



Restore Windows file systems

SnapCenter software

NetApp

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Restore Windows file systems

Restore Windows file system backups

You can use SnapCenter to restore file system backups. File system restoration is a multiphase process that copies all the data from a specified backup to the original location of the file system.

Before you begin

- You must have backed up the file system.
- If a scheduled operation, such as a backup operation, is currently in progress for a file system, then that operation must be cancelled before you can start a restore operation.
- You can only restore a file system backup to the original location, not to an alternate path.

You cannot restore a single file from a backup because the restored file system overwrites any data on the original location of the file system. To restore a single file from a file system backup, you must clone the backup and access the file in the clone.

- You cannot restore a system or boot volume.
- SnapCenter can restore file systems in a Windows cluster without taking the cluster group offline.

About this task

- The `SCRIPTS_PATH` is defined using the `PredefinedWindowsScriptsDirectory` key located in the `SMCoreServiceHost.exe.Config` file of the plug-in host.

If needed, you can change this path and restart SMcore service. It is recommended that you use the default path for security.

The value of the key can be displayed from swagger through the API: API /4.7/configsettings

You can use the GET API to display the value of the key. SET API is not supported.

- For SnapMirror active sync restore operation, you must select the backup from the primary location.
- For ONTAP 9.12.1 and below version, the clones created from the SnapLock Vault Snapshots as part of restore will inherit the SnapLock Vault expiry time. Storage admin should manually cleanup the clones post the SnapLock expiry time.

SnapCenter UI

Steps

1. In the left navigation pane, click **Resources**, and then select the appropriate plug-in from the list.
2. To filter the list of resources, select the File System and Resource Group options.
3. Select a resource group from the list, and then click **Restore**.
4. In the Backups page, select whether you want to restore from primary or secondary storage systems, and then select a backup to restore.
5. Select your options in the Restore wizard.
6. You can enter the path and the arguments of the prescript or postscript that you want SnapCenter to run before or after the restore operation, respectively.

For example, you can run a script to update SNMP traps, automate alerts, send logs, and so on.



The prescripts or postscripts path should not include drives or shares. The path should be relative to the **SCRIPTS_PATH**.

7. In the Notification page, select one of the following options:

For this field...	Do this...
Log SnapCenter server events to storage system syslog	Select this option to log SnapCenter Server events to the syslog of the storage system.
Send AutoSupport notification for failed operations to storage system	Select this option to send information about any failed operations to NetApp using AutoSupport.
Email preference	Select Always , On Failure , or On failure or warning to send email messages to recipients after restoring backups. Enter the SMTP server, default email subject line, and To and From email addresses.

8. Review the summary, and then click **Finish**.
9. Monitor the operation progress by clicking **Monitor > Jobs**.



If the restored file system contains a database, then you must also restore the database. If you do not restore the database, then your database might be in an invalid state. For information on restoring databases, see the Data Protection Guide for that database.

PowerShell cmdlets

Steps

1. Initiate a connection session with the SnapCenter Server for a specified user by using the `Open-SmConnection` cmdlet.

```
PS C:\> Open-Smconnection
```

2. Retrieve the information about the one or more backups that you want to restore by using the Get-SmBackup and Get-SmBackupReport cmdlets.

This example displays information about all available backups:

```
PS C:\> Get-SmBackup

BackupId          BackupName
BackupTime        BackupType
-----
1                Payroll Dataset_vise-f6_08... 8/4/2015  11:02:32
AM               Full Backup
2                Payroll Dataset_vise-f6_08... 8/4/2015  11:23:17
AM
```

