
CumulativeTotalBlocks               : 1052076
CumulativeTotalkb                   : 1077325824
Dependency                          :
Is7ModeSnapshot                     : False
PercentageOfTotalBlocks             : 0
PercentageOfUsedBlocks              : 0
SnapshotInstanceUuid                : eb674595-5901-453e-9e83-93322e1f6547
SnapshotOwnersList                  : {}
TotalBlocks                         : 296
TotalKb                             : 303104
SnapshotName                        : KII
AccessPoint                         : \\CIFS_SERV\snapvault_source
StorageSystemName                   : vserver1
StorageVolumeName                   : snapvault_source
VersionUuid                         : eb674595-5901-453e-9e83-93322e1f6547

AccessTime                          : 1373664320
AccessTimeDT                        : 7/12/2013 9:25:20 PM
Busy                                : False
ContainsLunClones                   :
CumulativePercentageOfTotalBlocks   : 0
CumulativePercentageOfUsedBlocks    : 1
CumulativeTotalBlocks               : 1051780
CumulativeTotalkb                   : 1077022720
Dependency                          :
Is7ModeSnapshot                     : False
PercentageOfTotalBlocks             : 0
PercentageOfUsedBlocks              : 0
SnapshotInstanceUuid                : 12e542fe-f771-41ed-8ffe-f4a922337c3f
SnapshotOwnersList                  : {}
TotalBlocks                         : 116200
TotalKb                             : 118988800
SnapshotName                        : Koo
AccessPoint                         : \\CIFS_SERV\snapvault_source
StorageSystemName                   : vserver1
StorageVolumeName                   : snapvault_source
VersionUuid                         : 12e542fe-f771-41ed-8ffe-f4a922337c3f
```

```
AccessTime                          : 1373678045
AccessTimeDT                        : 7/13/2013 1:14:05 AM
Busy                                : False
ContainsLunClones                   :
CumulativePercentageOfTotalBlocks   : 0
CumulativePercentageOfUsedBlocks    : 1
CumulativeTotalBlocks               : 935580
CumulativeTotalkb                   : 958033920
Dependency                          :
Is7ModeSnapshot                     : False
PercentageOfTotalBlocks             : 0
PercentageOfUsedBlocks              : 1
SnapshotInstanceUuid                : fca29895-f5cf-4737-a1df-e3915ff3e551
SnapshotOwnersList                  : {}
TotalBlocks                         : 935580
TotalKb                             : 958033920
SnapshotName                        : JI
AccessPoint                         : \\CIFS_SERV\snapvault_source
StorageSystemName                   : vserver1
StorageVolumeName                   : snapvault_source
VersionUuid                         : fca29895-f5cf-4737-a1df-e3915ff3e551


AccessTime                          : 1374096530
AccessTimeDT                        : 7/17/2013 9:28:50 PM
Busy                                : False
ContainsLunClones                   :
CumulativePercentageOfTotalBlocks   : 0
CumulativePercentageOfUsedBlocks    : 0
CumulativeTotalBlocks               : 9196
CumulativeTotalkb                   : 9416704
Dependency                          :
Is7ModeSnapshot                     : False
PercentageOfTotalBlocks             : 0
PercentageOfUsedBlocks              : 0
SnapshotInstanceUuid                : 22e13abf-89bf-442e-9a0a-832dc1d0a534
SnapshotOwnersList                  : {}
TotalBlocks                         : 4180
TotalKb                             : 4280320
SnapshotName                        : new_SP1
AccessPoint                         : \\CIFS_SERv\test_vol1
StorageSystemName                   : vserver1
StorageVolumeName                   : test_vol1
VersionUuid                         : 22e13abf-89bf-442e-9a0a-832dc1d0a534

AccessTime                          : 1374263040
AccessTimeDT                        : 7/19/2013 7:44:00 PM
Busy                                : False
ContainsLunClones                   :
CumulativePercentageOfTotalBlocks   : 0
CumulativePercentageOfUsedBlocks    : 0
CumulativeTotalBlocks               : 5016
CumulativeTotalkb                   : 5136384
Dependency                          : snapmirror
Is7ModeSnapshot                     : False
PercentageOfTotalBlocks             : 0
PercentageOfUsedBlocks              : 0
SnapshotInstanceUuid                : 49b7b1cf-9fa2-4737-b3b8-df294bb570ea
SnapshotOwnersList                  : {}
TotalBlocks                         : 4168
TotalKb                             : 4268032
SnapshotName                        : snapmirror.9a000021-
fb71-11e1-8315-123478563412_2147484917.2013-07-19_124400
AccessPoint                         : \\CIFS_SERV\test_vol1
StorageSystemName                   : vserver1
StorageVolumeName                   : test_vol1
VersionUuid                         : 49b7b1cf-9fa2-4737-b3b8-df294bb570ea

AccessTime                          : 1374517978
AccessTimeDT                        : 7/22/2013 6:32:58 PM
Busy                                : False
ContainsLunClones                   :
CumulativePercentageOfTotalBlocks   : 0
CumulativePercentageOfUsedBlocks    : 0
CumulativeTotalBlocks               : 848
CumulativeTotalkb                   : 868352
Dependency                          :
Is7ModeSnapshot                     : False
PercentageOfTotalBlocks             : 0
PercentageOfUsedBlocks              : 0
SnapshotInstanceUuid                : 318d16e2-df58-495c-87ee-cd6a1d054447
```

```
SnapshotOwnersList                : {}
TotalBlocks                       : 848
TotalKb                           : 868352
SnapshotName                      : local
AccessPoint                       : \\CIFS_SERV\test_vol1
StorageSystemName                 : vserver1
StorageVolumeName                 : test_vol1
VersionUuid                       : 318d16e2-df58-495c-87ee-cd6a1d054447
```

Example 2: Getting information for the Snapshot copy "test"

```
Get-SdSnapshot -path "\\SQLCifsServer\sqlshare" -snapshot "test"
```

This example syntax gets information for Snapshot copy "test" on the SMB share \
\SQLCifsServer\sqlshare.

Example 3: Getting the latest Snapshot backup of the specified SMB share

```
Get-SdSnapshot -path "\\SQLCifsServer\sqlshare"| sort-object AccessTimeDT -ascending |
 select-object -last 1
```

This example syntax gets the latest Snapshot backup of the SMB share \\SQLCifsServer
\sqlshare.

Example 4: Getting secondary Snapshot copies for the specified list of SMB shares

```
Get-SdSnapshot -path "\\SQLCifsServer\sqlshare", "\\SQLCifsServer\sqlshare2" -
GetSecondarySnapshots
```

This example syntax gets a list of secondary Snapshot copies for list of SMB shares that you
 specify.

Example 5: Getting information for specific Snapshot version for specified SMB share

```
Get-SdSnapshot -path "\\SQLCifsServer\sqlshare"
-SnapshotVersionUuid "d9bda43e-1e00-4fa9-9c7e-72d8dc5ca0b"
```

This example syntax gets the information for Snapshot copy version
 "d9bda43e-1e00-4fa9-9c7e-72d8dc5ca0b" on the SMB share \\SQLCifsServer\sqlshare.

Example 6: Getting Snapshot copies for a specified LUN

```
Get-SdSnapshot -path D:
```

This example syntax gets the latest Snapshot copies from the specified disk.

Get-SdStorage

Gets storage system information for Windows disks or SMB shares.

Syntax

```
Get-SdStorage [-StorageSystem <String[]>] [-ComputerName <String>] [-ExcludeStorageFootprint]
 [-ExcludeSMB] [-ExcludeSAN] [-GetMirrorInfo] [-GetUnmanagedDisks] [-Host <String>]
 [<CommonParameters>]
Get-SdStorage [-Path <Object[]>] [-ComputerName <String>] [-ExcludeStorageFootprint] [-
ExcludeSMB] [-ExcludeSAN] [-GetUnmanagedDisks] [-Host <String>] [<CommonParameters>]
```

Detailed Description

Gets storage system information for Windows disks or SMB shares.

Parameters

Name	Description	Required?	Pipeline Input	Default Value
StorageSystem	Specifies the storage system name or IP address from which you want to get active storage, such as SMB shares. When you use this parameter with ExcludeSMB, this parameter is ignored. When you are working in 7-mode environments, you can only specify the storage system name for this parameter. Do not use the IP address.	false	true (ByPropertyName)	
ComputerName	Indicates the name of the host from which you want all the LUNs to be returned. When you specify this parameter with ExcludeSAN, this parameter is ignored.	false	true (ByPropertyName)	
ExcludeStorageFootprint	Restricts the storage system path results to the host resource attributes only, and excludes the storage footprint. This parameter is ignored when you specify it with Path.	false	true (ByPropertyName)	
ExcludeSMB	Indicates that you do not want to view information about SMB shares.	false	true (ByPropertyName)	
ExcludeSAN	Indicates that you do not want to view information about LUNs.	false	true (ByPropertyName)	
GetMirrorInfo	Indicates that you want to view volume relationship and state information for the volumes on the source storage resources to which you have provided a path.	false	true (ByPropertyName)	
GetUnmanagedDisks	Indicates that you want to view information about available unmanaged disks. If a disk is mapped to a LUN on an unregistered storage system, it displays as an unmanaged disk, whether it is or not. If you set the parameter ExcludeSAN, GetUnmanagedDisks is ignored.	false	true (ByPropertyName)	
Host	Specifies the name or IP address of the host on which you execute the operation. The default is your local machine.	false	true (ByPropertyName)	
Path	Specifies a list of Windows volumes or SMB share. You cannot mix Windows volumes with SMB shares in the same input path.	false	true (ByPropertyName)	

Input Type

Object[], String[], String, SwitchParameter System.Object is an instance of SDCifsShare, SDWindowsDisk, SDWindowsDriveLetter, or a string with the path of the host-side object.

Return Values

SnapDrive.Nsf.Interfaces.SDStorageFootprint SnapDrive.Interfaces.SDStorageFootprint contains full information about backing storage on the storage system, including the storage system name, volume, and the path inside the volume.

Examples

Example 1: Getting the storage system for a SMB share

```
Get-SdStorage -Path "\\SQLCifsServer\SalesDBShare"
```

This example syntax gets the storage system path for the SMB share \\SQLCifsServer \SalesDBShare.

```
HostResource                          StorageSystemResource
------------                          ---------------------
\\SQLCifsServer\SalesDBShare          MyStorageSystem:/vol/vol1
```

Example 2: Getting storage system paths for multiple SMB shares

```
Get-SdStorage -Path "\\SQLCifsServer\SalesDBShare","\\SQLCifsServer2\MarketDBShare"
```

This example syntax gets the storage system path for the SMB Shares \\SQLCifsServer \SalesDBShare and \\SQLCifsServer2\MarketDBShare.

```
HostResource                            StorageSystemResource
------------                            ---------------------
\\SQLCifsServer\SalesDBShare            MyStorageSystem:/vol/vol1
\\SQLCifsServer2\MarketDBShare          MyStorageSystem:/vol/vol2
```

Example 3: Getting detailed information about host and storage system resources

```
Get-SdStorage -Path \\SQLCIFSServer\SalesDBShare | %{$_.HostResource,
$_.StorageSystemResource}
```

This example syntax gets extended information about the host resource and the storage system resource.

```
Acl                             :
AttributeCacheTtlSpecified      : False
AttributeCacheTtl               : 0
CifsServer                      : SQLCIFSServer
Virtual storage server          :
```

```
Comment                         :
DirUmaskSpecified               : False
DirUmask                        : 0
FileUmaskSpecified              : False
FileUmask                       : 0
Path                            :
Volume                          :
ShareName                       : SalesDBShare
ShareProperties                 :
SymlinkProperties               :
ResourceType                    : SDSMBShare
ResourceName                    : \\SQLCIFSServer\SalesDBShare
Ranges                          :

StorageSystemId                 :
Name                            : [MyStorageSystem]
Aliases                         :
Alias                           : [10.53.14.143]
Alias                           : [MyStorageSystem.Company.com]
Alias                           : [MyStorageSystem]
IPAddresses                     :
Address                         : [10.53.14.143]

Volume                          : MyStorageSystem.Company.com:/vol/vol1
LogicalPath                     : MyStorageSystem.Company.com:/vol/vol1/
PhysicalPath                    : MyStorageSystem.Company.com:/
RelativePhysicalPath            : /
ResourceType                    : SDStorageDir
ResourceName                    : MyStorageSystem.Company.com:/vol/vol1/
Ranges                          :
```

Example 4: Getting all the SMB shares on the specified storage systems

```
Get-SdStorage -StorageSystem "10.225.13.110","172.17.175.75"
```

This example syntax gets all the SMB shares on storage systems 10.225.13.110 and 172.17.175.75. Applications such as SnapManager for SQL Server can use this information to migrate SQL databases or logs to the SMB shares on the storage systems you specify. Your application can also use the storage layout information to group the databases or logs and achieve better performance.

```
HostResource            StorageSystemResource
------------            ---------------------
\\DATASERVER1\ipc$      rtp-rr10-d1.gdl.englab.Company.com:/vol/vs2_root/
\\DATASERVER1\logshare  rtp-rr10-d1.gdl.englab.Company.com:/vol/vs2vol2/
\\DATASERVER1\admin$    rtp-rr10-d1.gdl.englab.Company.com:/vol/vs2_root/
\\DATASERVER1\dbshare   rtp-rr10-d1.gdl.englab.Company.com:/vol/vs2_root/
\\YANG\srcvol2_share    172.17.175.75:/vol/srcvol2/
\\YANG\vol2_share       172.17.175.75:/vol/vol2/
\\YANG\ipc$             172.17.175.75:/vol/vs1_root/
\\YANG\vol4_share       172.17.175.75:/vol/vol4/
\\YANG\admin$           172.17.175.75:/vol/vs1_root/
\\YANG\root             172.17.175.75:/vol/vs1_root/
\\YANG\vol5_share       172.17.175.75:/vol/vol5/
```

Example 5: Getting the SMB shares on all registered storage systems

```
Get-SdStorage
```

This example syntax gets the host and storage system details for all the SMB shares on all your registered storage systems. Applications like SnapManager for SQL Server can use such information to migrate SQL databases or logs to the SMB shares. Your application can also use the storage layout information to group the databases or logs and achieve better performance.

