IBM System Storage N series

OnCommand Windows PowerShell Cmdlets Guide For Use with Core Package 5.0 and Host Package 1.0

GA32-1022-00

Contents

Preface

Supported features

IBM System Storage N series storage systems are driven by NetApp Data ONTAP software. Some features described in the product software documentation are neither offered nor supported by IBM. Please contact your local IBM representative or reseller for further details.

Information about supported features can also be found on the N series support website (accessed and navigated as described in *Websites* on page 5).

Websites

IBM maintains pages on the World Wide Web where you can get the latest technical information and download device drivers and updates. The following web pages provide N series information:

- A listing of currently available N series products and features can be found at the following web page:
  www.ibm.com/storage/nas/
- The IBM System Storage N series support website requires users to register in order to obtain access to N series support content on the web. To understand how the N series support web content is organized and navigated, and to access the N series support website, refer to the following publicly accessible web page:
  www.ibm.com/storage/support/nseries/
  This web page also provides links to AutoSupport information as well as other important N series product resources.
- IBM System Storage N series products attach to a variety of servers and operating systems. To determine the latest supported attachments, go to the IBM N series interoperability matrix at the following web page:
  www.ibm.com/systems/storage/network/interophome.html
- For the latest N series hardware product documentation, including planning, installation and setup, and hardware monitoring, service and diagnostics, see the IBM N series Information Center at the following web page:
  publib.boulder.ibm.com/infocenter/nasinfo/nseries/index.jsp

Getting information, help, and service

If you need help, service, or technical assistance or just want more information about IBM products, you will find a wide variety of sources available from IBM to assist you. This section contains

information about where to go for additional information about IBM and IBM products, what to do if you experience a problem with your IBM N series product, and whom to call for service, if it is necessary.

Before you call

Before you call, make sure you have taken these steps to try to solve the problem yourself:

- Check all cables to make sure they are connected.
- Check the power switches to make sure the system is turned on.
- Use the troubleshooting information in your system documentation and use the diagnostic tools that come with your system.
- Refer to the N series support website (accessed and navigated as described in *Websites* on page 5) for information on known problems and limitations.

Using the documentation

The latest versions of N series software documentation, including Data ONTAP and other software products, are available on the N series support website (accessed and navigated as described in *Websites* on page 5).

Current N series hardware product documentation is shipped with your hardware product in printed documents or as PDF files on a documentation CD. For the latest N series hardware product documentation PDFs, go to the N series support website.

Hardware documentation, including planning, installation and setup, and hardware monitoring, service, and diagnostics, is also provided in an IBM N series Information Center at the following web page:

publib.boulder.ibm.com/infocenter/nasinfo/nseries/index.jsp

Hardware service and support

You can receive hardware service through IBM Integrated Technology Services. Visit the following web page for support telephone numbers:

www.ibm.com/planetwide/

Firmware updates

IBM N series product firmware is embedded in Data ONTAP. As with all devices, it is recommended that you run the latest level of firmware. Any firmware updates are posted to the N series support website (accessed and navigated as described in *Websites* on page 5).

Note: If you do not see new firmware updates on the N series support website, you are running the latest level of firmware.

Verify that the latest level of firmware is installed on your machine before contacting IBM for technical support.

How to send your comments

Your feedback helps us to provide the most accurate and high-quality information. If you have comments or suggestions for improving this document, please send them by e-mail to *starpubs@us.ibm.com*.

Be sure to include the following:

- Exact publication title
- Publication form number (for example, GC26-1234-02)
- Page, table, or illustration numbers
- A detailed description of any information that should be changed

What the Windows PowerShell cmdlets do

The Windows PowerShell cmdlets enable you to perform a subset of operations using the familiar Windows PowerShell command line. If the N series Management Console is not available for use, you can still perform object discovery, local backup and restore operations of virtual objects, and host configuration.

The PowerShell cmdlets are supported only for datasets containing either Hyper-V or VMware virtual machines. The cmdlets do not check for this information when executing operations.

Permissions required to enter commands

Before you can execute any of the cmdlets, you must have the proper credentials, user names, and passwords. If you do not have the appropriate permissions, the cmdlet operations fail.

Common cmdlet parameters

The Windows PowerShell cmdlets include both common command parameters and risk-mitigation parameters that you can use to customize the operation that the cmdlet performs.

Cmdlet parameters

[-Verbose {True | False}]

Displays expanded information about the operation.

[-Debug {True | False}]

Displays technical information about the operation.

[-WarningAction {SilentlyContinue | Continue | Inquire | Stop}]

Determines how the cmdlet responds to a warning when performing the operation. The following list describes what each value means:

SilentlyContinue	Suppresses the warning message and continues with the operation.
Continue	Displays the warning message and continues with the operation. This is the default value for this parameter.
Inquire	Displays the warning message and asks if you want to continue.
Stop	Displays the warning message and stops the operation.

-WarningVariable | ***Variable_name***

Stores warnings about the command in the specified variable.

[-ErrorAction {SilentlyContinue | **Continue** | **Inquire** | **Stop}]**

Determines how the cmdlet responds to a warning when performing the operation. The following list describes what each value means:

SilentlyContinue	Suppresses the warning message and continues with the operation.
Continue	Displays the warning message and continues with the operation. This is the default value for this parameter.
Inquire	Displays the warning message and asks if you want to continue with the operation.
Stop	Displays the warning message and stops the operation.

-ErrorVariable | ***Variable_name***

Stores errors about the command in the specified variable.

-OutVariable | ***Variable_name***

Displays objects output by the command and then stores them in the specified variable.

-OutBuffer | ***Object_number***

Determines the number of objects that can reside in the buffer before they are sent.

Risk mitigation parameters

[-WhatIf {True | **False}]**

Displays a message about the outcome of the command instead of executing the operation.

[-Confirm {True | **False}]**

Prompts you for input before executing the operation.

OnCommand Windows PowerShell cmdlets

You can use the OnCommand Windows PowerShell cmdlets to back up datasets containing virtual objects and to restore virtual machines.

Installing or upgrading OnCommand Windows PowerShell cmdlets

The Windows PowerShell cmdlets are not automatically installed with the OnCommand console. To use the Windows PowerShell cmdlets with the OnCommand console, you must manually install them. You also need to manually upgrade the cmdlets if you upgrade your version of OnCommand console.

Before you begin

You must have installed the appropriate version of OnCommand.

Steps

1. Navigate to the installation folder for OnCommand Core Package.
2. Navigate to the appropriate folder:

If you have installed the OnCommand Core Package...	Then
A Windows server	Navigate to the `DFM_Install_dir>\DFM\web\clients` folder.
A Linux server	Navigate to the `/opt/IBMdfm/web/clients` folder.

   This folder contains the Windows PowerShell installation package.

3. Execute the installation file:

If you are installing the cmdlets on...	Then
The same Windows server	Double-click the executable file and follow the installation wizard prompts.
A different Windows server	Copy the installation file to the server or workstation where you want to install the cmdlets and then execute the installation.
A Linux server	Copy the installation file to the server or workstation where you want to install the cmdlets and then execute the installation.

After you finish

You can now execute the Windows PowerShell cmdlets for OnCommand console.

Related tasks

Executing OnCommand Windows PowerShell cmdlets on page 12

Executing OnCommand Windows PowerShell cmdlets

You can use the OnCommand Windows PowerShell cmdlets to perform backup, recovery, and backup management operations.