```
HostResource            StorageSystemResource
------------            ---------------------
\\CIFS_01\admin$        UserName-vsim1-d1.sim.Company.com:/vol/
 sd_vs0_root/
```

```
\\CIFS_01\root          UserName-vsim1-d1.sim.Company.com:/vol/
 sd_vs0_root/
\\CIFS_01\ipc$          UserName-vsim1-d1.sim.Company.com:/vol/new_vol/
\\DATASERVER1\logshare  rtp-rr10-d1.gdl.englab.Company.com:/vol/vs2vol2/
\\DATASERVER1\ipc$      rtp-rr10-d1.gdl.englab.Company.com:/vol/vs2_root/
\\DATASERVER1\admin$    rtp-rr10-d1.gdl.englab.Company.com:/vol/vs2_root/
\\DATASERVER1\dbshare   rtp-rr10-d1.gdl.englab.Company.com:/vol/vs2_root/
\\YANG\vol5_share       172.17.175.75:/vol/vol5/
\\YANG\admin$           172.17.175.75:/vol/vs1_root/
\\YANG\srcvol2_share    172.17.175.75:/vol/srcvol2/
\\YANG\vol2_share       172.17.175.75:/vol/vol2/
\\YANG\ipc$             172.17.175.75:/vol/vs1_root/
\\YANG\root             172.17.175.75:/vol/vs1_root/
\\YANG\vol4_share       172.17.175.75:/vol/vol4/
```

Example 6: Getting the SMB shares with the host resources details only on the specified storage system

```
Get-SdStorage -StorageSystem 10.225.13.110 -ExcludeStorageFootprint
```

```
This example syntax gets information about the host resources for SMB shares on storage
 system 10.225.13.110. You can use this parameter to help your application achieve better
 performance if you need information about  SMB shares but not their storage footprint.
```

```
Acl                     :
AttributeCacheTtl       :
CifsServer              : DATASERVER1
Virtual storage server   : vs2
Comment                 :
DirUmask                :
FileUmask               :
Path                    : /
Volume                  : vs2_root
ShareName               : admin$
ShareProperties         : {browsable}
SymlinkProperties       :
UNCPathType             : SMBShare
IsMountedToDrive        : False
MountedDrive            :
ResourceType            : SDSMBShare
ResourceName            : \\DATASERVER1\admin$
Ranges                  :

Acl                     : {Everyone / Full Control}
AttributeCacheTtl       :
CifsServer              : DATASERVER1
virtual storage server   : vs2
Comment                 :
DirUmask                :
FileUmask               :
Path                    : /
Volume                  : vs2_root
ShareName               : dbshare
ShareProperties         : {oplocks, browsable, showsnapshot,
 changenotify...}
SymlinkProperties       :
UNCPathType             : SMBShare
IsMountedToDrive        : False
MountedDrive            :
ResourceType            : SDSMBShare
ResourceName            : \\DATASERVER1\dbshare
Ranges                  :

Acl                     :
AttributeCacheTtl       :
CifsServer              : DATASERVER1
Virtual storage server   : vs2
Comment                 :
DirUmask                :
FileUmask               :
Path                    : /
Volume                  : vs2_root
ShareName               : ipc$
ShareProperties         : {browsable}
SymlinkProperties       :
```

```
UNCPathType                : SMBShare
IsMountedToDrive           : False
MountedDrive               :
ResourceType               : SDSMBShare
ResourceName               : \\DATASERVER1\ipc$
Ranges                     :

Acl                        : {Everyone / Full Control}
AttributeCacheTtl          :
CifsServer                 : DATASERVER1
Virtual storage server     : vs2
Comment                    :
DirUmask                   :
FileUmask                  :
Path                       : /vs2vol2
Volume                     : vs2vol2
ShareName                  : logshare
ShareProperties            : {oplocks, browsable, showsnapshot,
 changenotify...}
SymlinkProperties          :
UNCPathType                : SMBShare
IsMountedToDrive           : False
MountedDrive               :
ResourceType               : SDSMBShare
ResourceName               : \\DATASERVER1\logshare
Ranges                     :
```

Example 7: Getting the all the LUNs but not SMB shares

```
Get-SdStorage -ExcludeSMB
```

This example syntax retrieves information about all the LUNs on the local host.

```
HostResource               StorageSystemResource
------------               ---------------------
H:\                        sdnext_vs02:/vol/iscsi_vol01/Lun2
I:\                        sdnext_vs02:/vol/iscsi_vol01/Lun3
```

Example 8: Getting volume mirror information

```
(Get-SdStorage -StorageSystem 172.17.165.31 -GetMirrorInfo).StorageSystemResource.Volume
```

This example syntax uses the -GetMirrorInfo parameter to get volume state and relationship information from the source storage system resource.

```
Name                       : SeparateOut
Virtual storage server     : sdnext_vs02
FullPath                   : sdnext_vs02:/vol/SeparateOut
JunctionPath               : /spout
JunctionParentName         :
SizeTotal                  : 1020055552
SizeUsed                   : 4558848
SnapMirrorSource           : False
SnapMirrorDest             : False
SnapVaultPrimary           : True
SnapVaultSecondary         : False
FlexCloneEnabled           :
IsFlexClone                :
ResourceType               : SDStorageVolume
ResourceName               : sdnext_vs02:/vol/SeparateOut
Ranges                     :
```

Get-SdStorageConnectionSetting

Gets the storage system connection, transport, and credential settings from the configuration repository.

Syntax

```
Get-SdStorageConnectionSetting [[-Name] <String[]>] [-Exclude7ModeSettings] [-Host <String>]
 [<CommonParameters>]
Get-SdStorageConnectionSetting [-Exclude7ModeSettings] -DefaultSetting [-Host <String>]
 [<CommonParameters>]
```

Detailed Description

This cmdlet reads the storage system, transport, and credential settings from the configuration repository to make a connection to the storage system. These settings include the storage server name (virtual storage server name or IP,) port, transport type, user login, and password. If you do not include parameters, this cmdlet reads all the storage connection settings from the repository. Related cmdlets: Set-SdStorageConnectionSetting and Remove-SdStorageConnectionSetting

Parameters

Name	Description	Required?	Pipeline Input	Default Value
Name	Specifies the name or IP address of the storage system (storage controller or virtual storage server) for which you want to retrieve connection settings.	false	true (ByPropertyName)	
Exclude7ModeSettings	Indicates that you want to view storage systems running in clustered Data ONTAP environments only. The default is to display 7-mode and clustered Data ONTAP storage systems.	false	false	
Host	Specifies the name or IP address of the host on which you execute the operation. The default is your local machine.	false	true (ByPropertyName)	
DefaultSetting	Indicates that you want to view the default storage system connection settings. When you do not specify explicit storage system connection values, you use the default settings.	true	false	

Input Type

String, String[], SwitchParameter

Return Values

SnapDrive.Nsf.Interfaces.SDStorageConnectionSetting, SnapDrive.Nsf.Interfaces.SDStorageConnectionSettingBase Settings for a storage system

connection retrieved from the configuration repository. Processed default settings return SnapDrive.Nsf.Interfaces.SDStorageConnectionSettingBase while processed named connection settings return SnapDrive.Nsf.Interfaces.SDStorageConnectionSetting,.

Examples

Example 1: Getting a named connection setting

```
Get-SdStorageConnectionSetting -StorageSystem 'vmStorageServer'
```

```
This example syntax gets the storage system connection settings for the specified storage
 system "vmStorageServer".
```

```
Storage System Name/IP     : vmStorageServer
User                       : vsadmin
Port                       : 80
Protocol                   : Http
```

Example 2: Getting all connection settings

```
Get-SdStorageConnectionSetting
```

```
This example syntax retrieves all the storage connection settings.
```

```
Storage System Name/IP     : vmStorageServer
User                       : vsadmin
Port                       : 80
Protocol                   : Http

Storage System Name/IP     : vmStorageServer2
User                       : vsadmin2
Port                       : 443
Protocol                   : Https
```

Example 3: Getting the default connection setting

```
Get-SdStorageConnectionSetting -DefaultSetting
```

```
This example syntax retrieves the default connection settings.
```

```
User         : vsadmin
Port         : 80
Protocol     : Http
```

Get-SdVM

Lists Hyper-V VMs and their attributes.

Syntax

```
Get-SdVM [-NoStorage] [-GetHyperVSnapshot] [[-Name] <String[]>] [[-ComputerName] <String[]>]
 [-Host <String>] [-WhatIf] [-Confirm] [<CommonParameters>]
```

Detailed Description

Lists Hyper-V VMs and their attributes. Related cmdlets: Get-SdStorage

Parameters

Name	Description	Required?	Pipeline Input	Default Value
NoStorage	Specifies that you do not want to get the Data ONTAP storage footprint of a share or mount.	false	false	
GetHyperVSnapshot	Specifies that you want to get the Snapshot VHDs, the GUIDs associated with them, and the parent VHD.	false	false	
Name	Specifies the name or GUID of the VM you want to get.	false	true (ByPropertyName)	
ComputerName	Indicates the name of the Hyper-V server on which you want the VMs to be returned.	false	true (ByPropertyName)	
Host	Specifies the name or IP address of the host on which you execute the operation. The default is your local machine.	false	true (ByPropertyName)	
WhatIf	Describes what would happen if you executed the command without actually invoking the command functionality.	false	false	
Confirm	Prompts you for confirmation before executing the command.	false	false	

Input Type

String[], String, SwitchParameter Name or GUIDs of the VMs you want to return. Name of the Hyper-V servers where all its VMs are returned.

Return Values

SnapDrive.Nsf.Interfaces.Virtualization.VirtualMachine
SnapDrive.Nsf.Interfaces.Virtualization.VirtualMachine contains the attributes of a VM.

Examples

Example 1: Listing all HyperV VMs

```
Get-SdVM
```

This example syntax lists all Hyper-V VMs and their attributes.

```
ComputerName    Name    Guid                                    State      Clustered
 VirtualDisks
------------    ----    ----                                    -------    ---------
 -------------
clab-a8-7       vm1     94734822-f2a2-4ddb-9794-8139bc1efb0b    Running    false        {\
\vs1\share1\vm1\vm1.vhd}
clab-a8-8       vm2     d68f7d2a-31cd-437d-a435-e8757e730a01    Off        true         {\
\vs2\share1\vm2\vm2.vhd}
```

Example 2: Listing all HyperV VMs on a specific HyperV server

```
Get-SdVM -ComputerName "clab-a8-8"
```

This examples syntax lists all Hyper-V virtual machines on Hyper-V server clab-a8-8.

```
ComputerName    Name    Guid                                    State      Clustered
 VirtualDisks
------------    ----    ----                                    -------    ---------
 ------------
clab-a8-8       vm2     d68f7d2a-31cd-437d-a435-e8757e730a01    Off        true         {\
\vs2\share1\vm2\vm2.vhd}
clab-a8-8       vm3     d68f7d2a-31cd-437d-a435-e8757e730a02    Off        false        {\
\vs2\share2\vm3\vm3.vhd}
```

Example 3: Getting the attributes for a VM

```
Get-SdVM -Name vm1 |fl
```

This example syntax gets the attributes of VM vm1.

```
Owner                   : clab-a8-7
Guid                    : 94734822-f2a2-4ddb-9794-8139bc1efb0b
State                   : Running
StorageType             : NAS
SnapShotAttributes      : SnapDrive.Nsf.Interfaces.Virtualization.SnapShotAttributes
ConfigurationAttributes : SnapDrive.Nsf.Interfaces.Virtualization.VMConfigurationAttributes
HighlyAvailable         : False
HAAttributes            : SnapDrive.Nsf.Interfaces.Virtualization.HighAvailabilityAttributes
StorageFootPrints       : {HostResource : \\vs1_cifs\vol2_share StorageSystemResource : vs1:/
vol/vol2/}
VirtualDisks            : {\\vs1\share1\vm1\vm1.vhd}
Type                    : SDHyperv
Name                    : vm1
```

Example 4: Showing the virtual disks on a VM

```
(Get-SdVM sqltest-vm-01).VirtualDisks
```

This example syntax lists the virtual disks associated with VM sqltest-vm-01.

```
Name                          : sqltest-vm-01.vhdx
Type                          : SDHyperv
VirtualDisk Location          : \\10.53.14.233\r2
VirtualDisk FullPath          : \\10.53.14.233\r2\sqltest-vm-01\Virtual Hard Disks\sqltest-
vm-01.vhdx
StorageSystemResource         : sqltest-vsim1-bsd.sim.Company.com:/vol/vol2/
StorageSystemResource Type    : SDStorageDir
HostResource                  : \\10.53.14.233\r2
HostResource Type             : SDSMBShare
BootDisk                      : True
```

Example 5: Showing all virtual disks and Snapshot copies on a VM

```
(Get-SdVm -GetHyperVSnapshot vm_clus_smb4).VirtualDisks
```

This example syntax lists all the virtual disks including the Hyper-V Snapshot copies associated with VM vm_clus_smb4.

```
Name                          : vm_clus_smb4.vhdx
Type                          : SDHyperv
VirtualDisk Location          : \\172.17.175.82\vol3_share
VirtualDisk FullPath          : \\172.17.175.82\vol3_share\vm_clus_smb4\Virtual Hard Disks
\vm_clus_smb4.vhdx
StorageSystemResource         : vs2:/vol/vol3/
StorageSystemResource Type    : SDStorageDir
HostResource                  : \\172.17.175.82\vol3_share
HostResource Type             : SDSMBShare
BootDisk                      : True

Name                          : vm_clus_smb4_0F10EBD9-01F5-4546-9A99-49CF2EEAA755.avhdx
Type                          : SDHyperv
VirtualDisk Location          : \\172.17.175.82\vol3_share
VirtualDisk FullPath          : \\172.17.175.82\vol3_share\vm_clus_smb4\Virtual Hard Disks
\vm_clus_smb4_0F10EBD9-01F5-4546-9A99-49CF2EEAA755.avhdx
StorageSystemResource         : vs2:/vol/vol3/
StorageSystemResource Type    : SDStorageDir
HostResource                  : \\172.17.175.82\vol3_share
HostResource Type             : SDSMBShare
BootDisk                      : True
```

Get-SdVolumeCloneSplit

Retrieves information about the status of your active clone splitting operations.

Syntax

```
Get-SdVolumeCloneSplit [-Path] <Object[ ]> [-Host <string>] [-WhatIf] [-Confirm]
 [<CommonParameters>]
```

Detailed Description

Retrieves information about the status of your active clone splitting operations. Clone splitting operations enable you to split your clone volume from the parent volume and turn it into an independent FlexVolume.

Parameters

Name	Description	Required?	Pipeline Input	Default Value
Confirm	Prompts you for confirmation before executing the command.	false	false	
Host	Specifies the name or IP address of the host on which you execute the operation. The default is your local machine.	false	true (ByPropertyName)	
Path	Specifies the path or mount point to the clone volume you want to split.	true	true (ByPropertyName)	
WhatIf	Describes what would happen if you executed the command without actually invoking the command functionality.	false	false	

Input Type

n/a

Return Values

n/a

Get-SdVolumeCloneSplitEstimate

Estimates the amount of space you have available in advance of beginning a clone splitting operation.

Syntax