Before you begin

You must have installed the following:

- Windows PowerShell 2.0
- Windows .NET 3.5 SP 1

If this is the first time that you are executing the Windows PowerShell cmdlets, then you must have manually installed them before performing this task.

About this task

The following versions of Windows are supported:

- Windows XP with Service Pack 3
- Windows Vista with Service Pack 2
- Windows Vista with Service Pack 1
- Windows 7
- Windows Server 2003 with Service Pack 2
- Windows Server 2008 with Service Pack 1
- Windows Server 2008 with Service Pack 2
- Windows Server 2008 R2 (full and server core)
- Hyper-V Server 2008 R2

If a DataFabric Manager server goes down while a PowerShell cmdlet is executing, the cmdlet might not time out. You can press Ctrl + C or stop the PowerShell process to halt the operation.

Step

1. Start Windows PowerShell.

To start Windows PowerShell using...	Do this...
The Windows menu	Click **Start > All Programs > IBM > OnCommand Windows PowerShell Cmdlets > OnCommand Windows PowerShell Cmdlets**.
The Windows PowerShell command window	Type the following syntax: `'import-module <install_dir>\OCcmdlets.psd1'`

Related tasks

Installing or upgrading OnCommand Windows PowerShell cmdlets on page 11

Register-User

The `Register-User` enables you to save your DataFabric Manager server connection information to a local system so that other cmdlets can use the information.

Syntax

```
Register-User [-Credential] <PSCredential> [-Server <String>] [-Protocol
{HTTP | HTTPS}] [-Port <UInt32>] [-IgnoreCertificateWarning] [-Force]
[<CommonParameters>]
```

Description

This cmdlet is a prerequisite for all of the other OnCommand Windows PowerShell cmdlets. This cmdlet enables you to save your DataFabric Manager server connection information to a local system so that other cmdlets can use the information. This cmdlet is also required if DataFabric Manager server service stops.

Parameters

[-Credential | -cred] <***PScredential***>

Specifies the user credentials used when connecting to the server. If you use a user name, you are prompted for a password. If you are using a script, you can also use a PSCredential object.

[-Server | -svr <***String***>**]**

Specifies the fully qualified domain name (FQDN) of the server to which you want to connect and from which you want to execute cmdlets. The default value is `localhost`, but you cannot use `localhost` if you specify HTTPS protocol.

[-Protocol | -prot {HTTPS | HTTP}]

Specifies the protocol you want to use when connecting to the server. The default value is `HTTPS`.

[-Port | -p <***UInt32***>**]**

Specifies the server port number you want to use during connection. The default values are 8488 for HTTPS and 8088 for HTTP protocols.

[-IgnoreCertificateWarning | -i]

Specifies that the cmdlets should always accept the server certificate without validation. If you do not use this parameter, you are prompted to validate and install the server certificate. This parameter is valid when using HTTPS protocol only.

[<***CommonParameters***>**]**

Displays the common parameters supported by this cmdlet: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, and OutVariable.

Example: Registering a user with a specified server name

The following example registers the user called Admin with a server named MgmtServer01:

```
C:\PS>Register-User -server MgmtServer01 -cred Admin
```

Related references

Common cmdlet parameters on page 9

Related information

Providing user credentials in a script

Enabling console prompting for use with the Register-User cmdlet

Depending on your environment, you might need to enable console prompting by disabling the user name and password dialog box. This is useful if you want to enter the full distinguished name of the user (cn=userid,o=orgname,c=US) instead of the domain name (domain\userid). You can then enter your credential information on the command line itself.

Before you begin

You must have installed the appropriate version of OnCommand console.

You must have installed or upgraded the Windows PowerShell cmdlets.

You must be authorized to perform all the steps of this task; your RBAC administrator can confirm your authorization in advance.

Step

1. To disable the pop-up prompt, create a string value called ConsolePrompting with a value True in the registry key `HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\PowerShell\1\ShellIds`.

Result

The cmdlet prompts for a password on the command line itself.

Unregister-User

The `Unregister-User` cmdlet deletes user configuration information from the profile directory.

Syntax

`Unregister-User [<CommonParameters>]`

Description

This cmdlet enables you to delete the user configuration information from the profile directory that you created using the `Register-User` cmdlet without removing the server certificate. If you used HTTPS protocol without the `-IgnoreCertificateWarning` option when using the `Register-User` cmdlet, you must manually remove the server certificate.

Parameters

[<*CommonParameters*>]

Displays all of the common parameters.

Example: Unregistering the current user

The following example unregisters the current user:

```
C:\PS>Unregister-User
```

Related references

Common cmdlet parameters on page 9

New-Backup

This cmdlet enables you to create an on-demand backup of a dataset or a portion of a dataset. Some of the parameters differ between Hyper-V and VMware environments.

Syntax

The following syntax displays options for the cmdlet that are common to both Hyper-V and VMware environments:

```
New-Backup [-Dataset ] <String> [-Resources <String [ ]>] [-Description
<String>] [-RetentionType {Hourly | Daily | Weekly | Monthly | Unlimited}]
[-LocalRetentionDurationDays <Double>] [-LocalRetentionDurationHours
<Double>] [-BackupScript <String>] [-LocalOnly] [-Asynchronous] [-WhatIf]
[-Confirm] [<CommonParameters>]
```

The following syntax displays the Hyper-V specific options for the cmdlet:

```
New-Backup [-Dataset ] <String> [-Resources <String [ ]>] [-Description
<String>] [-RetentionType {Hourly | Daily | Weekly | Monthly | Unlimited}]
[-LocalRetentionDurationDays <Double>] [-LocalRetentionDurationHours
<Double>] [-BackupScript <String>] [-LocalOnly] [-AllowSavedStateBackup] [-
Asynchronous] [-WhatIf] [-Confirm] [<CommonParameters>]
```

The following syntax displays the VMware specific options for the cmdlet:

```
New-Backup [-Dataset ] <String> [-Resources <String [ ]>] [-Description
<String>] [-RetentionType {Hourly | Daily | Weekly | Monthly | Unlimited}]
[-LocalRetentionDurationDays <Double>] [-LocalRetentionDurationHours
<Double>] [-BackupScript <String>] [-LocalOnly] [-Asynchronous] [-
NoVMwareSnap] [-IncludeIndependentDisks] [-WhatIf] [-Confirm]
[<CommonParameters>]
```

Description

This cmdlet enables you to create an on-demand backup of a dataset or a portion of a dataset. If you specify the `-verbose` option and do not specify the `-Asynchronous` option, the cmdlet displays detailed progress information about the backup operation. The string returned identifies the backup job on the server.

Parameters

[-Dataset | **-ds]** <***String***>

Specifies the name or ID of the dataset that you want to back up.

[-Resources | **-r** <***String***>**]**

Specifies the name, ID, or host service ID of the dataset members that you want to include in the on-demand backup. If you do not use this parameter, the whole

dataset is backed up. The name or host service ID of the resource cannot be used if it is purely numeric, consisting only of digits from 0 through 9. In such cases, you should use the ID of the resource as input.

[-Description | **-desc** <***String***>**]**

Describes the backup.

[-RetentionType | **-rt {Hourly** | **Daily** | **Weekly** | **Monthly** | **Unlimited}]**

Specifies the retention type of the on-demand backup. You must assign a retention type if you do not use either the `-LocalRetentionDurationDays` or the `-LocalRetentionDurationHours` parameters.

[-LocalRetentionDurationDays | **-rtdays** <***Double***>**]**

Specifies the length of time, in days, to keep the backup. This parameter is not valid if you specify the retention type as `Unlimited`.

[-LocalRetentionDurationHours | **-rthrs** <***Double***>**]**

Specifies the length of time, in hours, to keep the backup. This parameter is not valid if you specify the retention type as `Unlimited`.

[-BackupScript | **-bkscr** <***String***>**]**

Specifies the path name of the backup script.

[-LocalOnly | **-l]**

Specifies that only a local backup is created. No remote backup is created.

[-Asynchronous | **-async]**

Specifies that the cmdlet should return after the backup begins. If you do not specify this parameter, the cmdlet returns upon backup completion.

[-AllowSavedStateBackup | **-assb]**

Hyper-V only: Specifies that the backup can proceed even if the Hyper-V virtual machine is taken offline for the backup.

[-NoVMwareSnap | **-novmsnap]**

VMware only: Specifies that a VMware snapshot copy should not be created during the backup.

[-IncludeIndependentDisks | **-inclindep]**

VMware only: Specifies that independent disks should be included in the backup.

[<***CommonParameters***>**]**

Displays the common parameters supported by this cmdlet: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, and OutVariable.

Example: Creating an on-demand backup using Hyper-V virtual machines

The following example creates an on-demand backup of all virtual machines in the dataset called HyperVDS. The cmdlet creates and retains indefinitely only local backups. The cmdlet returns 25 as the identifier of the backup job on the server.

```
C:\PS>new-backup HyperVDS -RetentionType Unlimited -LocalOnly


This command will create a backup of all virtual machines in the
dataset named 'HyperVDS'. Only local backups will be created and
retained indefinitely.


    25
```

Example of an on-demand backup using VMware virtual machines

The following example creates an on-demand backup of the virtual machines called vm1 and vm2, in the dataset called VMwareDS. The cmdlet does not create VMware snapshots during the backup and retains the backup for 5 days. The cmdlet returns 78 as the identifier of the backup job on the server.

```
C:\PS>New-Backup VMwareDS -Resources vm1, vm2 -NoVMwareSnap -
LocalRetentionDurationDays 5


Creates a backup of VMs 'vm1' and 'vm2' in the dataset 'VMwareDS'.
VMware
snapshot will not be created during backup and the backup will be
retained
for 5 days.


    78
```

Related references

Common cmdlet parameters on page 9

Get-Backup

The `Get-Backup` cmdlet lists the backups of a specific dataset or backups of a resource in the dataset.

Syntax

```
Get-Backup [-Dataset <String>] [-SearchKeys <String [ ]>] [-Resource
<String>] [-LatestBackup <Int32>] [<CommonParameters>]
```

Description

This cmdlet lists the backups of a specific dataset or backups of a resource in the dataset. You can also use this cmdlet to search for specific backups in a dataset.

The default `Get-Backup` cmdlet does not expand list parameters in the output. You can use the `-expand` *`both`* option to display all list parameters, with the exception of child resources. To view the child resources, you can use the `-expand` *`both`* and `-depth` options.

The `Get-Backup` cmdlet displays the following information for each backup:

- Backup ID
- Backup version (timestamp)
- Retention type
- Retention duration, if specified
- Dataset ID
- Dataset name
- Description
- Backup properties (list of properties and their values)
- Backup snapshot copies
- Resources in backup
  This is a hierarchical recursive list of all the resources included in the backup, including Hypervisor, virtual machines, virtual disks, corresponding LUNs and storage systems. The list is represented by a PSBackedUpResource object. Each object contains the following items:
  - Resource name
  - Resource ID
  - Resource type
  - Vendor object ID
  - Restorable (True or False)
  - Snapshot copies created
  - Child resources
- Restorable resources

This is a list of restorable resources and is represented by a PSResource object. Each object contains the following items:

- Resource name
- Resource ID
- Resource type
- Vendor object ID (example, VM GUID)

- Backup mounts
  This is a list of mounted backups and is represented by a PSBackupMountInfo object. Each object contains the following items:
  - Mount Session ID
  - Host name
  - Host ID
  - State
  - Mounted by (who mounted the backup)

Parameters

[-Dataset | **-ds** ***String*****]**

Specifies the name or ID of the dataset that contains the backups you want to view.

[-SearchKeys | **-s** ***String*****]**

Specifies the search key used to locate the backup. The key is matched to part or all of a backup description or a partial name of a backed up resource in the dataset.

[-Resource | **-res** ***String*****]**

Specifies the name or ID of the resources belonging to the dataset that you want to view. The name or host service ID of the resource cannot be used if it is purely numeric, consisting only of digits from 0 through 9. In such cases, you should use the ID of the resource as input.

[-LatestBackup | **-lb** ***Int32*****]**

Lists only the nth latest backup. If you do not specify this parameter, all backups appear.

[< ***CommonParameters*****>]**

Displays the common parameters supported by this cmdlet: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, and OutVariable.

Example: Displaying top-level information for a specified dataset

The following example displays top-level information for the dataset called ds1:

```
C:\PS> get-backup -dataset ds1

BackupID            : 6
```

```
BackupVersion       : 10/4/2010 5:07:35 PM
RetentionType       : daily
RetentionDuration   :
NodeName            :
DatasetID           : 15438
DatasetName         : ds1
Description         :
BackupProperties    : {}
ResourcesInBackup   : {CLAB-A9-13-W2K8}
BackupSnapshots     : {TestFAS01:/hyperv_vol:a06e7d28-4e8c-4fe1-
b544-39727645fcbbCLAB-A9-13-W2K8_CLAB-A9-13-W2K8_10-04-2
                      010_17.07.41, TestFAS01:/
hyperv_vol:a06e7d28-4e8c-4fe1-b544-39727645fcbbCLAB-A9-13-W2K8_CLAB-
A9-13
                      -W2K8_10-04-2010_17.07.41_backup}
RestorableResources : {VMTest}
BackupMounts        : {}
```