```
Get-SdVolumeCloneSplitEstimate [-Path] <Object[ ]> [-Host <string>] [-WhatIf] [-Confirm]
 [<CommonParameters>]
```

Detailed Description

Estimates the amount of space you have available in advance of beginning a clone splitting operation. Clone splitting operations enable you to split your clone volume from the parent volume and turn it into an independent FlexVolume.

Parameters

Name	Description	Required?	Pipeline Input	Default Value
Confirm	Prompts you for confirmation before executing the command.	false	false	
Host	Specifies the name or IP address of the host on which you execute the operation. The default is your local machine.	false	true (ByPropertyName)	
Path	Specifies the path or mount point to the clone volume you want to split.	true	true (ByPropertyName)	
WhatIf	Describes what would happen if you executed the command without actually invoking the command functionality.	false	false	

Input Type

in/a

Return Values

n/a

Invoke-SdEmsAutosupportLog

Facilitates logging Event Management System (EMS) AutoSupport messages.

Syntax

```
Invoke-SdEmsAutosupportLog [-Path] <Object> [-EventId] <Int32> [-EventSource] <String> [-
AppVersion] <String> [-Category] <String> [-EventDescription] <String> [-LogLevel] <UInt32>
 [-GenerateAutosupport] [-Host <String>] [<CommonParameters>]
Invoke-SdEmsAutosupportLog [-StorageSystem] <String> [-EventId] <Int32> [-EventSource]
 <String> [-AppVersion] <String> [-Category] <String> [-EventDescription] <String> [-
LogLevel] <UInt32> [-GenerateAutosupport] [-Host <String>] [<CommonParameters>]
```

Detailed Description

Facilitates logging Event Management System (EMS) AutoSupport messages. You can use this cmdlet to determine the underlying administration server, and to send messages to that server, for your specified SMB share or logical disk. Your application can use this cmdlet to log events with different severity levels in EMS and to send corresponding AutoSupport messages about backup, restore, and similar operations, errors, or failures. Related cmdlets: Get-SdSMBShadowCopyEmsMessage

Parameters

Name	Description	Required?	Pipeline Input	Default Value
Path	Specifies the ID for the SMB share, logical disk to which you send the EMS AutoSupport message. You cannot mix a logical disk or mount point with SMB shares in the same input path.	true	true (ByValue, ByPropertyName)	
EventId	Provides the event ID. This is a user-defined event ID, with a range from 0 to 2^32-2.	true	true (ByPropertyName)	
EventSource	Indicates the application invoking the cmdlet.	true	true (ByPropertyName)	
AppVersion	Provides the version of the application invoking the cmdlet.	true	true (ByPropertyName)	
Category	Specifies an application-defined event category.	true	true (ByPropertyName)	
EventDescription	Describes the event you want to log. The event description is an application-defined message.	true	true (ByPropertyName)	
LogLevel	Indicates the EMS message severity. Accepted values are: 0 for "emergency"; 1 for "alert"; 2 for "critical"; 3 for "error"; 4 for "warning"; 5 for "notice"; 6 for "info"; 7 for "debug"	true	true (ByPropertyName)	
GenerateAutosupport	Specifies that you want to generate an AutoSupport message.	false	true (ByPropertyName)	
Host	Specifies the name or IP address of the host on which you execute the operation. The default is your local machine.	false	true (ByPropertyName)	

Name	Description	Required?	Pipeline Input	Default Value
StorageSystem	Names the storage system for resources to which you send the EMS AutoSupport message.	true	true (ByPropertyName)	

Input Type

Object, Int32, String, UInt32, SwitchParameter SMB shares or logical disk to which the specific event is sent.

Return Values

N/A

Examples

Example 1: Logging a test EMS AutoSupport message

```
Invoke-SdEmsAutosupportLog -Path \\172.17.165.40\root -EventId 111 -EventSource "SDW"
 -AppVersion "1.0" -Category "test" -EventDescription "This is testing message from
 NextGenSDW." -LogLevel 6
```

In this example syntax, you send a test EMS log message to the virtual storage server to which the SMB share belongs. The cluster server display the following message:

```
Time                Node             Severity      Event
------------------- ---------------- ------------  ------------------------
8/14/2012 11:47:54  mvaqa-3270-1-01  INFORMATIONAL app.log.info: SNAPMGR-06: SDW 7.0: (111)
 test: This is testing message from SnapDrive.
```

Example 2: Logging and generating a test EMS AutoSupport message

```
Invoke-SdEmsAutosupportLog -Path \\172.17.165.40\root -EventId 111 -EventSource "SDW" -
AppVersion "1.0" -Category "test" -EventDescription "This is testing message from SnapDrive."
 -LogLevel 6 -GenerateAutosupport
```

In this example syntax, you log a test message in EMS and send an AutoSupport message to the virtual storage server to which the SMB share belongs.

Example 3: Logging a test EMS AutoSupport message in a clustered environment

```
Invoke-SdEmsAutosupportLog -Path E: -EventId 111 -EventSource "SDW" -AppVersion "1.0" -
Category "test" -EventDescription "This is testing message from SnapDrive." -LogLevel 6
```

In this example syntax, you send a test EMS log message to the virtual storage server to which the SMB share belongs.

The cluster server displays the following message:

```
Time                Node             Severity      Event
------------------  ---------------  -----------   ------------------------
8/14/2012 11:47:54  mvaqa-3270-1-01  INFORMATIONAL app.log.info: SNAPMGR-06: SDW 7.0: (111)
 test: This is testing message from SnapDrive.
```

Example 4: Logging a test EMS AutoSupport message using a storage system

```
Invoke-SdEmsAutosupportLog -StorageSystem 172.17.165.39 -EventId 111 -EventSource "SDW" -
AppVersion "1.0" -Category "test" -EventDescription "This is testing message from SnapDrive."
 -LogLevel 6
```

In this example syntax, you send a test EMS log message to the virtual storage server used as the storage system.

The cluster server displays the following message:

```
Time                Node             Severity      Event
------------------  ---------------  ------------  -------------------------   11/15/2012
 16:13:43 mvaqa-3270-1-02  INFORMATIONAL app.log.info: CLAB-A13-10: SDW 7.0: (111) test: This
 is testing message from SnapDrive.
```

Invoke-SdSnapMirrorUpdate

Facilitates updates to mirror and vault relationships, in the context of Windows disks, SMB shares, or clustered Data ONTAP storage system volumes.

Syntax

```
Invoke-SdSnapMirrorUpdate [-Path] <Object> [-MaxTransferRate <Int64>] [-Snapshot <String>] [-
Host <String>] [-WhatIf] [-Confirm] [<CommonParameters>]
Invoke-SdSnapMirrorUpdate [-SourceStorageSystem] <String> [-SourceVolumeName] <String>
 [[-DestinationStorageSystemName] <String>] [[-DestinationStorageVolumeName] <String>]
 [-MaxTransferRate <Int64>] [-Snapshot <String>] [-Host <String>] [-WhatIf] [-Confirm]
 [<CommonParameters>]
```

Detailed Description

Facilitates updates to mirror and vault relationships, in the context of Windows disks, SMB shares, or clustered Data ONTAP storage system volumes. For the specified resources, you can determine the underlying storage layout and issue SnapMirror updates on the corresponding storage volumes, provided that the SnapMirror relationship is already created and initialized. SnapMirror updates and returns are executed immediately. When you are updating a SnapMirror relationship, you can specify a share, storage system volume, or Windows disk. When you are updating a SnapVault relationship, you can specify a share or storage system volume. Related cmdlets: Restore-SdSnapshot and New-SdSnapshot

Parameters

Name	Description	Required?	Pipeline Input	Default Value
Path	Provides a volume, logical disk, SMB share for which you want SnapMirror updates. You cannot mix a logical disk or mount point with SMB shares in the same input path. When you are updating a SnapMirror relationship, you can specify a share, storage system volume, or Windows disk. When you are updating a SnapVault relationship, you can specify a share or storage system volume.	true	true (ByValue, ByPropertyName)	
MaxTransferRate	Specifies the maximum transfer rate, in bytes per second.	false	true (ByPropertyName)	
Snapshot	Specifies the Snapshot copy you want to transfer. This cmdlet is processed only for vault relationships; in the case of SnapMirror relationships, this parameter is ignored if specified.	false	true (ByPropertyName)	
Host	Specifies the name or IP address of the host on which you execute the operation. The default is your local machine.	false	true (ByPropertyName)	localmachine
WhatIf	Describes what would happen if you executed the command without actually invoking the command functionality.	false	false	

Name	Description	Required?	Pipeline Input	Default Value
Confirm	Prompts you for confirmation before executing the command.	false	false	
SourceStorageSystem	Specifies the storage system from which you want to update your SnapMirror relationships.	true	true (ByPropertyName)	
SourceVolumeName	Specifies the volume from which you want to update your SnapMirror relationships.	true	true (ByPropertyName)	
DestinationStorageSystemName	Specifies the storage system on which you want to update your SnapMirror relationships. Must be used in conjunction with DestinationStorageVolumeName. If you do not specify this parameter, all storage system volumes associated with your source storage system and volume are updated.	false	true (ByPropertyName)	
DestinationStorageVolumeName	Specifies the volume on which you want to update your SnapMirror relationships. Must be used in conjunction with DestinationStorageSystemName. If you do not specify this parameter, all storage system volumes associated with your source storage system and volume are updated.	false	true (ByPropertyName)	

Input Type

Object, String, Int64, SwitchParameter Input allows for a volume, logical disk, or a comma-separated list SMB shares for which you want to invoke SnapMirror updates. The resources can be specified as a list of strings or objects. The following types are allowed: string; SnapDrive.Nsf.Interfaces.SDCIFSShare; SDStorageResource

Return Values

SnapDrive.Nfs.Interfaces.SDSnapMirrorRelationship SnapDrive.Interfaces.SDSnapMirrorInfo returns SnapMirror relationship information.

Examples

Example 1: Updating SnapMirror for a single share

```
Invoke-SdSnapMirrorUpdate -path "\\fileserver\sqlshare"
```

```
In this example syntax, you determine the underlying storage footprint for \\fileserver
\sqlshare, and initiate a SnapMirror update on the underlying volume, provided that the
 SnapMirror relationship is created and initialized.
```

```
PS C:\Users\administrator.NEXTGEN> Invoke-SdSnapMirrorUpdate -Path \\CIFS_SERV
\snapvault_source -Verbose
VERBOSE: Validating input paths.
VERBOSE: SMB Share : \\CIFS_SERV\snapvault_source
VERBOSE: Updating SnapMirror.

SnapMirrorRelationshipType :
SnapMirrorPolicyName       :
SnapMirrorRelationship     : vserver : snapvault_source ==> vserver : snapvault_dest
SnapMirrorState            : snapmirrored
```

```
SnapMirrorStatus           : Transfering
Lag                        : 0
LagSpecified               : False
BaseSnapshotName           : local
Message                    :

VERBOSE: Operation successful.
```

Example 2: Updating your vault for a single share

```
Invoke-SdSnapMirrorUpdate -path "\\fileserver\sqlshare" -snapshot "weeklybackup"
```

In this example syntax, you determine the underlying storage footprint for \\fileserver \sqlshare, and initiate a SnapVault update on the underlying volume.

```
PS C:\Users\administrator.NEXTGEN> Invoke-SdSnapMirrorUpdate -Path \\CIFS_SERV
\snapvault_source -Snapshot local -Verbose
VERBOSE: Validating input paths.
VERBOSE: SMB Share : \\CIFS_SERV\snapvault_source
VERBOSE: Updating SnapMirror.


SnapMirrorRelationshipType :
SnapMirrorPolicyName       :
SnapMirrorRelationship     : vserver1 : snapvault_source ==> vserver1 : snapvault_dest
SnapMirrorState            : snapmirrored
SnapMirrorStatus           : Transfering
Lag                        : 0
LagSpecified               : False
BaseSnapshotName           : DATA
Message                    :

VERBOSE: Operation successful.
```

Example 3: Updating SnapMirror for a disk

```
Invoke-SdSnapMirrorUpdate -Path E:
```

In this example syntax, you determine the underlying storage footprint for disk drive E:, and initiate a SnapMirror update on the underlying volume, provided that the SnapMirror relationship is created and initialized.

Example 4: Updating all SnapMirror destination storage system volumes

```
Invoke-SdSnapMirrorUpdate -SourceStorageSystem sdw_jenkins_vserver -SourceVolumeName VOLUME01
 -Verbose
```

In this example syntax, you update all destination storage system volumes associated with the source storage system and volume.

```
VERBOSE: Updating Snapmirror..


SnapMirrorRelationshipType :
SnapMirrorPolicyName       :
SnapMirrorRelationship     : sdw_jenkins_vserver : VOLUME01 ==> sdw_jenkins_vserver :
 vserver01
SnapMirrorState            : snapmirrored
SnapMirrorStatus           : Transfering
Lag                        : 0
LagSpecified               : False
BaseSnapshotName           : snapmirror.e0f01251-4d32-11dc-
a3b0-123478563412_2147485514.2013-07-17_143103
Message                    :

SnapMirrorRelationshipType :
SnapMirrorPolicyName       :
```

```
SnapMirrorRelationship     : sdw_jenkins_vserver : VOLUME01 ==> sdw_jenkins_vserver :
 VOLUME01_Sec
SnapMirrorState            : snapmirrored
SnapMirrorStatus           : Transfering
Lag                        : 0
LagSpecified               : False
BaseSnapshotName           : TEST_TEST
Message                    :

VERBOSE: Operation Successful.
```

Example 5: Updating specified SnapMirror destination storage system volumes

```
Invoke-SdSnapMirrorUpdate -SourceStorageSystem sdw_jenkins_vserver -SourceVolumeName VOLUME01
 -DestinationStorageSystemName sdw_jenkins_vserver -DestinationStorageVolumeName VOLUME01_Sec
 -Verbose
```

In this example syntax, you update specific destination storage system volumes associated with the source storage system and volume.

```
VERBOSE: Updating Snapmirror..