Example: Displaying expanded information for a specified dataset

The following example displays top-level expanded information for the dataset called ds1:

```
C:\PS> get-backup -dataset ds1 | fc -expand both
```

```
class PSBackup
{
  BackupID = 6
  BackupVersion = 10/4/2010 5:07:35 PM
  RetentionType = daily
  RetentionDuration =
  NodeName =
  DatasetID = 15438
  DatasetName = ds1
  Description =
  BackupProperties =
    [
    ]

  ResourcesInBackup =
    [
      class PSBackedUpResource
      {
        ChildResources =
          [
            class PSBackedUpResource
            {
              ChildResources =
                [
                  DFMPSModule.PSBackedUpResource
                  DFMPSModule.PSBackedUpResource
                  DFMPSModule.PSBackedUpResource
                ]

              IsRestorable = True
              Snapshots =
```

```
                [
                  a06e7d28-4e8c-4fe1-b544-39727645fcbbCLAB-A9-13-
W2K8_CLAB-A9-13-W2K8_10-04-2010_17.07.41
                  a06e7d28-4e8c-4fe1-b544-39727645fcbbCLAB-A9-13-
W2K8_CLAB-A9-13-W2K8_10-04-2010_17.07.41_backup
                ]

              ResourceBackupProperties =
                [
                ]

              ResourceName = VMTest
              ResourceID = 14605
              ResourceType = Virtualization.HyperV.VM
              VendorObjectID = EA9FE5BD-30B0-465D-ABF9-ABFA8A4B66A7
            }
          ]

        IsRestorable = False
        Snapshots =
          [
          ]

        ResourceBackupProperties =
          [
          ]

        ResourceName = CLAB-A9-13-W2K8
        ResourceID = 14601
        ResourceType = Virtualization.HyperV.Parent
        VendorObjectID = CLAB-A9-13-W2K8
      }
    ]

  BackupSnapshots =
    [
      class PSSnapshotInfo
      {
        SnapshotName = a06e7d28-4e8c-4fe1-b544-39727645fcbbCLAB-A9-13-
W2K8_CLAB-A9-13-W2K8_10-04-2010_17.07.41
        VolumeName = TestFAS01:/hyperv_vol
      }
      class PSSnapshotInfo
      {
        SnapshotName = a06e7d28-4e8c-4fe1-b544-39727645fcbbCLAB-A9-13-
W2K8_CLAB-A9-13-W2K8_10-04-2010_17.07.41_backup
        VolumeName = TestFAS01:/hyperv_vol
      }
    ]

  RestorableResources =
    [
      class PSResource
      {
        ResourceName = VMTest
        ResourceID = 14605
        ResourceType = Virtualization.HyperV.VM
```

```
        VendorObjectID = EA9FE5BD-30B0-465D-ABF9-ABFA8A4B66A7
      }
    ]

}
  BackupMounts =
[
]
```

Example: Displaying fully expanded information for a specified dataset

The following example displays fully expanded information, including resources contained in the backup, for the dataset called ds1:

C:\PS> get-backup -dataset ds1 | fc -expand both -depth 18

```
class PSBackup
{
  BackupID = 6
  BackupVersion = 10/4/2010 5:07:35 PM
  RetentionType = daily
  RetentionDuration =
  NodeName =
  DatasetID = 15438
  DatasetName = ds1
  Description =
  BackupProperties =
    [
    ]

  ResourcesInBackup =
    [
      class PSBackedUpResource
      {
        ChildResources =
          [
            class PSBackedUpResource
            {
              ChildResources =
                [
                  class PSBackedUpResource
                  {
                    ChildResources =
                      [
                        class PSBackedUpResource
                        {
                          ChildResources =
                            [
                              class PSBackedUpResource
                              {
                                ChildResources =
                                  [
                                    class PSBackedUpResource
                                    {
                                      ChildResources =
```

```
                                        [
                                          class PSBackedUpResource
                                          {
                                            ChildResources =
                                              [
                                                class
PSBackedUpResource
                                                {
                                                  ChildResources =
                                                    [
                                                      class
PSBackedUpResource
                                                      {
ChildResources =
                                                          [
                                                          ]
                                                        IsRestorable
= False
                                                        Snapshots =
                                                          [
                                                          ]

ResourceBackupProperties =
                                                          [
                                                          ]
                                                        ResourceName
= TestFAS01
                                                        ResourceID =
14669
                                                        ResourceType
= Storage.ONTAP.StorageSystem
VendorObjectID = TestFAS01
                                                      }
                                                    ]
                                                  IsRestorable = False
                                                  Snapshots =
                                                    [
                                                    ]

ResourceBackupProperties =
                                                    [
                                                    ]
                                                  ResourceName = /vol/
hyperv_vol
                                                  ResourceID = 14668
                                                  ResourceType =
Storage.ONTAP.Volume
                                                  VendorObjectID =
TestFAS01:/vol/hyperv_vol
```

```
                                                }
                                              ]

                                            IsRestorable = False
                                            Snapshots =
                                              [
                                              ]

                                            ResourceBackupProperties =
                                              [
                                              ]

                                            ResourceName = /vol/
hyperv_vol/hypervlun1
                                            ResourceID = 14665
                                            ResourceType =
Storage.ONTAP.LUN
                                            VendorObjectID =
TestFAS01:/vol/hyperv_vol/hypervlun1
                                          }
                                        ]

                                      IsRestorable = False
                                      Snapshots =
                                        [
                                        ]

                                      ResourceBackupProperties =
                                        [
                                        ]

                                      ResourceName = \\?
\Volume{7b8dc17c-7ec0-4ac3-b8a0-7b91384dc681}\
                                      ResourceID = 14660
                                      ResourceType =
FileSystem.NTFS.VolumeGuid
                                      VendorObjectID = \\?
\Volume{7b8dc17c-7ec0-4ac3-b8a0-7b91384dc681}\
                                    }
                                  ]

                                IsRestorable = False
                                Snapshots =
                                  [
                                  ]

                                ResourceBackupProperties =
                                  [
                                  ]

                                ResourceName = G
                                ResourceID = 14657
                                ResourceType =
FileSystem.NTFS.MountPoint
                                VendorObjectID = G
                              }
                            ]
```

```
                        IsRestorable = False
                        Snapshots =
                          [
                          ]

                        ResourceBackupProperties =
                          [
                          ]

                        ResourceName = G
                        ResourceID = 14646
                        ResourceType = FileSystem.NTFS.File
                        VendorObjectID = G
                      }
                    ]

                  IsRestorable = False
                  Snapshots =
                    [
                    ]

                  ResourceBackupProperties =
                    [
                    ]

                  ResourceName = G
                  ResourceID = 14631
                  ResourceType = Virtualization.HyperV.VMConfig
                  VendorObjectID = G
                }
                class PSBackedUpResource
                {
                  ChildResources =
                    [
                      class PSBackedUpResource
                      {
                        ChildResources =
                          [
                            class PSBackedUpResource
                            {
                              ChildResources =
                                [
                                  class PSBackedUpResource
                                  {
                                    ChildResources =
                                      [
                                        class PSBackedUpResource
                                        {
                                          ChildResources =
                                            [
                                              class
PSBackedUpResource
                                              {
                                                ChildResources =
                                                  [
                                                    class
```

```
PSBackedUpResource                                                {

ChildResources =                                                      [
                                                                      ]

                                                                  IsRestorable
= False
                                                                  Snapshots =
                                                                    [
                                                                    ]


ResourceBackupProperties =                                          [
                                                                    ]

                                                                  ResourceName
= TestFAS01
                                                                  ResourceID =
14669
                                                                  ResourceType
= Storage.ONTAP.StorageSystem

VendorObjectID = TestFAS01                                      }
                                                              ]

                                                            IsRestorable = False
                                                            Snapshots =
                                                              [
                                                              ]


ResourceBackupProperties =                                    [
                                                              ]

                                                            ResourceName = /vol/
hyperv_vol
                                                            ResourceID = 14668
                                                            ResourceType =
Storage.ONTAP.Volume
                                                            VendorObjectID =
TestFAS01:/vol/hyperv_vol                                 }
                                                        ]

                                                      IsRestorable = False
                                                      Snapshots =
                                                        [
                                                        ]

                                                      ResourceBackupProperties =
                                                        [
                                                        ]
```

```
                                            ResourceName = /vol/
hyperv_vol/hypervlun1
                                            ResourceID = 14665
                                            ResourceType =
Storage.ONTAP.LUN
                                            VendorObjectID =
TestFAS01:/vol/hyperv_vol/hypervlun1
                                          }
                                        ]

                                      IsRestorable = False
                                      Snapshots =
                                        [
                                        ]

                                      ResourceBackupProperties =
                                        [
                                        ]

                                      ResourceName = \\?
\Volume{7b8dc17c-7ec0-4ac3-b8a0-7b91384dc681}\
                                      ResourceID = 14660
                                      ResourceType =
FileSystem.NTFS.VolumeGuid
                                      VendorObjectID = \\?
\Volume{7b8dc17c-7ec0-4ac3-b8a0-7b91384dc681}\
                                    }
                                  ]

                                IsRestorable = False
                                Snapshots =
                                  [
                                  ]

                                ResourceBackupProperties =
                                  [
                                  ]

                                ResourceName = G
                                ResourceID = 14657
                                ResourceType =
FileSystem.NTFS.MountPoint
                                VendorObjectID = G
                              }
                            ]

                          IsRestorable = False
                          Snapshots =
                            [
                            ]

                          ResourceBackupProperties =
                            [
                            ]

                          ResourceName = g:\VMTest
```

```
                        ResourceID = 14645
                        ResourceType = FileSystem.NTFS.File
                        VendorObjectID = g:\VMTest
                      }
                    ]

                  IsRestorable = False
                  Snapshots =
                    [
                    ]

                  ResourceBackupProperties =
                    [
                    ]

                  ResourceName = g:\VMTest
                  ResourceID = 14632
                  ResourceType = Virtualization.HyperV.Snapshot
                  VendorObjectID = g:\VMTest
                }
                class PSBackedUpResource
                {
                  ChildResources =
                    [
                      class PSBackedUpResource
                      {
                        ChildResources =
                          [
                            class PSBackedUpResource
                            {
                              ChildResources =
                                [
                                  class PSBackedUpResource
                                  {
                                    ChildResources =
                                      [
                                        class PSBackedUpResource
                                        {
                                          ChildResources =
                                            [
                                              class
PSBackedUpResource
                                              {
                                                ChildResources =
                                                  [
                                                    class
PSBackedUpResource
                                                    {

ChildResources =
                                                        [
                                                        ]

                                                      IsRestorable
= False
                                                      Snapshots =
                                                        [
```

```
                                                                ]


ResourceBackupProperties =
                                                                [
                                                                ]


                                                             ResourceName
= TestFAS01
                                                             ResourceID =
14669
                                                             ResourceType
= Storage.ONTAP.StorageSystem
VendorObjectID = TestFAS01
                                                          }
                                                        ]
                                                      IsRestorable = False
                                                      Snapshots =
                                                        [
                                                        ]


ResourceBackupProperties =
                                                        [
                                                        ]


                                                      ResourceName = /vol/
hyperv_vol
                                                      ResourceID = 14668
                                                      ResourceType =
Storage.ONTAP.Volume
                                                      VendorObjectID =
TestFAS01:/vol/hyperv_vol
                                                    }
                                                  ]
                                                IsRestorable = False
                                                Snapshots =
                                                  [
                                                  ]

                                                ResourceBackupProperties =
                                                  [
                                                  ]


                                                ResourceName = /vol/
hyperv_vol/hypervlun1
                                                ResourceID = 14665
                                                ResourceType =
Storage.ONTAP.LUN
                                                VendorObjectID =
TestFAS01:/vol/hyperv_vol/hypervlun1
                                              }
                                            ]
```

```
                                    IsRestorable = False
                                    Snapshots =
                                      [
                                      ]

                                    ResourceBackupProperties =
                                      [
                                      ]

                                    ResourceName = \\?
\Volume{7b8dc17c-7ec0-4ac3-b8a0-7b91384dc681}\
                                    ResourceID = 14660
                                    ResourceType =
FileSystem.NTFS.VolumeGuid
                                    VendorObjectID = \\?
\Volume{7b8dc17c-7ec0-4ac3-b8a0-7b91384dc681}\
                                  }
                                ]

                              IsRestorable = False
                              Snapshots =
                                [
                                ]

                              ResourceBackupProperties =
                                [
                                ]

                              ResourceName = G
                              ResourceID = 14657
                              ResourceType =
FileSystem.NTFS.MountPoint
                              VendorObjectID = G
                            }
                          ]

                        IsRestorable = False
                        Snapshots =
                          [
                          ]

                        ResourceBackupProperties =
                          [
                          ]

                        ResourceName = g:\temp.vhd
                        ResourceID = 14644
                        ResourceType = FileSystem.NTFS.File
                        VendorObjectID = g:\temp.vhd
                      }
                    ]

                  IsRestorable = False
                  Snapshots =
                    [
                    ]
```

```
                    ResourceBackupProperties =
                      [
                      ]

                    ResourceName = g:\temp.vhd
                    ResourceID = 14633
                    ResourceType = Virtualization.HyperV.VHD
                    VendorObjectID = g:\temp.vhd
                  }
                ]

              IsRestorable = True
              Snapshots =
                [
                  a06e7d28-4e8c-4fe1-b544-39727645fcbbCLAB-A9-13-
W2K8_CLAB-A9-13-W2K8_10-04-2010_17.07.41
                  a06e7d28-4e8c-4fe1-b544-39727645fcbbCLAB-A9-13-
W2K8_CLAB-A9-13-W2K8_10-04-2010_17.07.41_backup
                ]

              ResourceBackupProperties =
                [
                ]

              ResourceName = VMTest
              ResourceID = 14605
              ResourceType = Virtualization.HyperV.VM
              VendorObjectID = EA9FE5BD-30B0-465D-ABF9-ABFA8A4B66A7
            }
          ]

        IsRestorable = False
        Snapshots =
          [
          ]

        ResourceBackupProperties =
          [
          ]

        ResourceName = CLAB-A9-13-W2K8
        ResourceID = 14601
        ResourceType = Virtualization.HyperV.Parent
        VendorObjectID = CLAB-A9-13-W2K8
      }
    ]

  BackupSnapshots =
    [
      class PSSnapshotInfo
      {
        SnapshotName = a06e7d28-4e8c-4fe1-b544-39727645fcbbCLAB-A9-13-
W2K8_CLAB-A9-13-W2K8_10-04-2010_17.07.41
        VolumeName = TestFAS01:/hyperv_vol
      }
      class PSSnapshotInfo
      {
```

```
        SnapshotName = a06e7d28-4e8c-4fe1-b544-39727645fcbbCLAB-A9-13-
W2K8_CLAB-A9-13-W2K8_10-04-2010_17.07.41_backup
        VolumeName = TestFAS01:/hyperv_vol
      }
    ]

  RestorableResources =
    [
      class PSResource
      {
        ResourceName = VMTest
        ResourceID = 14605
        ResourceType = Virtualization.HyperV.VM
        VendorObjectID = EA9FE5BD-30B0-465D-ABF9-ABFA8A4B66A7
      }
    ]

}
  BackupMounts =
[
]
```

Related references

Common cmdlet parameters on page 9

Remove-Backup

The `Remove-Backup` cmdlet enables you to delete a backup by indicating backup ID, version, dataset, or node parameters.