SnapMirrorRelationshipType :
SnapMirrorPolicyName       :
SnapMirrorRelationship     : sdw_jenkins_vserver : VOLUME01 ==> sdw_jenkins_vserver :
 VOLUME01_Sec
SnapMirrorState            : snapmirrored
SnapMirrorStatus           : Transfering
Lag                        : 0
LagSpecified               : False
BaseSnapshotName           : TEST_TEST
Message                    :

VERBOSE: Operation Successful.
```

Mount-SdSnapshot

Facilitates mounting SMB shares from the specified Snapshot copy as a different set of shares.

Syntax

```
Mount-SdSnapshot [-Path] <Object[]> [-Snapshot] <String> [[-StorageSystem] <String>] [[-
VolumeName] <String>] [[-PrefixForVolumeClone] <String>] [[-MountPath] <Object[]>] [-Host
 <String>] [-WhatIf] [-Confirm] [<CommonParameters>]
```

Detailed Description

Facilitates mounting a SMB shares from the specified Snapshot copy as a different set of shares. You can use this cmdlet to perform backup verification. Mount the database and log shares from the Snapshot copy and perform your verification operations. The mounted share names are automatically appended with a unique identifier. For example, if the original share is \\SQLFileServer \DBShare, the mounted share name is \\SQLFileServer\DBShare-GUID. (\\SQLFileServer \DBShare-73111E50-E7C2-49B7-8A63-7279512CB09B) The ACLs on the mounted share are same as the original share. To mount the shares from a secondary Snapshot copy, you must specify the storage system and volume. Ensure that the aggregate of the volume that is the source of the FlexClone operation is assigned to the virtual storage server aggregates list. This cmdlet is only supported in SMB 3.0 environments. Related cmdlets: Get-SdSnapshot, Remove-SdSnapshot, Rename-SdSnapshot, New-SdSnapshot, Dismount-SdSnapshot

Parameters

Name	Description	Required?	Pipeline Input	Default Value
Path	Specifies a comma-separated list of shares you want to mount from the Snapshot copy. You cannot mix a logical disk or mount point with SMB shares in the same input path.	true	true (ByPropertyName)	
Snapshot	Indicates the Snapshot copy that you want to use for mounting the SMB shares. You must use a Snapshot copy that is valid for all the shares in your list.	true	true (ByPropertyName)	
StorageSystem	Indicates the name of the storage system in which the Snapshot copy you want to mount is located.	false	true (ByPropertyName)	
VolumeName	Indicates the name of the storage system volume in which the Snapshot copy you want to mount is located.	false	true (ByPropertyName)	
PrefixForVolumeClone	You can use this optional parameter to set a short name for the share on which the Snapshot copy is mounted. Use this parameter when you are working on a system with name length restrictions.	false	true (ByPropertyName)	
MountPath	Reserved for internal use only.	false	true (ByPropertyName)	

Name	Description	Required?	Pipeline Input	Default Value
Host	Specifies the name or IP address of the host on which you execute the operation. The default is your local machine.	false	true (ByPropertyName)	
WhatIf	Describes what would happen if you executed the command without actually invoking the command functionality.	false	false	
Confirm	Prompts you for confirmation before executing the command.	false	false	

Input Type

Object[], String, SwitchParameter Comma-separated list of shares to mount from the Snapshot copy.

Return Values

SnapDrive.Nfs.Interfaces.SnapConnectResult Result of the SnapConnect operation.

Examples

Example 1: Mounting shares from a specified backup

```
Mount-SdSnapshot -Path "\\SQLFileserver\DBShare","\\SQLFileserver\LogShare" -snapshot
 "weekly_backup"
```

This example syntax mounts your shares from "weekly_backup".

```
OriginalResource           MountedResource
================           ===============
\\SQLFileserver\DBShare    \\SQLFileserver\DBShare-A470FF3A-5107-4B6A-B0C1-FB3D8744F14C
\\SQLFileserver\LogShare    \\SQLFileserver\DBShare-E6980DF6-3E64-45BD-965A-7F7A9B02156A
```

Example 2: Mounting shares from piped Snapshot copies that start with "weekly" in the name.

```
Get-SdSnapshot \\SQLFileserver\DBShare -Snapshot weekly* | Mount-SdSnapshot  "\\SQLFileserver
\dbshare","\\SQLFileserver\logshare"
```

This example syntax mounts specified shares from Snapshot copies that start with "weekly."
 The shares you want to mount must be on the same volume.

```
OriginalResource           MountedResource
================           ===============
\\SQLFileserver\DBShare    \\SQLFileserver\DBShare-A470FF3A-5107-4B6A-B0C1-FB3D8744F14C
\\SQLFileserver\LogShare    \\SQLFileserver  \DBShareE6980DF6-3E64-45BD-965A-7F7A9B02156A
```

Example 3: Mounting shares from the specified secondary Snapshot copy

```
Mount-SdSnapshot -Path "\\SQLFileserver\DBShare","\\SQLFileserver\LogShare" -snapshot
 "weekly_snap" -storagesystem mirror_vserver -volume dbmirrorvolume
```

This example mounts the specified shares from the specified secondary Snapshot copy.

```
OriginalResource            MountedResource
================            ===============
\\SQLFileserver\DBShare     \\DRSQLFileServer\DBShare-A470FF3A-5107-4B6A-B0C1-FB3D8744F14C
\\SQLFileserver\LogShare     \\DRSQLFileServer\DBShare-E6980DF6-3E64-45BD-965A-7F7A9B02156A
```

Example 4: Mounting shares using a prefix

```
Mount-SdSnapshot -Path \\172.17.165.40\capital_vol_share -Snapshot Newtest -
PrefixForVolumeClone capitalShare
```

This example syntax creates a short name for the share on which you mount the Snapshot copy.

```
Resource                           ConnectedResource
--------                           -----------------
\\172.17.165.40\capital_vol_share \\JENKINS-CIFS\capitalShare030713155542929
```

New-SdSMBShare

Provisions SMB shares using templates that encapsulate best practices for provisioning shares for different types of applications.

Syntax

```
New-SdSMBShare [-Name] <String> [-Path] <String> [-CIFSServer] <String> [-TemplateName
 <String>] [-ShareProperties <String[]>] [-SymlinkProperties <String[]>] [-FileUmask <Int32>]
 [-DirUmask <Int32>] [-Comment <String>] [-AttributeCacheTtl <Int32>] [-UserOrGroup <String>]
 [-Permission <String>] [-Host <String>] [-WhatIf] [-Confirm] [<CommonParameters>]
New-SdSMBShare [-Name] <String> [-Path] <String> [[-StorageSystem] <String>] [-TemplateName
 <String>] [-ShareProperties <String[]>] [-SymlinkProperties <String[]>] [-FileUmask <Int32>]
 [-DirUmask <Int32>] [-Comment <String>] [-AttributeCacheTtl <Int32>] [-UserOrGroup <String>]
 [-Permission <String>] [-Host <String>] [-WhatIf] [-Confirm] [<CommonParameters>]
```

Detailed Description

Provisions SMB shares using templates that encapsulate best practices for provisioning shares for different types of applications. Get the provisioning templates from the "templates" folder in your install directory. This cmdlet is supported in clustered Data ONTAP 8.2 and later. Related cmdlets: New-SdVolume

Parameters

Name	Description	Required?	Pipeline Input	Default Value
Name	Specifies the name of the SMB share you want to provision. The SMB share name must be a UTF-8 string. You cannot use following characters: control characters from 0x00 to 0x1F, both inclusive, 0x22 (double quotes) and the special characters \/[]:|<>+=;,?	true	true (ByPropertyName)	
Path	Designates the file system path that is shared through your SMB share.	true	true (ByPropertyName)	
CIFSServer	Specifies the SMB server you want to use for provisioning the share.	true	true (ByPropertyName)	
TemplateName	Specifies the provisioning template name. You should also include the path to the template, if the template resides in a folder other than the Templates folder.	false	true (ByPropertyName)	
ShareProperties	Provides a list of properties for your SMB share. Possible values: "oplocks", "browsable", "showsnapshot", "changenotify", "homedirectory", "attributecache", "continuously-available"	false	true (ByPropertyName)	
SymlinkProperties	Indicates whether you want the symlinks under this shared directory to be hidden, accessible, or read-only (option "read-only" along with option "enable".) Possible values are: "enable", "hide", "read_only"	false	true (ByPropertyName)	
FileUmask	You can use the value of this field to control the file mode creation mask for the SMB share in qtrees with UNIX or mixed security styles. The file mode create mask restricts the initial permissions setting of a newly created file. The input value is a numeric mode comprised of one	false	true (ByPropertyName)	

Name	Description	Required?	Pipeline Input	Default Value
	to three octal digits (0-7), derived by adding up the bits with values 4, 2, and 1. The first digit selects permissions for the user who owns the file: read (4), write (2), and execute (1). The second selects permissions for other users in the file's group, with the same values. The third is for other users not in the file's group, with the same values.			
DirUmask	You can use the value of this field to control the file mode creation mask for the SMB share in qtrees with UNIX or mixed security styles. The mask restricts the initial permissions setting of a newly created directory. The input value is a numeric mode comprising of one to three octal digits (0-7), derived by adding up the bits with values 4, 2, and 1. The first digit selects permissions for the user who owns the file: read (4), write (2), and execute (1); the second selects permissions for other users in the file's group, with the same values; and the third for other users not in the file's group, with the same values.	false	true (ByPropertyName)	
Comment	This optional parameter describes a new SMB share. Your description is visible to SMB clients when they are browsing the virtual storage server's SMB shares.	false	true (ByPropertyName)	
AttributeCacheTtl	Specifies the lifetime of an entry in the file attribute cache, in seconds. You can use this value if you have set the "attributecache" property set for the share. Setting the "attributecache" property improves the performance of certain metadata operations in common workloads. The default is 10 seconds. The value of this field must be in the range of 1 to 86400. Raising this value may improve performance, but it increases the likelihood that you serve stale metadata.	false	true (ByPropertyName)	
UserOrGroup	Specifies the user or group name for which you list the permissions.	false	true (ByPropertyName)	
Permission	Indicates access rights that a user or group has on the defined SMB share. Possible values: "no_access", "read", "change", "full_control".	false	true (ByPropertyName)	
Host	Specifies the name or IP address of the host on which you execute the operation. The default is your local machine.	false	true (ByPropertyName)	
WhatIf	Describes what would happen if you executed the command without actually invoking the command functionality.	false	false	
Confirm	Prompts you for confirmation before executing the command.	false	false	
StorageSystem	Indicates the virtual storage server you want to use for provisioning the SMB share. The virtual storage server should already have a SMB server configured. You do not need to use this parameter if the SMB server is qualified.	false	true (ByPropertyName)	

Input Type

String, String[], Int32, SwitchParameter

Return Values

SnapDrive.Nsf.Interfaces.SDCIFSShare SnapDrive.Nsf.Interfaces.SDCIFSShare returns the SMBshare that was provisioned.

Examples

Example 1: Provisioning shares for HyperV

```
New-SdSMBShare -Path / -Name HyperVShare -CIFSServer HyperVFileServer -TemplateName "C:
\program files\SnapDrive\HyperVVHDxProvTemplate.xml"
```

This example syntax provisions a share for Hyper-V using the specified template.

```
Acl               : {Everyone / Full Control}
AttributeCacheTtl : 1
CifsServer        : HyperVFileServer
VServer           : HyperVirtualStorageServer
Comment           : Hyper-V SMB share
DirUmask          : 1
FileUmask         : 1
Path              : /
Volume            : HyperVVolume
ShareName         : HyperVShare
ShareProperties   : {browsable, continuously_available}
SymlinkProperties : {enable}
UNCPathType       : SMBShare
IsMountedToDrive  : False
MountedDrive      :
ResourceType      : SDSMBShare
ResourceName      : \\HyperVFileServer\HyperVShare
Ranges            :
```

New-SdSnapshot

Creates Snapshot copies of specified Windows disks or SMB shares.

Syntax

```
New-SdSnapshot [-Path] <Object[]> [[-Snapshot] <String>] [-NoCleanUpOnError] [-UpdateMirror]
 [-Host <String>] [-WhatIf] [-Confirm] [<CommonParameters>]
```

Detailed Description

Creates Snapshot copies of specified Windows disks or SMB shares. Related cmdlets: Get-SdSnapshot, Remove-SdSnapshot and Rename-SdSnapshot

Parameters

Name	Description	Required?	Pipeline Input	Default Value
Path	Provides the volume, logical disk, or a comma-separated list of SMB shares of which you want to make Snapshot copies. You cannot mix a logical disk or mount point with SMB shares in the same input path.	true	true (ByValue, ByPropertyName)	
Snapshot	Designates the name of the new Snapshot copy. You cannot use special characters in a Snapshot copy name. If you do not specify a Snapshot copy name, a GUID appended with timestamp is generated and used as the Snapshot copy name.	false	true (ByPropertyName)	A GUID appended with timestamp will be generated and used for the Snapshot copy name
NoCleanUpOnError	Indicates whether you want to delete Snapshot copies if there is an error in backing up one of the specified resources, that results in an incomplete Snapshot backup.	false	true (ByPropertyName)	
UpdateMirror	Initiates a mirror or vault update after your Snapshot operation completes.	false	false	
Host	Specifies the name or IP address of the host on which you execute the operation. The default is your local machine.	false	true (ByPropertyName)	
WhatIf	Describes what would happen if you executed the command without actually invoking the command functionality.	false	false	
Confirm	Prompts you for confirmation before executing the command.	false	false	

Input Type

Object[], String, SwitchParameter Volume, logical disk, or a comma-separated list of SMB shares of which you want to take a Snapshot copy. The SMB shares can be specified as list of strings or

list of objects. The following types are allowed: string; SnapDrive.Nsf.Interfaces.SDCIFSShare; SDStorageResource

Return Values

SnapDrive.Nsf.Interfaces.SDSnapshot The object corresponding to the new Snapshot copy that was created.

Examples

Example 1: Backing up the specified SMB shares

```
New-SdSnapshot -Path "\\fileserver\sqlshare","\\fileserver\sqlshare2" -Snapshot "sql_snap"
```

```
This example syntax backs up the SMB shares by creating Snapshot copies of the corresponding
 volumes using Snapshot name sql_snap.
```

Example 2: Backing up the specified disk

```
New-SdSnapshot -Path E: -Snapshot "sql_snap"
```

```
This example syntax backs up the disk drive by creating Snapshot copies of the corresponding
 volumes using Snapshot name sql_snap.
```

New-SdVolume

Provisions volumes using templates that encapsulate best practices for provisioning volumes for different types of applications.

Syntax

```
New-SdVolume [-Name] <String> [-Aggregate] <String> [-Size] <String> [-JunctionPath]
 <String> [-StorageSystem] <String> [-TemplateName <String>] [-Comment <String>] [-
AntivirusOnAccessPolicy <String>] [-ExportPolicy <String>] [-FlexCacheCachePolicy <String>]
 [-FlexCacheFillPolicy <String>] [-FlexCacheOriginVolume <String>] [-GroupId <Int32>]
 [-IndexDirectoryFormat [<Boolean>]] [-JunctionActive [<Boolean>]] [-MaxDirectorySize
 <Decimal>] [-NvFailEnabled [<Boolean>]] [-SecurityStyle <String>] [-SnapshotPolicy <String>]
 [-State <String>] [-Type <String>] [-UnixPermissions <String>] [-UserId <Int32>] [-
VirtualStorageServerRoot [<Boolean>]] [-QosPolicyGroup <String>] [-SnapshotCloneDependency
 [<Boolean>]] [-EnableSnapdiff [<Boolean>]] [-SchedSnapName <String>] [-SpaceGuarantee
 <String>] [-SnapReserve <Int32>] [-FractionalReserve <Int32>] [-SpaceMgmtTryFirst
 <String>] [-SpaceNearlyFullThresholdPercent <Int32>] [-SpaceFullThresholdPercent
 <Int32>] [-Files <Int32>] [-FilesysSizeFixed] [-ExtentEnabled <String>] [-ReadRealloc
 <String>] [-ExternalCache <String>] [-AutoSizeMode <String>] [-MaxAutosize <String>] [-
AutosizeIncrement <String>] [-AutosizeIncrementPercent <Int32>] [-MinAutosize <String>]
 [-AutosizeGrowThresholdPercent <Int32>] [-AutosizeShrinkThresholdPercent <Int32>] [-
AutoDeleteEnabled] [-Commitment <String>] [-DeferDelete <String>] [-Deleteorder <String>]
 [-DeferDeletePrefix <String>] [-TargetFreeSpace <Int32>] [-Trigger <String>] [-DestroyList
 <String>] [-Host <String>] [-WhatIf] [-Confirm] [<CommonParameters>]
```

Detailed Description

Provisions volumes using templates that encapsulate best practices for provisioning volumes for different types of applications. Get the provisioning templates from the "templates" folder in your install directory. This cmdlet is supported in clustered Data ONTAP 8.2 and later. Related cmdlets: Remove-SdVolume

Parameters

Name	Description	Required?	Pipeline Input	Default Value
Name	Indicates the name of the new volume.	true	true (ByPropertyName)	
Aggregate	Specifies the name of the containing aggregate.	true	true (ByPropertyName)	
Size	Designates the size of the new volume.	true	true (ByPropertyName)	
JunctionPath	Specifies the junction path at which this volume is to be mounted.	true	true (ByPropertyName)	
StorageSystem	Specifies the virtual storage server for provisioning the SMB share. The virtual storage server should already have SMB server configured. It does not have to be specified if SMB server is qualified.	true	true (ByPropertyName)	
TemplateName	Indicates the name of the provisioning template. You should qualify path to the template if the template resides in a folder other than SnapDrive Templates folder.	false	true (ByPropertyName)	
Comment	Provides a description for the volume being created.	false	true (ByPropertyName)	

Name	Description	Required?	Pipeline Input	Default Value
AntivirusOnAccessPolicy	Specifies the name of the Anti-Virus On-Access policy. The default policy name is 'default'.	false	true (ByPropertyName)	
ExportPolicy	Specifies the name of the export policy to be used by NFS/SMB protocols. The default policy name is 'default'.	false	true (ByPropertyName)	
FlexCacheCachePolicy	Specifies the name of the FlexCache cache policy. The default policy name is 'default'.	false	true (ByPropertyName)	
FlexCacheFillPolicy	Specifies the name of the FlexCache prefill policy. The default policy name is 'default'	false	true (ByPropertyName)	
FlexCacheOriginVolume	Specifies the name of the origin volume that contains the authoritative data.	false	true (ByPropertyName)	
GroupId	Specifies the UNIX group ID for the volume. The default value is 0 ('root').	false	true (ByPropertyName)	
IndexDirectoryFormat	Indicates whether you want to enable the index directory format. If true, index directory format is enabled. The default is false.	false	true (ByPropertyName)	
JunctionActive	Indicates whether the mounted volume is accessible. The default is true.	false	true (ByPropertyName)	
MaxDirectorySize	Specifies the maximum size in bytes, to which any directory in this volume can grow.	false	true (ByPropertyName)	
NvFailEnabled	Indicates whether you want the controller to identify and attempt to correct NVRAM failure errors. If true, the controller performs additional work at startup and takeover times, if it finds that there has been any potential data loss in this volume due to an NVRAM failure.	false	true (ByPropertyName)	
SecurityStyle	Designates a volume security style. Possible values are: mixed, ntfs, unix.	false	true (ByPropertyName)	
SnapshotPolicy	Specifies the Snapshot copy policy. Default policy is 'default'.	false	true (ByPropertyName)	
State	Indicates the desired state of the volume after it is created. Possible values are: online|restricted|offline|force-online|force-offline|mixed	false	true (ByPropertyName)	
Type	Specifies the volume type. Possible values are: rw, ls, dp, dc.	false	true (ByPropertyName)	
UnixPermissions	Indicates the UNIX permission bits in an octal string format.	false	true (ByPropertyName)	
UserId	Specifies the UNIX user ID for the volume. The default value is 0 ('root').	false	true (ByPropertyName)	
VirtualStorageServerRoot	Indicates whether you want this value to be the namespace root volume. If true, this volume is the namespace root volume of the virtual storage server which owns this volume. The default value is false.	false	true (ByPropertyName)	
QosPolicyGroup	Optionally specifies which QoS policy group to apply to the volume. This policy group defines measurable service level objectives (SLOs) that apply to the storage objects with which the policy group is associated. If you do not assign a policy group to a volume, the system monitors and controls the traffic to the volume. To remove this volume from a policy group, enter the reserved keyword 'none'. This parameter is not supported on Infinite Volumes.	false	true (ByPropertyName)	
SnapshotCloneDependency	{on|off}] - Snapshot Cloning Dependency Specifies whether the LUN clone dependancy on Snapshot copies is enabled. If set to on, LUN clone dependency on Snapshot copies is enabled. This parameter is not supported on Infinite Volumes.	false	true (ByPropertyName)	

Name	Description	Required?	Pipeline Input	Default Value
EnableSnapdiff	{true|false}] - Create Namespace Mirrors For Snapdiff Use	false	true (ByPropertyName)	
SchedSnapName	{create_time|ordinal}] - Naming Scheme for Automatic Snapshots Specifies the naming convention for automatic Snapshot copies. If set to create-time, automatic Snapshot copies are named using the format <schedule_name>.yyyy-mm-dd_hhmm. Example: hourly.2010-04-01_0831. If set to ordinal, automatic Snapshot copies are named using the format <schedule_name>.<n>. Example: hourly.3 This parameter is not supported on Infinite Volumes.	false	true (ByPropertyName)	
SpaceGuarantee	Specifies the type of volume guarantee the new volume uses. Possible values: none, file, volume. This option controls whether the volume is guaranteed some amount of space in the aggregate. The default is volume, and file and none can be set by the administrator. Volume guaranteed means that the entire size of the volume is preallocated. The file value means that space is preallocated for all the space-reserved files and LUNs within the volume. Storage is not preallocated for files and LUNs that are not space-reserved. Writes to these can fail if the underlying aggregate has no space available to store the written data. This value can be set if fractional reserve is 100. The none value means that no space is preallocated, even if the volume contains space-reserved files or LUNs. If the aggregate is full, space is not available even for space-reserved files and LUNs within the volume. Setting this parameter to file or none enables you to provision more storage than is physically present in the aggregate (thin provisioning). When you use thin provisioning for a volume, it can run out of space even if it has not yet consumed its nominal size and you should carefully monitor space utilization to avoid unexpected errors due to the volume running out of space. For flexible root volumes, to ensure that system files, log files, and cores can be saved, the space-guarantee must be volume. This ensures technical support for the storage system, if a problem occurs. Disk space is preallocated when the volume is brought online and, if not used, returned to the aggregate when the volume is brought offline. It is possible to bring a volume online even when the aggregate has insufficient free space to preallocate to the volume. In this case, no space is preallocated, just as if the none option had been selected. In this situation, the vol options and vol status command display the actual value of the space-guarantee option, but indicate that it is disabled.	false	true (ByPropertyName)	
SnapReserve	Optionally specifies the amount of space reserved on the volume for Snapshot copies. The default setting is 5 percent.	false	true (ByPropertyName)	
FractionalReserve	This option changes the amount of space reserved for overwrites of reserved objects (LUNs, files) in a volume. This parameter is not supported on Infinite Volumes. The option is set to 100 by default with guarantee set to volume or file. A setting of 100 means that 100 percent of the required reserved space is actually reserved, so the objects are fully protected for overwrites. The value is set to 0 by default with guarantee set to none. The value can be either 0 or 100 when guarantee is set to	false	true (ByPropertyName)	

Name	Description	Required?	Pipeline Input	Default Value
	volume or none. If guarantee is set to file, 100 is the only allowed value. Using a value of 0 indicates that no space will be reserved for overwrites. This returns the extra space to the available space for the volume, decreasing the total amount of space used. However, this does leave the protected objects in the volume vulnerable to out of space errors. If the percentage is set to 0%, the administrator must monitor the space usage on the volume and take corrective action.			
SpaceMgmtTryFirst	{volume_grow|snap_delete}] - Primary Space Management Strategy A flexible volume can be configured to automatically reclaim space in case the volume is about to run out of space, by either increasing the size of the volume using autogrow or deleting Snapshot copies in the volume using Snapshot autodelete. If this option is set to volume_grow the system will try to first increase the size of volume before deleting Snapshot copies to reclaim space. If the option is set to snap_delete the system first automatically deletes Snapshot copies and in case of failure to reclaim space tries to grow the volume. This parameter is not supported on Infinite Volumes.	false	true (ByPropertyName)	
SpaceNearlyFullThresholdPercent	Optionally specifies the percentage at which the volume is considered nearly full, and above which an EMS warning is generated. The default value is 95%. Setting this threshold to 0 disables the volume nearly full space alerts. This parameter is not supported on Infinite Volumes.	false	true (ByPropertyName)	
SpaceFullThresholdPercent	Optionally specifies the percentage at which the volume is considered full, and above which a critical EMS error is generated. The default value is 98%. Setting this threshold to 0 disables the volume full space alerts. This parameter is not supported on Infinite Volumes.	false	true (ByPropertyName)	
Files	Optionally specifies the total number of files permitted on the volume. The default setting is 629. This value can be raised but cannot be lowered; the new value must be larger than the current value.	false	true (ByPropertyName)	
FilesysSizeFixed	This option causes the file system to remain the same size and not grow or shrink when a SnapMirrored volume relationship is broken, or when a volume add is performed on it. It is automatically set to true when a volume becomes a SnapMirrored volume. It stays set to true after the SnapMirror break command is issued for the volume. This allows a volume to be SnapMirrored back to the source without needing to add disks to the source volume. If the volume is a traditional volume and the size is larger than the file system size, setting this option to false forces the file system to grow to the size of the volume. If the volume is a flexible volume and the volume size is larger than the file system size, setting this option to false forces the volume size to equal the file system size. The default setting is false.	false	true (ByPropertyName)	
ExtentEnabled	Setting this option to on or space-optimized enables extents in the volume. This causes application writes to be written in the volume as a write of a larger group of related data blocks called an extent. Using extents may help workloads that perform many small random writes followed by large sequential reads. However, using extents may increase the amount of disk operations	false	true (ByPropertyName)	

Name	Description	Required?	Pipeline Input	Default Value
	performed on the controller, so this option should only be used where this trade-off is desired. If the option is set to space-optimized then the reallocation update will not duplicate blocks from Snapshot copies into the active file system, and will result in conservative space utilization. Using space-optimized may be useful when the volume has Snapshot copies or is a SnapMirror source, when it can reduce the storage used in the volume and the amount of data that SnapMirror must move on the next update. The space-optimized value can result in degraded read performance of Snapshot copies. The default value is off; extents are not used.			
ReadRealloc	Setting this option to on or space-optimized enables read reallocation in the volume. This results in the optimization of file layout by writing some blocks to a new location on disk. The layout is updated only after the blocks have been read because of a user read operation, and only when updating their layout will provide better read performance in the future. Using read reallocation may help workloads that perform a mixture of random writes and large sequential reads. If the option is set to space-optimized then the reallocation update will not duplicate blocks from Snapshot copies into the active file system, and will result in conservative space utilization. Using space-optimized may be useful when the volume has Snapshot copies or is a SnapMirror source, when it can reduce the storage used in the volume and the amount of data that SnapMirror must move on the next update. The space-optimized value can result in degraded read performance of Snapshot copies. The default value is off.	false	true (ByPropertyName)	
ExternalCache	Optionally specifies which WAFL external cache policy to apply to the volume. This parameter is not supported on Infinite Volumes. A WAFL external cache policy defines how the data blocks are cached for this volume. If an external cache policy is not assigned to this volume, the system uses the external cache policy that is assigned to the containing virtual storage server. If an external cache policy is not assigned to the containing virtual storage server, the system uses the default cluster-wide policy. The available WAFL external cache policies are: o Uncached - Caches nothing. o Metadata_Only - Caches indirect blocks and system metafiles. o Normal_Data - Caches indirect blocks, system metafiles, and randomly read user data. o Random_Write_Data - Caches normal data blocks and any blocks read as a result of random writes. o Readahead_Data - Caches normal data blocks and any sequentially read user data blocks. o Most_Data - Caches normal data blocks and any blocks read as a result of random writes or sequential reads. o Lopri_Data - Caches everything. o Default - Current cluster-wide default, which is Normal_Data.	false	true (ByPropertyName)	
AutoSizeMode	{off|grow|grow_shrink}] - Autosize Mode Specifies the autosize mode for the volume. The allowed values are grow, grow_shrink, and off. If this parameter is not specified, the existing autosize mode remains in effect. This parameter is not supported in Infinite Volumes. The various autosize modes are explained below: o off - The volume will not grow or shrink in size in response	false	true (ByPropertyName)	

Name	Description	Required?	Pipeline Input	Default Value
	to the amount of used space. o grow - The volume will automatically grow when used space in the volume is above the grow threshold. o grow_shrink - The volume will grow or shrink in size in response to the amount of used space.			
MaxAutosize	Specifies the maximum size to which a flexible volume can grow. The default is 120% of the volume size at creation for a flexible volume, and the greater of the origin volume's size and the current value of max-autosize for a FlexCache volume if a size is not specified upon creation. This parameter is not supported in Infinite Volumes.	false	true (ByPropertyName)	
AutosizeIncrement	The size of the volume is increased by the increment size specified by autosize-increment each time the volume is autogrown. A volume does not automatically grow if the current size of the volume is greater than or equal to the maximum size specified by the max-auto-size. The default is 5% of the volume size at the time autosize was enabled for the volume. This parameter is not supported in Infinite Volumes.	false	true (ByPropertyName)	
AutosizeIncrementPercent	The increment percent specified with autosize-increment-percent is converted to a fixed increment size in bytes based on the volume size when volautosize -increment-percent is issued. The size of the volume is increased by the computed increment size each time the volume is autogrown. A volume will not automatically grow if the current size of the volume is greater than or equal to the maximum size specified with the max-autosize parameter. The default is 5% of volume size at the time autosize was enabled for the volume. This parameter is not supported in Infinite Volumes.	false	true (ByPropertyName)	
MinAutosize	{<integer>[KB|MB|GB|TB|PB]}] - Minimum Autosize Specifies the minimum automatic size to which the volume shrinks. The default value is the volume size at the time when the grow_shrink autosize mode was enabled for the volume. If the volume was created with the grow_shrink autosize mode enabled, then the default minimum size will be equal to the initial volume size. This parameter is not supported in Infinite Volumes.	false	true (ByPropertyName)	
AutosizeGrowThresholdPercent	Specifies the used space threshold for the automatic growth of the volume. When the volume used space becomes greater than this threshold, the volume will be grown unless it has reached the maximum autosize. This parameter is not supported in Infinite Volumes.	false	true (ByPropertyName)	
AutosizeShrinkThresholdPercent	Specifies the used space threshold for the automatic shrink of the volume. When the volume used space becomes less than this threshold, the volume will be shrunk unless it has reached the minimum autosize. This parameter is not supported in Infinite Volumes.	false	true (ByPropertyName)	
AutoDeleteEnabled	Specifies whether automatic deletion of Snapshot copies is enabled or disabled. If set to true, automatic deletion of Snapshot copies is enabled. If set to false automatic deletion of Snapshot copies is disabled.	false	true (ByPropertyName)	
Commitment	Specifies which Snapshot copies can be automatically deleted to reclaim back space. When set to try, the Snapshot copies which are not locked by any application are deleted. When set to disrupt, the Snapshot copies which are not locked by Data Backing Functionalities (Volume Clones, LUN Clones, File Clones) are deleted.	false	true (ByPropertyName)	

Name	Description	Required?	Pipeline Input	Default Value
	In disrupt mode, Snapshot locked by Data Protection Utilities like SnapMirror or Volume Move can be deleted. If such a locked Snapshot copy is deleted during the data transfer, the transfer is aborted. When set to destroy, Snapshot copies locked by even the Data Backing Functionalities are deleted.			
DeferDelete	{scheduled|user_created|prefix|none}] - Defer Delete Specifies which kind of Snapshot copies are deleted in the end. When set to scheduled, scheduled Snapshot copies are deleted in the end. When set to user_created, user Snapshot copies are deleted in the end. When set to prefix, Snapshot copies matching a certain prefix are deleted in the end. When set to none no defer deletion order is honored.	false	true (ByPropertyName)	
Deleteorder	{newest_first|oldest_first}] - Delete Order. Specifies whether if the oldest Snapshot copy or the newest Snapshot copy is deleted first.	false	true (ByPropertyName)	
DeferDeletePrefix	Specifies the prefix string for the -defer-delete prefix parameter.	false	true (ByPropertyName)	
TargetFreeSpace	Specifies when you want automatic deletion of Snapshot copies to stop. Depending on the -trigger Snapshot copies are deleted till you reach the target free space percentage.	false	true (ByPropertyName)	
Trigger	{volume|snap_reserve|space_reserve}] - Trigger Specifies the condition which starts the automatic deletion of Snapshot copies. Setting this option to volume triggers automatic deletion of Snapshot copies when the volume reaches threshold capacity and the volume's space reserved for Snapshot copies has been exceeded. Setting the option to snap_reserve triggers automatic deletion of Snapshot copies when the space reserved for Snapshot copies reaches threshold capacity. Setting the option to space_reserve triggers automatic deletion of Snapshot copies when reserved space in the volume reaches threshold capacity and the volume's space reserved for Snapshot copies has been exceeded.	false	true (ByPropertyName)	
DestroyList	Specifies a comma-separated list of data backing functions which are affected if automatic deletion of the Snapshot copy backing that service is triggered. Possible values for this option are: vol_clone, lun_clone, file_clone, sfsr, cifs_share, or none. With the exception of none, all options can be combined as a comma-separated list. If you specify vol_clone, the cloned volume backed by the Snapshot copy is deleted. If you specify lun_clone, and the LUN is in the process of being cloned when autodelete is triggered, the cloning operation is aborted. Any access to this LUN results in an error being reported to the client. If you specify file_clone, and the file cloning operation is in progress when autodelete is triggered, the cloning operation is aborted. Any access to this file results in an error being reported to the client. If you specify sfsr, and the file restore is in progress when autodelete is triggered, the restore operation is aborted. If the Snapshot copy is locked either by a lun_clone or file_clone or both, the -destroy-list must be set to lun_clone,file_clone. If the Snapshot copy is locked either by a lun_clone or sfsr operation or both, -destroy-list must be set to	false	true (ByPropertyName)	

Name	Description	Required?	Pipeline Input	Default Value
	lun_clone, file_clone. The options file_clone and sfsr are equivalent to each other. If you set -destroy-list to lun_clone, file_clone and the Snapshot copy is backing a file clone or sfsr operation, both the operations are aborted. This is also the case when you set -destroy-list to lun_clone, sfsr.			
Host	Specifies the name or IP address of the host on which you execute the operation. The default is your local machine.	false	true (ByPropertyName)	
WhatIf	Describes what would happen if you executed the command without actually invoking the command functionality.	false	false	
Confirm	Prompts you for confirmation before executing the command.	false	false	

Input Type

String, Int32, Boolean, Decimal, SwitchParameter

Return Values

SnapDrive.Nsf.Interfaces.SDStorageVolume SnapDrive.Nsf.Interfaces.SDStorageVolume returns the volume that was provisioned.

Examples

Example 1: Provisioning a storage system volume using a template