Syntax

```
Remove-Backup [-Dataset <String>] [-Node <String>] [-BackupID <UInt32>] [-
BackupVersion <String>] [-AllowDeferredDelete] [-DeleteMultipleBackups]
[<CommonParameters>]
```

Description

This cmdlet enables you to delete a backup by indicating backup ID, version, dataset, or node parameters.

Parameters

[`-Dataset` | `-ds` *`Dataset_name`*]

Specifies the name of the dataset backup that you want to delete. You must use this parameter unless you use the `-BackupID` parameter. If you use the `-BackupID` parameter, the dataset name is ignored.

[-Node | -n <*Node_name*>]

Specifies the name of the policy node that uniquely defines the backup version you want to delete. If you use the `-BackupID` parameter, the node name is ignored.

[-BackupID | -bkid <*UInt32*>]

Specifies the instance of the backup that you want to delete. You must use this parameter unless you specify both the `-Dataset` and `-BackupVersion` parameters.

[-BackupVersion | -bkver <*String*>]

Specifies the backup version by using the backup timestamp. You must use this parameter unless you use the `-BackupID` parameter. If you use the `-BackupID` parameter, the backup version is ignored.

[-AllowDeferredDelete | -defdel]

Specifies that the backup should be deleted at a later date if it can not be deleted at the current time.

[-DeleteMultipleBackups | -delmulti]

Deletes all of the backups matching the specified `-BackupVersion` and `-Dataset` parameters. Do not use the `-BackupID` or the `-Node` parameters with this parameter. If you do not use this parameter, only a single backup matching the specified criteria is deleted.

[<*CommonParameters*>]

Displays the common parameters supported by this cmdlet: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, and OutVariable.

Example: Deleting a specified backup

The following example deletes the backup with a backup ID of 25 and deletes any corresponding snapshot copies:

```
C:\PS>Remove-Backup -BackupID 25
```

Example: Retrieving and deleting the latest backup of a specified dataset

The following example uses the `Get-Backup` and `Remove-Backup` cmdlets to retrieve and then delete the latest backup of the dataset called HyperVDS:

```
C:\PS> Get-Backup -ds HyperVDS -LatestBackup 1 | Remove-Backup
```

Related references

Common cmdlet parameters on page 9

Restore-Backup

The `Restore-Backup` cmdlet restores virtual objects from a specified backup.

Syntax

The following syntax displays options for the cmdlet that are common to both Hyper-V and VMware environments:

```
Restore-Backup -BackupID <UInt32> -Resource <String> [-RestoreScript
<String>] [-Asynchronous] [-StartVM] [<CommonParameters>]
```

The following syntax displays the VMware specific options for the cmdlet:

```
Restore-Backup -BackupID <UInt32> -Resource <String> [-RestoreScript
<String>] [-Asynchronous] [-StartVM] [-MountToESXHost <String>]
[<CommonParameters>]
```

Description

This cmdlet enables you to restore any Hyper-V or VMware virtual object from a specified backup, except a single virtual machine disk. This cmdlet supports the restoration of only virtual machines. When restoring a Hyper-V virtual machine, only one restore operation can run at a time. The cmdlet returns a job identifier of the restore operation on the server.

Parameters

`-BackupID` | **`-bkid`** ***`Backup_ID`***

Specifies the instance of the backup that you want to restore.

`-Resource` | **`-res`** <***`Resource_Name`***>

Specifies the name, ID, or Host Service ID of the resource that you want to restore. The resource must exist in the backup and be restorable. The name or host service ID of the resource cannot be used if it is purely numeric, consisting only of digits from 0 through 9. In such cases, you should use the ID of the resource as input.

[`-RestoreScript` | **`-script`** <***`Restore_script`***>**]**

Specifies the full path name of the script used to invoke the host service before and after the restore operation.

[`-Asynchronous` | **`-async`]**

Specifies that the cmdlet should return after the restore operation begins. If you do not specify this parameter, the cmdlet returns upon completion.

[`-StartVM` | **`-start`]**

Specifies that the virtual machine being restored should be started after the restore operation is finished.

[-MountToESXHost | -esx <*ESX_Host_Name*>]

Specifies the name or ID of the ESX server on which to mount the backup during the restore operation. This parameter is only valid with VMware virtual machines.

[<*CommonParameters*>]

Displays the common parameters supported by this cmdlet: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, and OutVariable.

Example: Restoring a specified virtual machine

The following example restores a virtual machine called VM-Test from a backup with an ID of 25 and starts the virtual machine upon completion of the restore operation. The cmdlet returns 61 as the identifier of the restore operation started on the server.

```
C:\PS>Restore-Backup -BackupID 25 -Resource VM-Test -StartVM


Restores a virtual machine named 'VM-Test' from backup whose ID is
25.
The virtual machine will be started after restore is complete.


    61
```

Related references

Common cmdlet parameters on page 9

Mount-Backup

The `Mount-Backup` cmdlet mounts a backup that contains VMware virtual objects.

Syntax

```
Mount-Backup -BackupID <UInt32> -Host <String> [-Asynchronous]
[<CommonParameters>]
```

Description

This cmdlet enables you to mount a backup that contains VMware virtual objects. This cmdlet does not work with backups created in a Hyper-V environment. The cmdlet returns a job identifier of the mount operation on the server. After mounting a backup, you can use the `Get-Backup` command to view the backup mount information.

Parameters

-BackupID | **-bkid** <*UInt32*>

Specifies the instance of the backup that you want to mount.

-Host | **-h** <*String*>

Specifies the name or ID of the ESX server on which to mount the backup.

[-Asynchronous | **-async]**

Specifies that the cmdlet should return after the mount operation begins. If you do not specify this parameter, the cmdlet returns upon completion.

[<*CommonParameters*>**]**

Displays the common parameters supported by this cmdlet: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, and OutVariable.

Example: Mounting a specified backup

The following example mounts a backup with an ID of 6 and a host named host1.rtp.netapp.com. The cmdlet returns 16 as the identifier of the mount operation on the server.

```
C:\PS>Mount-Backup -BackupID 6 -Host host1.test.lab.com


Mount backup ID 6 on host 'host1.test.lab.com'. The output of the
command
indicates that a job with ID 16 has been started on the server for
mount
operation.


    16
```

Related references

Common cmdlet parameters on page 9

Dismount-Backup

The `Dismount-Backup` cmdlet unmounts a backup that contains VMware virtual objects.

Syntax

```
Dismount-Backup -MountSessionID <UInt32> [-Asynchronous]
[<CommonParameters>]
```

Description

This cmdlet enables you to unmount a mounted backup that contains VMware virtual objects. This cmdlet does not work with backups created in a Hyper-V environment. The cmdlet returns a job identifier of the mount operation on the server. Before unmounting the backup, you can use the `Get-Backup` command to view the backup mount information.

Parameters

`-MountSessionID` | **`-mntid`** <***`UInt32`***>

Specifies the instance of the mounted backup that you want to unmount.

`[-Asynchronous` | **`-async]`**

Specifies that the cmdlet should return after the unmount operation begins. If you do not specify this parameter, the cmdlet returns upon completion.