```
New-SdVolume -Name sqldbvolume -Aggregate sqldbaggregate -JunctionPath /sqldbvolume
-TemplateName C:\Program Files\SnapDrive\Templates\HyperVVHDxProvTemplate.xml -Size 128GB -
StorageSystem sqlvirtualstorageserver
```

```
This example provisions a storage system volume using the specified template.
```

```
Name               : sqldbvolume
Vserver            : sqlvirtualstorageserver
FullPath           : sqlvirtualstorageserver:/vol/sqldbvolume
JunctionPath       : /sqldbvolume
JunctionParentName :
SizeTotal          :
SizeUsed           :
SnapMirrorSource   :
SnapMirrorDest     :
SnapVaultPrimary   :
SnapVaultSecondary :
FlexCloneEnabled   :
IsFlexClone        :
ResourceType       : SDStorageVolume
ResourceName       : sqlvirtualstorageserver:/vol/sqldbvolume
Ranges             :
```

Remove-SdSMBShare

Removes one or more SMB shares from your storage system.

Syntax

```
Remove-SdSMBShare [-Path] <Object[]> [-Host <String>] [-WhatIf] [-Confirm]
 [<CommonParameters>]
```

Detailed Description

Removes one or more SMB shares from your storage system. This cmdlet is supported in clustered Data ONTAP 8.2 and later.

Parameters

Name	Description	Required?	Pipeline Input	Default Value
Path	Specifies a comma-separated list of SMB shares.	true	true (ByPropertyName)	
Host	Specifies the name or IP address of the host on which you execute the operation. The default is your local machine.	false	true (ByPropertyName)	
WhatIf	Describes what would happen if you executed the command without actually invoking the command functionality.	false	false	
Confirm	Prompts you for confirmation before executing the command.	false	false	

Input Type

Object [], String, SwitchParameter Comma-separated list of SMB shares.

Return Values

N/A

Examples

Example 1: Removing an SMB share

```
Remove-SdSMBShare -Path \\JENKINS-CIFS\RemoveShare03 -Verbose
This example syntax removes SMB share "RemoveShare03" from your storage system.


VERBOSE: Validating input paths
```

```
VERBOSE: Cifs Share : \\JENKINS-CIFS\RemoveShare03
VERBOSE: cifsShares 'RemoveShare03' will be removed

Remove-SdSMBShare
cifsShares 'RemoveShare03' will be removed
 Do you want to continue?
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is "Y"): y
VERBOSE: Removing CIFS share..
VERBOSE: Operation Successful.
```

Example 2: Removing multiple SMB shares

```
Remove-SdSMBShare -Path \\JENKINS-CIFS\RemoveShare01,\\172.17.165.40\RemoveShare02 -Verbose
```

This example syntax removes SMB share "RemoveShare01," and "RemoveShare02" from the your storage system.

```
VERBOSE: Validating input paths
VERBOSE: Cifs Share : \\JENKINS-CIFS\RemoveShare01
VERBOSE: Cifs Share : \\172.17.165.40\RemoveShare02
VERBOSE: cifsShares 'RemoveShare01' will be removed
cifsShares 'RemoveShare02' will be removed

Remove-SdSMBShare
cifsShares 'RemoveShare01' will be removed
cifsShares 'RemoveShare02' will be removed
 Do you want to continue?
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is "Y"): a
VERBOSE: Removing CIFS share..
VERBOSE: Operation Successful.
```

Remove-SdSnapMirrorPolicyRule

Removes the rules from the SnapMirror policy associated with the SnapVault relationship.

Syntax

```
Remove-SdSnapMirrorPolicyRule [-SourceStorageSystem] <String> [-SourceStorageSystemVolume]
 <String> [-DestinationStorageSystem] <String> [-DestinationStorageSystemVolume] <String> [-
SnapMirrorLabel] <String[]> [-Host <String>] [-WhatIf] [-Confirm] [<CommonParameters>]
```

Detailed Description

Removes the rules from the SnapMirror policy associated with the SnapVault relationship. Rrelated cmdlets: Set-SdSnapMirrorPolicyRule, Get-SdSnapMirrorPolicyRule

Parameters

Name	Description	Required?	Pipeline Input	Default Value
SourceStorageSystem	Specifies the primary storage system name containing the source volumes of the SnapMirror relationship for which you want to remove the SnapMirror policy rules. IP addresses are not supported.	true	true (ByValue, ByPropertyName)	
SourceStorageSystemVolume	Specifies the source volume of the SnapMirror relationship for which you want to remove the SnapMirror policy rules.	true	true (ByPropertyName)	
DestinationStorageSystem	Specifies the secondary storage system name containing the destination volumes of the SnapMirror relationship for which you want to remove the SnapMirror policy rules. IP addresses are not supported.	true	true (ByValue, ByPropertyName)	
DestinationStorageSystemVolume	Specifies the destination volume of the SnapMirror relationship for which you want to remove the SnapMirror policy rules.	true	true (ByPropertyName)	
SnapMirrorLabel	Specifies the SnapMirror policy rule which you want to remove.	true	true (ByPropertyName)	
Host	Specifies the name or IP address of the host on which you execute the operation. The default is your local machine.	false	true (ByPropertyName)	
WhatIf	Describes what would happen if you executed the command without actually invoking the command functionality.	false	false	
Confirm	Prompts you for confirmation before executing the command.	false	false	

Input Type

String, String[], SwitchParameter

Return Values

SnapDrive.Nsf.Interfaces.RetentionPolicyRule

Examples

Example 1: Removing SnapMirror policy rule information from the policy for a SnapMirror relationship

```
Remove-SdSnapMirrorPolicyRule -SourceStorageSystem vs01 -SourceStorageSystemVolume src_vol01
 -DestinationStorageSystem vs02 -DestinationStorageSystemVolume dest_vol01 -SnapMirrorLabel
 myWeekly,myMonthly -verbose -Confirm:$false
```

```
Removes the SnapMirror policy rules (myWeekly, myMonthly) from the policy on the specified
 relationship.
```

Remove-SdSnapshot

Removes Snapshot copies created on Windows disks, SMB shares, or storage system volumes.

Syntax

```
Remove-SdSnapshot [-Path] <Object[]> [-Snapshot] <String[]> [-Host <String>] [-WhatIf] [-
Confirm] [<CommonParameters>]
```

Detailed Description

Removes Snapshot copies created on Windows disks, SMB shares, or storage system volumes. Related cmdlets: New-SdSnapshot, Rename-SdSnapshot, and Restore-SdSnapshot

Parameters

Name	Description	Required?	Pipeline Input	Default Value
Path	Specifies the SMB shares, volume, or logical disk for the Snapshot copies you want to delete. You cannot mix a logical disk or mount point with SMB shares in the same input path.	true	true (ByPropertyName)	
Snapshot	Specifies the list of Snapshot copies you want to delete.	true	true (ByPropertyName)	
Host	Specifies the name or IP address of the host on which you execute the operation. The default is your local machine.	false	true (ByPropertyName)	
WhatIf	Describes what would happen if you executed the command without actually invoking the command functionality.	false	false	
Confirm	Prompts you for confirmation before executing the command.	false	false	

Input Type

Object[], String, String[], SwitchParameter You can specify the input type as a list of the resources belonging to the Snapshot copy you want to delete. The resources must be SMB shares, volumes, or logical disks. You can specify resources as a list of strings or objects. The following types are allowed: string; SnapDrive.Nsf.Interfaces.SDCIFSShare; SDStorageResource

Return Values

SnapDrive.Nsf.Interfaces.SDSnapshot The object corresponding to the Snapshot copies you want to delete.

Examples

Example 1: Removing a Snapshot copy on a SMB share

```
Remove-SdSnapshot -Path "\\172.17.12.101\share" -Snapshot "snapshot_1"
```

This example syntax removes the Snapshot copy snapshot_1 created on SMB share \\172.17.12.101\share.

Example 2: Removing specified Snapshot copies on multiple SMB shares

```
Remove-SdSnapshot -Path "\\172.17.12.101\share1","\\172.17.12.101\share2" -Snapshot
 "snapshot_1","snapshot_2"
```

This example removes Snapshot copies snapshot_1 and snapshot_2 created on SMB shares \\172.17.12.101\share1 and \\172.17.12.101\share2.

Example 3: Removing a new Snapshot copy on a SMB share

```
New-SdSnapshot -Path "\\172.17.12.101\share" | Remove-SdSnapshot
```

This example removes the new Snapshot copy on SMB share \\172.17.12.101\share.

Example 4: Removing a Snapshot copy on a disk

```
Remove-SdSnapshot -Path D: -Snapshot "snapshot_1"
```

This example syntax removes the Snapshot copy snapshot_1 created on the disk drive D:.

Remove-SdStorageConnectionSetting

Removes the storage connection, transport, and credential settings from the configuration repository for one or more storage system or virtual storage server.

Syntax

```
Remove-SdStorageConnectionSetting [-StorageSystem] <String[]> [-HostOnly] [-PassThru] [-
LegacyContext] [-Host <String>] [-WhatIf] [-Confirm] [<CommonParameters>]
Remove-SdStorageConnectionSetting -All [-HostOnly] [-PassThru] [-LegacyContext] [-Host
 <String>] [-WhatIf] [-Confirm] [<CommonParameters>]
Remove-SdStorageConnectionSetting -DefaultSetting [-HostOnly] [-PassThru] [-LegacyContext] [-
Host <String>] [-WhatIf] [-Confirm] [<CommonParameters>]
```

Detailed Description

Removes the storage connection, transport and credential settings from the configuration repository for one or more storage system or virtual storage server. Related cmdlets: Set-SdStorageConnectionSetting and Get-SdStorageConnectionSetting

Parameters

Name	Description	Required?	Pipeline Input	Default Value
StorageSystem	Specifies the name or IP address of the storage system (storage controller or virtual storage server) for which you want to retrieve connection settings.	true	true (ByPropertyName)	
HostOnly	In clustered Data ONTAP environments, specifies that you want to remove the storage system credentials only on the cluster node you specify. The default behavior is that HostOnly is not specified, and your storage credential settings are removed from all the nodes in a cluster.	false	true (ByPropertyName)	
PassThru	Indicates the output setting objects that you removed from the configuration. These objects are written to the pipeline for further processing.	false	true (ByPropertyName)	false
LegacyContext	For internal use only.	false	false	
Host	Specifies the name or IP address of the host on which you execute the operation. The default is your local machine.	false	true (ByPropertyName)	
WhatIf	Describes what would happen if you executed the command without actually invoking the command functionality.	false	false	
Confirm	Prompts you for confirmation before executing the command.	false	false	
All	Indicates that you want to remove all connection settings, including the default settings, from the configuration repository.	true	true (ByPropertyName)	
DefaultSetting	Indicates that you want to remove the default storage system connection settings.	true	false	

Input Type

String, String[], SwitchParameter

Return Values

SnapDrive.Nsf.Interfaces.SDStorageConnectionSetting, SnapDrive.Nsf.Interfaces.SDStorageConnectionSettingBase Settings for a storage system connection removed from the configuration repository. Processed default settings return SnapDrive.Nsf.Interfaces.SDStorageConnectionSettingBase while processed named connection settings return SnapDrive.Nsf.Interfaces.SDStorageConnectionSetting.

Examples

Example 1: Removing named connection settings

```
Remove-SdStorageSystemSetting -StorageSystem vmStorageServer,sqlServer -PassThru
```

```
This example syntax removes the specified vmStorageServer and sqlServer storage system
 connection settings.
```

Example 2: Removing all connection settings

```
Remove-SdStorageConnectionSetting -All -PassThru
```

```
This example syntax removes all the connection settings, including the default connection
 settings.
```

Example 3: Removing default storage connection settings

```
Remove-SdStorageConnectionSetting -DefaultSetting -PassThru
```

```
This example syntax removes the default storage system connection settings. You can use the
 default settings to attempt a connection to any system that is not explicitly configured.
```

Example 4: Removing pipeline storage connection settings

```
$settings = Get-SdStorageConnectionSetting
$settings | Remove-SdStorageConnectionSetting -PassThru -confirm:$false
```

```
This example syntax retrieves the existing storage connection settings. In this case,
 they are "vmStorageServer" and "sharePointServer". Then the example pipes those names as
 the connection settings to be removed. Because the confirm value is false, there is no
 confirmation prompt and the PassThru switch means it outputs the objects removed.
```

Remove-SdVolume

Removes a volume from your storage system.

Syntax

```
Remove-SdVolume [-Volume] <String> [-StorageSystem] <String> [-Host <String>] [-WhatIf] [-
Confirm] [<CommonParameters>]
```

Detailed Description

Removes a volume from your storage system. When you remove a volume using this cmdlet, Remove-SdVolume dismounts your volume, brings it offline, and deletes it. You can remove one volume at a time, only. You cannot remove volumes that are in a SnapMirror relationship. When you remove volumes, any active LUNs or shares on the volume are also removed. This cmdlet is supported in clustered Data ONTAP 8.2 and later.

Parameters

Name	Description	Required?	Pipeline Input	Default Value
Volume	Specifies the name of the volume you want to delete.	true	true (ByValue, ByPropertyName)	
StorageSystem	Specifies the name of the storage system from which you want to delete the volume. You can use the administration interface or the storage system name.	true	true (ByValue, ByPropertyName)	
Host	Specifies the name or IP address of the host on which you execute the operation. The default is your local machine.	false	true (ByPropertyName)	
WhatIf	Describes what would happen if you executed the command without actually invoking the command functionality.	false	false	
Confirm	Prompts you for confirmation before executing the command.	false	false	

Input Type

String, SwitchParameter

Return Values

N/A

Examples

Example 1: Removing a volume

```
Remove-SdVolume -Volume TestRemoval01 -StorageSystem 172.17.165.39 -Verbose
```

This example syntax removes volume TestRemoval01 from storage system 172.17.165.39.

```
VERBOSE: volume 'TestRemoval01' will be removed

Remove-SdVolume
volume 'TestRemoval01' will be removed Do you want to continue?
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is "Y"): y
VERBOSE: Removing volume: TestRemoval01
VERBOSE: Operation Successful.
```

Rename-SdSnapshot

Renames Snapshot copies created on a Windows disk or SMB share.

Syntax

```
Rename-SdSnapshot [-Path] <Object[]> [-Snapshot] <String> [-NewName] <String> [-Host
 <String>] [-WhatIf] [-Confirm] [<CommonParameters>]
Rename-SdSnapshot [-StorageSystem] <String> [-VolumeName] <String> [-Snapshot] <String> [-
NewName] <String> [-Host <String>] [-WhatIf] [-Confirm] [<CommonParameters>]
```

Detailed Description

Renames Snapshot backups created on a Windows disk or SMB share. In SAN environments, your new Snapshot backup name is not case sensitive. Related cmdlets: New-SdSnapshot and Remove-SdSnapshot

Parameters

Name	Description	Required?	Pipeline Input	Default Value
Path	Specifies a list of SMB shares or Windows volumes. You cannot mix a logical disk or mount point with SMB shares in the same input path.	true	true (ByPropertyName)	
Snapshot	Specifies the name of the Snapshot copy you want to rename.	true	true (ByPropertyName)	
NewName	Indicates the new name of the Snapshot copy.	true	true (ByPropertyName)	
Host	Specifies the name or IP address of the host on which you execute the operation. The default is your local machine.	false	true (ByPropertyName)	
WhatIf	Describes what would happen if you executed the command without actually invoking the command functionality.	false	false	
Confirm	Prompts you for confirmation before executing the command.	false	false	
StorageSystem	Specifies the name of storage system name for the Snapshot copy you are renaming.	true	true (ByPropertyName)	
VolumeName	Specifies the storage system volume name for the Snapshot copy.	true	true (ByPropertyName)	

Input Type

Object[], String, SwitchParameter SMB share or Windows disk for which a Snapshot copy is to be renamed.

Return Values

SnapDrive.Nsf.Interfaces.Snapshot SDSnapshot object which is a result of rename operation.

Examples

Example 1: Rename a single Snapshot copy

```
Rename-SdSnapshot -Path \\SQLCIFSServer\SalesDBShare -Snapshot MySnap -NewName MyNewSnap
```

This example renames a Snapshot copy from MySnap to MyNewSnap.

```
SnapshotName     AccessPoint                   StorageSystemName    Volume
------------     -----------                   -----------------    ------
MyNewSnap        \\SQLCIFSServer\SalesDBShare  MyStorageSystem1     vol1
```

Example 2: Rename a Snapshot copy on two SMB shares

```
Rename-SdSnapshot -Path \\SQLCIFSServer1\SalesDBShare,\\SQLCIFSServer2\MarketDBShare -
Snapshot MySnap -NewName MyNewSnap
```

This example renames a Snapshot copy located two SMB shares.

```
SnapshotName     AccessPoint                    StorageSystemName    Volume
------------     -----------                    -----------------    ------
MyNewSnap        \\SQLCIFSServer1\SalesDBShare  MyStorageSystem1     vol1
MyNewSnap        \\SQLCIFSServer2\MarketDBShare MyStorageSystem2     vol2
```

Example 3: Rename a Snapshot copy on a specified storage system and volume

```
Rename-SdSnapshot -StorageSystem MyStorageSystem1 vol1 -Snapshot MySnap -NewName MyNewSnap
```

This example renames a Snapshot copy from MySnap to MyNewSnap on a specified storage system and volume.

```
SnapshotName     AccessPoint         StorageSystemName    Volume
------------     -----------         -----------------    ------
MyNewSnap                            MyStorageSystem1     vol1
```

Example 4: Renames a single Snapshot copy on a disk

```
Rename-SdSnapshot -Path F: -Snapshot MySnap -NewName MyNewSnap
```

This example renames a Snapshot copy on the disk drive :F from MySnap to MyNewSnap.

Restore-SdSnapshot

Restores files and directories from a primary or secondary Snapshot copy, on Windows disks or SMB shares.

Syntax

```
Restore-SdSnapshot [-Path] <Object[]> [-Snapshot] <String> [[-StorageSystem] <String>]
 [[-VolumeName] <String>] [-ForceRestore] [-Host <String>] [-WhatIf] [-Confirm]
 [<CommonParameters>]
```

Detailed Description

Restores files and directories from a primary or secondary Snapshot copy, on Windows disks or SMB shares. When you are restoring from a Snapshot copy on a share, you can restore everything from that Snapshot copy. When you are restoring from a Snapshot copy in a SAN environment, you can restore disks only. You cannot perform this restore operation on Snapshot copies that exist in both SAN and SMB 3.0 environments. In SAN environments, you can perform one restore operation at a time. When you are restoring from the secondary Snapshot copy, you must have a CIFS server on the secondary server. When you are restoring multiple files or directories under the same SMB share from your SnapVault secondary, you cannot specify the CIFS server name in the path by referring to IP/Name/Fully qualified domain name (FQDN.) You must speciy the CIFS server name using only IP or Name or FQDN. When you are restoring to a cluster shared volume (CSV) on a SAN drive, you can only restore on the primary node. You cannot restore a specific file or files using this parameter in SAN environments. Related cmdlets: New-SdSnapshot and Get-SdSnapshot

Parameters

Name	Description	Required?	Pipeline Input	Default Value
Path	Specifies the location of the files, directories, and disks for the Snapshot copies you want to restore. You cannot mix a logical disk or mount point with SMB shares in the same input path.	true	true (ByPropertyName)	
Snapshot	Specifies the Snapshot copy name you want to restored.	true	true (ByPropertyName)	
StorageSystem	Name of the storage system in which the Snapshot copy specified for the restore operation is located.	false	true (ByPropertyName)	
VolumeName	Name of the storage system volume in which the Snapshot copy specified for the restore operation is located.	false	true (ByPropertyName)	
ForceRestore	Indicates whether the Snapshot copy should be forcibly restored. If you want to overwrite existing versions of the files or directories you are restoring, this parameter is required.	false	true (ByPropertyName)	

Name	Description	Required?	Pipeline Input	Default Value
Host	Specifies the name or IP address of the host on which you execute the operation. The default is your local machine.	false	true (ByPropertyName)	
WhatIf	Describes what would happen if you executed the command without actually invoking the command functionality.	false	false	
Confirm	Prompts you for confirmation before executing the command.	false	false	

Input Type

Object[], String, SwitchParameter The the Snapshot copy resource. The resource should be files or directories on an SMB share, volume, or logical disk. The following types are allowed: string; SnapDrive.Nsf.Interfaces.SDCIFSShare; SDStorageResource;

Return Values

SnapDrive.Nsf.Interfaces.SDSnapshot

Examples

Example 1: Restoring a Snapshot copy on a SMB share from a Snapshot copy

```
Restore-SdSnapshot -Path "\\172.17.12.101\share\files.txt" -Snapshot "snapshot_1"
```

```
This example restores the file named file.txt on SMB share "\\172.17.12.101\share" from
 specified Snapshot copy "snapshot_1".
```

Example 2: Restoring a file under a subfolder of a SMB share from a Snapshot copy

```
Restore-SdSnapshot -Path "\\172.17.12.101\share\dir1\file1.txt" -Snapshot snapshot_1
```

```
This example restores the file on "\\172.17.12.101\share\dir1\file1.txt" from Snapshot copy
 snapshot_1.
```

Example 3: Restoring a directory with its contents under a SMB share from a Snapshot copy

```
Restore-SdSnapshot -Path "\\172.17.12.101\share\folder1\*" -Snapshot "snapshot_1"
```

```
This example restores the directory named "folder1" and its contents from the specified
 Snapshot copy "snapshot_1".
```

Example 4: Restoring multiple files and directories under a SMB share from a Snapshot copy

```
Restore-SdSnapshot -Path "\\172.17.12.101\share\file0.txt","\\172.17.12.101\share
\dir1\file1.txt","\\172.17.12.101\share\dir2\*","\\172.17.12.101\share\dir3\*" -Snapshot
 snapshot_1
```

```
This example restores a file named "file0.txt" under the root of the SMB share, a named
 "file1.txt" under directory "dir1", directory named "dir2" and "dir3" and their contents,
 from the Snapshot copy named "snapshot_1".
```

Example 5: Restoring a file on a SMB share from a Snapshot copy on the SnapVault secondary

```
Restore-SdSnapshot -Path "\\172.17.12.101\share\dir1\file1.txt" -Snapshot "snapshot_1" -
StorageSystem 172.17.165.29 -VolumeName vaultdest_vol
```

This example restores a file named "file1.txt" under directory "dir1" from the Snapshot copy named "snapshot_1" on the SnapVault secondary storage system.

Example 6: Restoring a Snapshot copy on a disk from a Snapshot copy

```
Restore-SdSnapshot -Path E: -Snapshot "snapshot_1"
```

This example restores the Snapshot named file.txt on disk drive E: from specified Snapshot copy "snapshot_1."

Set-SdSnapMirrorPolicyRule

Sets the rules for managing Snapshot retention on the SnapVault secondary storage system.

Syntax

```
Set-SdSnapMirrorPolicyRule [-SourceStorageSystem] <String> [-SourceStorageSystemVolume]
 <String> [-DestinationStorageSystem] <String> [-DestinationStorageSystemVolume] <String> [-
SnapMirrorLabel] <String> [-Retention] <Int32> [[-Preserve]] [[-WarnThreshold] <Int32>] [-
Host <String>] [-WhatIf] [-Confirm] [<CommonParameters>]
```

Detailed Description

Sets the rules for managing Snapshot retention on the SnapVault secondary storage system. You can create new rules for customizing your virtual storage server level SnapMirror policy. Each SnapMirror policy can have up to 10 rules managing Snapshot copy retention. The default policy rules are daily or weekly Snapshot copy retention, or you can define your own retention rule. You cannot modify cluster-level SnapMirror or SnapVault policies with virtual storage server credentials. Related cmdlets: Remove-SdSnapMirrorPolicyRule, Get-SdSnapMirrorPolicyRule

Parameters

Name	Description	Required?	Pipeline Input	Default Value
SourceStorageSystem	Specifies the primary storage system name containing the source volumes of the SnapMirror relationship for which you want to create or modify the SnapMirror policy rules. IP addresses are not supported.	true	true (ByValue, ByPropertyName)	
SourceStorageSystemVolume	Specifies the source volume of the SnapMirror relationship for which you want to create or modify the SnapMirror policy rules.	true	true (ByPropertyName)	
DestinationStorageSystem	Specifies the secondary storage system name containing the destination volumes of the SnapMirror relationship for which you want to create or modify the SnapMirror policy rules. IP addresses are not supported.	true	true (ByValue, ByPropertyName)	
DestinationStorageSystemVolume	Specifies the destination volume of the SnapMirror relationship for which you want to create or modify the SnapMirror policy rules.	true	true (ByPropertyName)	
SnapMirrorLabel	Specifies the SnapMirror policy rule which you want to create or modify.	true	true (ByPropertyName)	
Retention	Specifies the Snapshot copy retention count.	true	true (ByPropertyName)	
Preserve	Specifies whether Snapshot copy preserve is enabled, which determines the behavior when the Snapshot copy retention count is reached on the SnapMirror Vault destination.	false	true (ByPropertyName)	
WarnThreshold	Specifies the warning threshold count.	false	true (ByPropertyName)	

Name	Description	Required?	Pipeline Input	Default Value
Host	Specifies the name or IP address of the host on which you execute the operation. The default is your local machine.	false	true (ByPropertyName)	
WhatIf	Describes what would happen if you executed the command without actually invoking the command functionality.	false	false	
Confirm	Prompts you for confirmation before executing the command.	false	false	

Input Type

String, Int32, SwitchParameter

Return Values

SnapDrive.Nsf.Interfaces.RetentionPolicyRule

Examples

Example 1: Setting SnapMirror policy rule information on the policy for a SnapMirror relationship

```
Set-SdSnapMirrorPolicyRule -SourceStorageSystem vs01 -SourceStorageSystemVolume src_vol01
 -DestinationStorageSystem vs02 -DestinationStorageSystemVolume dest_vol01 -SnapMirrorLabel
 myWeekly -Retention 8 -Preserve -WarnThreshold 3 -verbose -Confirm:$false

Create or modify the SnapMirror policy rule "myWeekly" on the policy of the specified
 relationship.