Example: Unmounting a specified backup

The following example unmounts a backup with an ID of 12. The cmdlet returns 18 as the identifier of the unmount operation on the server.

```
C:\PS>Dismount-Backup -MountSessionID 12


Dismounts a backup whose mount session ID is 12. The output of the
command
indicates that a job with ID 18 has been started on the server for
dismount
operation.


    18
```

Related references

Common cmdlet parameters on page 9

OnCommand host service PowerShell cmdlets

You can use the OnCommand host service PowerShell cmdlets to perform object discovery, local restore operations, and host configuration.

Executing host service PowerShell cmdlets

You can use the host service PowerShell cmdlets to perform various tasks, including host service configuration and restore operations.

Before you begin

You must have installed the following:

- OnCommand Host Package
- Windows PowerShell 1.0 or later
- Windows .NET 3.5 SP 1

About this task

The following versions of Windows are supported:

- Windows XP with Service Pack 3
- Windows Vista with Service Pack 2
- Windows Vista with Service Pack 1
- Windows 7
- Windows Server 2003 with Service Pack 2
- Windows Server 2008 with Service Pack 1
- Windows Server 2008 with Service Pack 2
- Windows Server 2008 R2 (full and server core)
- Hyper-V Server 2008 R2

Step

1. Start OnCommand host service PowerShell snap-in.

To start Windows PowerShell using...	Do this...
The Windows menu	Click **Start > All Programs > IBM > OnCommand Host Service PowerShell** .

To start Windows PowerShell using...	Do this...
The Windows PowerShell command window	Type the following syntax: **`Add-PSSnapin OnCommandHostSvc.PS`**

Configure-HostService

The `Configure-HostService` cmdlet configures the host service with credential information to interact with resources, as well as readies the host service to work with the DataFabric Manager server service endpoint.

Syntax

```
Configure-HostService [-SetCredential True | False] [-RemoveCredential True | False] [-ResourceID String ] [-ResourceType String ] -Username String [-Password String] [-Options String [ ]] [-Server String] [-Port Int32] [-URL String]
```

Description

This cmdlet configures the host service with credential information to interact with resources, as well as to ready the host service to work with the DataFabric Manager server service endpoint. Credential information is required to interact with and manage the resources.

When the DataFabric Manager server is down, you should only use this cmdlet for configuring storage controller or vCenter credentials.

Parameters

[-SetCredential | -setcred True | False]

Indicates the credentials that you must configure to interact with and manage the specified resources.

[-RemoveCredential | -remcred True | False]

Indicates the credentials that you must remove for the specified resources.

[-ResourceID | -id *String*]

Identifies the resource that you want to configure. You must specify the storage system if you want to configure it with the host service.

[-ResourceType | -type *String*]

Specifies the type of resource that you want to configure.

-Username | -un *String*

Specifies the username of the storage system or vCenter credential. This parameter is mandatory for this cmdlet.

[-Password | **-pwd** ***String*****]**

Specifies the password of the storage system or vSphere credential.

[-Options | **-type** ***String*****]**

Specifies the options specific to your configuration.

You can use the `-Options` parameter to change the DataFabric Manager server IP address or port number.

You can also use the `-Options` parameter to force the host service to re-register and exchange certificates with the DataFabric Manager server. You can use this option to obtain a new certificate for the DataFabric Manager server. If a previously registered host service was uninstalled and then reinstalled, you can unregister the host service and then force the DataFabric Manager server to use a new host service certificate to set up a correct trust relationship with the host service.

The following list displays all options for the DataFabric Manager server:

- DFMServerPort::xxxx
- DFMServerIP::xxx.xxx.xxx.xxx
- Authorize::false
  Set to false to force host service to exchange certificates with the DataFabric Manager server
- Protocol::http
- Protocol::https
- Protocol::rpc (Hyper-V only)

[-Server | **-s** ***String*****]**

Specifies the name or IP address of the host service server. Do not use the `-URL` parameter with the `-Port` or `-Server` parameters.

[-Port | **-p** ***Int32*****]**

Specifies the port number of the host service web service. The default value is 808. Do not use the `-URL` parameter with the `-Port` or `-Server` parameters.

[-URL | **-u** ***URL_address*****]**

Specifies the endpoint address of the server. Do not use the `-URL` parameter with the `-Port` or `-Server` parameters. You must use net.tcp binding with this parameter.

Example: Configuring a host service using specified resources

The following example configures a host service with the resource ID of "storagesystemname" and a resource type of "storagesystem":

```
c:\PS>configure-hostservice -setcredential -resourceid
"storagesystemname" -resourcetype "StorageSystem" -username "username"
-password "password" -options "protocol::http"
```

Example: Changing an IP address and port number

The following example configures a host service by changing the DataFabric Manager server IP address and port number:

```
c:\PS>Configure-HostService -options DFMServerIP::<new dfm
ip>,DFMServerPort::<new dfm port>
```

Related references

Common cmdlet parameters on page 9

Get-HSConfiguration

The `Get-HSConfiguration` cmdlet lists configuration information for the host service.

Syntax

`Get-HSConfiguration [-Server` *`String`*`] [-Port` *`Int32`*`] [-Adminport` *`Int32`*`] [-URL` *`String`*`] [-AdminURL` *`String`*`] [-CertificateInfo]`

Description

This cmdlet lists the configuration information for the host service, including registered plug-ins, such as wsdl version, time zone, host service ID, plug-in type and version information, and plug-in resource types.

Parameters

[`-Server` | **`-s`** ***`String`***`]`

Specifies the name or IP address of the host service server. Do not use the `-URL` parameter with the `-Port` or `-Server` parameters.

[`-Port` | **`-p`** ***`Int32`***`]`

Specifies the host service management web service port number. The default value is 808. Do not use the `-URL` parameter with the `-Port` or `-Server` parameters.

[`-Adminport` | **`-ap`** ***`Int32`***`]`

Specifies the host service administration web service port number. The default value is 808. Do not use the `-Adminport` or the `-Server` parameters with the `-AdminURL` parameter.

[`-URL` | `-u` *`String`*]

Specifies the endpoint address of the server. Do not use the `-URL` parameter with the `-Port` or `-Server` parameters. You must use net.tcp binding with this parameter.

[`-AdminURL` | `-au` *`String`*]

Specifies the endpoint address of the administrative host service. Do not use the `-Adminport` or the `-Server` parameters with the `-AdminURL` parameter. You must use net.tcp binding with this parameter.

[`-CertificateInfo` | `-ci`]

Retrieves information about the host service and DataFabric Manager server certificates, including certificate CN name, expiry date, and sha256 thumbprint .

Example: Displaying information for an administrative host service

The following example lists the configuration information for the host with the Admin URL (net.tcp://localhost:808/HostService/Admin):

```
c:\PS>Get-HSConfiguration -AdminURL net.tcp://localhost:808/
HostService/Admin
```

Related references

Common cmdlet parameters on page 9

List-HSBackups

The `List-HSBackups` cmdlet displays the primary backups of a specified resource and the backup information associated with it.

Syntax

```
List-HSBackups [-ResourceIDs String [ ]] [-ResourceType String] [-BackupID
String] [-Server String] [-Port Int32] [-URL String]
```

Description

This cmdlet displays the primary backups of a specified resource and the backup information associated with it.

Parameters

[-ResourceIDs | -ids *String*]

Identifies the resources whose backups you want to view. If you want to view a backup containing multiple virtual machines, the backup must contain all specified virtual machines. If you do not specify a resource ID, the cmdlet lists all backups. You must use this parameter with the `-ResourceType` parameter.

[-ResourceType | -type *String*]

Specifies the resource types whose backups you want to view. You must use this parameter with the `-ResourceIDs` parameter.

[-BackupID | -bk *String*]

Identifies the backup that contains information you want to view. Do not use this parameter with the `-ResourceIDs` parameter.

[-Server | -s *String*]

Specifies the name or IP address of the server. Do not use the `-URL` parameter with the `-Port` or `-Server` parameters.

[-Port | -p *Int32*]

Specifies the host service management web service port number. The default value is 808. Do not use the `-URL` parameter with the `-Port` or `-Server` parameters.

[-URL | -u *String*]

Specifies the endpoint address of the server. Do not use the `-URL` parameter with the `-Port` or `-Server` parameters. You must use net.tcp binding with this parameter.

Example: Displaying backups using a specified ID

The following example displays the backup with the backup ID 25:

```
c:\PS> List-HSBackups -backupid 25
```

Example: Displaying backups using specified resources

The following example displays backups with resources vmid1 and vmid2:

```
c:\PS> List-HSBackups -resourceid <vmid1>,<vmid2> -resourcetype
<virtualization.vmware\hyperv.vm>
```

Related references

Common cmdlet parameters on page 9

List-HSResources

The `List-HSResources` cmdlet displays the resources of a specified host.

Syntax

```
List-HSResources -ResourceIDs String [ ] [-ResourceTypes String] [-
Namespace String] [-Server String] [-Port Int32] [-URL String] [-Details |
-dtls]
```

Description

This cmdlet displays the resources of a specified host. You can use this cmdlet to display details about a specific resource, all resources of a specified type, or all resources associated with a specified host.

Parameters

`-ResourceIDs` | **`-ids`** ***`String`***

Specifies the identifiers of the resources displayed. When using the `-ResourceIDs` or the `-ResourceTypes` parameters, you must enclose the parameter within double quotes ("/") for the cmdlet to execute properly.

[`-ResourceTypes` | **`-ts`** ***`String`***]

Specifies the types of resources displayed. If you use this parameter without the `-ResourceIDs` parameter, all of the resources with the specified type are displayed. You can find the types of resources using the `Get-configuration` cmdlet. When using the `-ResourceIDs` or the `-ResourceTypes` parameters, you must enclose the parameter within double quotes ("/") for the cmdlet to execute properly.

[`-Namespace` | **`-ns`** ***`String`***]

Specifies the namespaces displayed. You can find the namespace IDs using the `Get-configuration` cmdlet. Do not use the `-Namespace` parameter with the `-ResourceTypes` or `-ResourceIDs` parameters.

[`-Server` | **`-s`** ***`String`***]

Specifies the name or IP address of the host service server. Do not use the `-URL` parameter with the `-Port` or `-Server` parameters.

[`-Port` | **`-p`** ***`Int32`***]

Specifies the host service management web service port number. The default value is 808. Do not use the `-URL` parameter with the `-Port` or `-Server` parameters.

[`-URL` | **`-u`** ***`String`***]

Specifies the endpoint address of the server. Do not use the `-URL` parameter with the `-Port` or `-Server` parameters. You must use net.tcp binding with this parameter.

[-Details | -dtls]

Specifies the details of the resources displayed.

Example: Listing resources with a specified resource type

The following example lists the resources with the resource types of Virtualization.HyperV.VM and Virtualization.HyperV.VHD:

```
c:\PS>List-HSResources -resourcetypes
Virtualization.HyperV.VM,Virtualization.HyperV.VHD
```

Related references

Common cmdlet parameters on page 9
Get-HSConfiguration on page 42

Restore-HSBackup

The `Restore-HSBackup` cmdlet restores a primary backup when the DataFabric Manager server is down.

Syntax

```
Restore-HSBackup -TimeInterval Int32 -BackupID Int32 -ResourceIDs String
[ ] [-ResourceType String] [-Options String [ ]] [Scriptpath String] [-
Server String] [-Port Int32] [-URL String]
```

Description

This cmdlet enables you to restore a primary backup when the DataFabric Manager server is down because you can not use the OnCommand console or CLI to perform this task. You should only use this cmdlet when the DataFabric Manager server is down.

Parameters

-BackupID | -bk *String*

Identifies the host service backup that you want to restore.

-TimeInterval | -tm *Int32*

Specifies the time interval, in seconds, to poll the restore operation results.

-ResourceIDs | -ids *String*

Identifies the resource that you want to restore.

[-ResourceType | -type *String*]

Specifies the type of resource ID. You can find the resource ID using the `List-HSBackups` cmdlet.

[-Options | -type <*String*>]

Specifies the options for restore operations.

The following list displays all of the options:

- StartVMAfterRestore::true
- MountToEsxHost::EsxServerName (VMware only)
- diskID::DestinationDatastore::datastoreNameorId (VMware only)

[-Scriptpath | -sp *String*]

Specifies the path to the script file. Custom arguments are not supported. If you use a PowerShell script, you should use the drive letter convention. For other types of scripts, you can use either the drive letter convention or the Universal Naming Convention.

[-Server | -s *String*]

Specifies the name or IP address of the host service server. Do not use the `-URL` parameter with the `-Port` or `-Server` parameters.

[-Port | -p *Int32*]

Specifies the host service management web service port number. The default value is 808. Do not use the `-URL` parameter with the `-Port` or `-Server` parameters.

[-URL | -u *String*]

Specifies the endpoint address of the server. Do not use the `-URL` parameter with the `-Port` or `-Server` parameters. You must use net.tcp binding with this parameter.

Example: Restoring a backup using specified resources

The following example restores a backup containing the resources id1 and id2:

```
c:\PS>Restore-HSbackup -resourceids id1, id2 -backupid backupid1 -
resourcetype "Virtualization.VMware.VM" -options "
StartVMAfterRestore::true" -script "c:\myscript.bat"
```

Related references

Common cmdlet parameters on page 9

New-HSCertificate

The `New-HSCertificate` cmdlet generates a new certificate for the host service anytime after installation.

Syntax

```
New-HSCertificate [-CertificateExpiry DateTime ] [-Force]
[<CommonParameters>]
```

Description

This cmdlet generates a new certificate for the host service anytime after installation. You can generate a new certificate when the existing one is about to expire or has expired. The certificate generated by the installer is valid for five years from the installation date.

Warning events appear in the Windows event log when the certificate is close to expiration. Error events are posted in the Windows event log after the certificate has expired. If you see SSL failures, you can use the `Get-HSConfiguration -certificateinfo` cmdlet to verify which certificates are used on the host for host service and DataFabric Manager server, as well as their respective expiration dates.

Parameters

[-CertificateExpiry | -cert *DateTime*]

Sets a user-specified date and time for certificate expiry.

[-Force]

Enables the operation to continue if a warning occurs.

[*CommonParameters*]

Displays the common parameters supported by this cmdlet: Verbose, Debug, WarningAction, and WarningVariable.

Example: Generating a new host service certificate with an expiry date

The following example generates a new host service certificate set to expire 1/19/2026:

```
C:\PS>New-HSCertificate -CertificateExpiry 01/19/2026
```

Related references

Common cmdlet parameters on page 9
Get-HSConfiguration on page 42

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Index

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NA 210-05176_A0, Printed in USA

GA32-1022-00