PS C:\Users\administrator.NEXTGEN> Set-SdSnapMirrorPolicyRule -SourceStorageSystem vserver1 -
SourceStorageSystemVolume snapvault_source -DestinationStorageSyst
em vserver1 -DestinationStorageSystemVolume snapvault_dest -SnapMirrorLabel test -Retention 8
 -Preserve -WarnThreshold 3 -Verbose

Set-SdSnapMirrorPolicyRule
Set SnapMirror policy rule on vserver1 : snapvault_source ==> vserver1 : snapvault_dest.
Do you want to continue?
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is "Y"):
VERBOSE: Setting SnapMirror policy rules.
The setting SnapMirror policy rules operation is successful.
VERBOSE: Operation successful.
```

Set-SdSnapshot

Enables backup administrators to more easily attach labels to Snapshot copies and then select the secondary retention bucket by specifying the appropriate label.

Syntax

```
Set-SdSnapshot [-Snapshot] <String> [-StorageSystem] <String> [-VolumeName] <String[]> [-
SnapMirrorLabel] <String> [-Host <String>] [<CommonParameters>]
```

Detailed Description

Enables backup administrators to more easily attach labels to Snapshot copies and then select the secondary retention bucket by specifying the appropriate label. You can manage the secondary Snapshot copy retention using SnapMirror policies. A SnapMirror policy defines secondary retention buckets using various rules. A policy can have a maximum of 10 rules. These rules define how many Snapshot copies must be retained for a given Snapshot label and the behavior when the threshold is reached. You can also use rules to define what happens when you reach your Snapshot copy threshold. Based on your rule definitions, either the older Snapshot copies are deleted or your updates fail. You can use this cmdlet to set the Snapshot copy label based on the secondary retention requirements. You can use this cmdlet in clustered Data ONTAP 8.2 and later. Relate cmdlets: Restore-SdSnapshot, Remove-SdSnapshot, Rename-SdSnapshot, New-SdSnapshot

Parameters

Name	Description	Required?	Pipeline Input	Default Value
Snapshot	Indicates the name name of the Snapshot copy to which you want the label to be attached. The Snapshot copy must exist in all the specified volumes.	true	true (ByPropertyName)	
StorageSystem	Indicates the name of the storage system in which the Snapshot copy resides.	true	true (ByPropertyName)	
VolumeName	Specifies a comma-separated list of the volumes in which the specified Snapshot copy resides.	true	true (ByPropertyName)	
SnapMirrorLabel	Specifies the label you want to attach to the Snapshot copy. If you specify an empty string, existing labels are removed.	true	true (ByPropertyName)	
Host	Specifies the name or IP address of the host on which you execute the operation. The default is your local machine.	false	true (ByPropertyName)	

Input Type

String[], String

Return Values

SnapDrive.Nsf.Interfaces.SDSnapshot Snapshots for which the label is set

Examples

Example 1: Attaching a label to the specified Snapshot copy

```
Get-SdSnapshot -storagesystem prodvserver -volume voldb,vollog -snapshot salesdb_backup |
 Set-Sdsnapshot -label monthly
```

In this example syntax, you attach labels to the specified Snapshot copies.

Example 2: Making a Snapshot copy and attaching a label to it

```
New-SdSnapshot \\SQLFileserver\DBShare,\\SQLFileserver\LogShare -Snapshot salesbackup -
UpdateMirror | set-Sdsnapshot -Label weekly
```

In this example, you make a Snapshot copy of the specified shares, attach a weekly retention label, and update the mirror relationship.

Example 3: Getting secondary backups and changing their retention label

```
Get-SdSnapshot \\SQLFileserver\DBShare,\\SQLFileserver\LogShare -GetSecondarySnapshots | set-
Sdsnapshot -label  monthly
```

In this example, you get secondary backups and change their retention labels.

Set-SdStorageConnectionSetting

Sets up the storage system transport protocols and credential settings.

Syntax

```
Set-SdStorageConnectionSetting [-StorageSystem] <String> [-HostOnly] [-Protocol
 <ConnectProtocol>] [-Port <UInt16>] -Credential <PSCredential> [-Force] [-LegacyContext] [-
Host <String>] [-WhatIf] [-Confirm] [<CommonParameters>]
Set-SdStorageConnectionSetting [-StorageSystem] <String> -UseDefaultSetting [-HostOnly] [-
Force] [-LegacyContext] [-Host <String>] [-WhatIf] [-Confirm] [<CommonParameters>]
Set-SdStorageConnectionSetting -DefaultSetting [-HostOnly] [-Protocol <ConnectProtocol>]
 [-Port <UInt16>] -Credential <PSCredential> [-Force] [-LegacyContext] [-Host <String>] [-
WhatIf] [-Confirm] [<CommonParameters>]
```

Detailed Description

Sets up the storage system transport protocols and credential settings. so that you can make connections to a storage system or a virtual storage server later. These settings include the storage system name, port, transport type, user login, password, and timeout. If the settings already exist in the configuration repository for a specified storage system, those settings are replaced. When you are running this parameter in a clustered Data ONTAP environment, you only need to configure your storage connection settings once, rather than on each node of the cluster. If you want to set storage credentials only on a specific host, use the -HostOnly parameter. Related cmdlets: Get-SdStorageConnectionSetting and Remove-SdStorageConnectionSetting

Parameters

Name	Description	Required?	Pipeline Input	Default Value
StorageSystem	Specifies the name or IP address of the storage system (storage controller or virtual storage server) for which you want to set connection settings.	true	true (ByPropertyName)	
HostOnly	In clustered Data ONTAP environments, specifies that you want to set the storage system credentials only on the cluster node you specify. The default behavior is that HostOnly is not specified, and your storage credential settings are pushed to all the nodes in a cluster.	false	true (ByPropertyName)	
Protocol	Specifies the protocol type you want to use. By default, connections are attempted with a secure HTTPS connection to the storage controller, but it falls back to HTTP if necessary. Specify HTTPS, or HTTP to only use those protocols without any fallback to another protocol. Possible values are: HTTP, HTTPS, RPC. RPC is supported in 7-mode Data ONTAP version 8.0 and 8.1 storage systems only.	false	true (ByPropertyName)	DefaultWithFallback
Port	Specifies the port on which you want to connect to the storage controller. If you do not set this value, the default is 80 for HTTP and 443 for HTTPS. This parameter only applies to HTTP and HTTPS protocols.	false	true (ByPropertyName)	80/443

Name	Description	Required?	Pipeline Input	Default Value
Credential	Designates the username and password you want to used to authenticate your connection to the storage system. Credentials are not required for the RPC protocol. You may specify credentials, but they will not be saved.	true	true (ByPropertyName)	
Force	Indicates that you want to override existing storage system connection settings. If -Force is not specified and storage system connection settings already exist, you will be prompted to indicate whether you want to overwrite existing settings.	false	true (ByPropertyName)	
LegacyContext	For internal use only.	false	false	
Host	Specifies the name or IP address of the host on which you execute the operation. The default is your local machine.	false	true (ByPropertyName)	
WhatIf	Describes what would happen if you executed the command without actually invoking the command functionality.	false	false	
Confirm	Prompts you for confirmation before executing the command.	false	false	
UseDefaultSetting	Indicates that you want to use the default storage system connection settings for setting up a new storage system connection. To set up storage storage system connection using the default settings, enter: Set-StorageConnectionSetting -UseDefaultSetting -StorageSystem	true	true (ByPropertyName)	
DefaultSetting	Sets the default credentials, protocol and port. To specify default values, run: Set-SdStorageConnectionSetting -DefaultSetting -Protocol <HTTPS> -Port <443> -Credential <name>	true	true (ByPropertyName)	

Input Type

String, SwitchParameter, SnapDrive.Nsf.Interfaces.ConnectProtocol, UInt16, PSCredential, Int32 All storage connection settings to save.

Return Values

SnapDrive.Nsf.Interfaces.SDStorageConnectionSetting, SnapDrive.Nsf.Interfaces.SDStorageConnectionSettingBase Returns settings for a storage system connection saved to the configuration repository. Processed default settings return SnapDrive.Nsf.Interfaces.SDStorageConnectionSettingBase while processed named connection settings return SnapDrive.Nsf.Interfaces.SDStorageConnectionSetting, types.

Examples

Example 1: Setting up named storage system connection settings

```
Set-SdStorageConnectionSetting -Name 'VirtualStorageServer1' -Protocol https -Credential
 vsadmin -Port 443
```

```
This example saves the specified storage system connection settings into the configuration
 repository. These settings are later used to connect to the VirtualStorageServer1 virtual
```

```
 storage server storage system. You are prompted for the password using the given login of
 'vsadmin'.




Storage System Name/IP  : VirtualStorageServer1
User                    : vsadmin
Port                    : 443
Protocol                : Https
```

Example 2: Saving default connection settings using PowerShell script code

```
$password = ConvertTo-SecureString "p@ssword" -AsPlainText -Force
$vserver_cred = New-Object -TypeName System.Management.Automation.PSCredential -ArgumentList
 "vsadmin", $password

Set-SdStorageConnectionSetting -DefaultSetting -Credential $vserver_cred -protocol http

This example saves the default settings for later connections to a storage system. It uses a
 previously configured credential, the HTTP protocol, and the default port.




User       : vsadmin
Port       : 80
Protocol   : Http
```

Example 3: Modifying existing settings for a new port and protocol

```
$setting = Get-SdStorageConnectionSetting -Name 'vmStorageServer'

$setting.Port = 443
$setting.Protocol = "Https"
$setting | Set-SdStorageConnectionSetting

This example reads the existing settings for "vmStorageServer" and then saves the storage
 system connection settings back to the configuration with a new port.




Storage System Name/IP   : 10.53.41.214
Name                     : vmStorageServer
Port                     : 443
Protocol                 : Https
```

Example 4: Modifying existing connection settings based on default settings

```
$settingDef = Get-SdStorageConnectionSetting -DefaultSetting

$settingDef.port = 443
$settingDef | Set-SdStorageConnectionSetting -StorageSystem "exchangeStorageServer"

This example retrieves the original default settings and changes the port to 443. Then, it
 saves the storage system connection settings back to the configuration repository as the new
 settings used to connect to the "exchangeStorageServer" storage system.




Storage System Name/IP   : exchangeStorageServer
User                     : vsadmin
Port                     : 443
Protocol                 : Https
```

Example 5: Setting default storage system connection settings using DefaultSetting

```
Set-SdStorageConnectionSetting -DefaultSetting -Protocol http -Credential vsadmin
```

In this example syntax, you use the -DefaultSetting parameter to set your protocol to HTTP, and your user name to "vsadmin".

```
User         : vsadmin
Port         : 80
Protocol     : Http
```

Example 6: Using the default settings to establish a storage system connection

```
Set-SdStorageConnectionSetting -UseDefaultSetting -StorageSystem 172.17.165.33
```

In example syntax, you use the -UseDefaultSetting parameter to apply the default credentials, protocol, and port to your storage system.

```
Storage System Name/IP   : 172.17.165.33
User                     : vsadmin
Port                     : 80
Protocol                 : Http
```

Start-SdVolumeCloneSplit

Initiates a clone splitting operation.

Syntax

```
Start-SdVolumeCloneSplit [-Path] <Object[]> [-Host <string>] [-WhatIf] [-Confirm]
 [<CommonParameters>]
```

Detailed Description

Initiates a clone splitting operation. Clone splitting operations enable you to split your clone volume from the parent volume and turn it into an independent FlexVolume.

Parameters

Name	Description	Required?	Pipeline Input	Default Value
Confirm	Prompts you for confirmation before executing the command.	false	false	
Host	Specifies the name or IP address of the host on which you execute the operation. The default is your local machine.	false	true (ByPropertyName)	
Path	Specifies the path or mount point to the clone volume you want to split.	true	true (ByPropertyName)	
WhatIf	Describes what would happen if you executed the command without actually invoking the command functionality.	false	false	

Input Type

n/a

Return Values

n/a

Stop-SdVolumeCloneSplit

Stops your clone splitting operation.

Syntax

```
Stop-SdVolumeCloneSplit [-Path] <Object[]> [-Host <string>] [-WhatIf] [-Confirm]
 [<CommonParameters>]
```

Detailed Description

Stops your clone splitting operation. Clone splitting operations enable you to split your clone volume from the parent volume and turn it into an independent FlexVolume.

Parameters

Name	Description	Required?	Pipeline Input	Default Value
Confirm	Prompts you for confirmation before executing the command.	false	false	
Host	Specifies the name or IP address of the host on which you execute the operation. The default is your local machine.	false	true (ByPropertyName)	
Path	Specifies the path or mount point to the clone volume you want to stop splitting.	true	true (ByPropertyName)	
WhatIf	Describes what would happen if you executed the command without actually invoking the command functionality.	false	false	

Input Type

n/a

Return Values

n/a

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