This example displays detailed information about the backup from January 29th 2015 to February 3rd, 2015:

```
PS C:\> Get-SmBackupReport -FromDateTime "1/29/2015" -ToDateTime "2/3/2015"

SmBackupId      : 113
SmJobId        : 2032
StartTime       : 2/2/2015 6:57:03 AM
EndTime         : 2/2/2015 6:57:11 AM
Duration        : 00:00:07.3060000
CreatedDateTime : 2/2/2015 6:57:23 AM
Status          : Completed
ProtectionGroupName : Clone
SmProtectionGroupId : 34
PolicyName      : Vault
SmPolicyId      : 18
BackupName       : Clone_SCSPR0019366001_02-02-2015_06.57.08
VerificationStatus : NotVerified

SmBackupId      : 114
SmJobId        : 2183
StartTime       : 2/2/2015 1:02:41 PM
EndTime         : 2/2/2015 1:02:38 PM
Duration        : -00:00:03.2300000
CreatedDateTime : 2/2/2015 1:02:53 PM
Status          : Completed
ProtectionGroupName : Clone
SmProtectionGroupId : 34
PolicyName      : Vault
SmPolicyId      : 18
BackupName       : Clone_SCSPR0019366001_02-02-2015_13.02.45
VerificationStatus : NotVerified
```

3. Restore data from the backup by using the `Restore-SmBackup` cmdlet.

```
Restore-SmBackup -PluginCode 'DummyPlugin' -AppObjectId
'scc54.sccore.test.com\DummyPlugin\NTP\DB1' -BackupId 269
-Confirm:$false
output:
Name          : Restore
'scc54.sccore.test.com\DummyPlugin\NTP\DB1'
Id           : 2368
StartTime    : 10/4/2016 11:22:02 PM
EndTime      :
IsCancellable : False
IsRestartable : False
IsCompleted   : False
IsVisible     : True
IsScheduled   : False
PercentageCompleted : 0
Description   :
Status        : Queued
Owner         :
Error         :
Priority      : None
Tasks         : { }
ParentJobID   : 0
EventId       : 0
JobTypeID     :
ApisJobKey    :
ObjectId      : 0
PluginCode    : NONE
PluginName    :
```

The information regarding the parameters that can be used with the cmdlet and their descriptions can be obtained by running *Get-Help command_name*. Alternatively, you can also refer to the [SnapCenter Software Cmdlet Reference Guide](#).

Restore resources using PowerShell cmdlets

Restoring a resource backup includes initiating a connection session with the SnapCenter Server, listing the backups and retrieving backup information, and restoring a backup.

You must have prepared the PowerShell environment to execute the PowerShell cmdlets.

Steps

1. Initiate a connection session with the SnapCenter Server for a specified user by using the Open-SmConnection cmdlet.

```
PS C:\> Open-Smconnection
```

2. Retrieve the information about the one or more backups that you want to restore by using the Get-SmBackup and Get-SmBackupReport cmdlets.

This example displays information about all available backups:

```
PS C:\> Get-SmBackup
```

BackupId	BackupName	BackupTime
BackupType		
1	Payroll Dataset_vise-f6_08...	8/4/2015 11:02:32 AM
Full Backup		
2	Payroll Dataset_vise-f6_08...	8/4/2015 11:23:17 AM

This example displays detailed information about the backup from January 29th 2015 to February 3rd, 2015:

```
PS C:\> Get-SmBackupReport -FromDate "1/29/2015" -ToDate "2/3/2015"

SmBackupId      : 113
SmJobId        : 2032
StartTime       : 2/2/2015 6:57:03 AM
EndTime         : 2/2/2015 6:57:11 AM
Duration        : 00:00:07.3060000
CreatedDateTime : 2/2/2015 6:57:23 AM
Status          : Completed
ProtectionGroupName : Clone
SmProtectionGroupId : 34
PolicyName      : Vault
SmPolicyId      : 18
BackupName       : Clone_SCSPR0019366001_02-02-2015_06.57.08
VerificationStatus : NotVerified

SmBackupId      : 114
SmJobId        : 2183
StartTime       : 2/2/2015 1:02:41 PM
EndTime         : 2/2/2015 1:02:38 PM
Duration        : -00:00:03.2300000
CreatedDateTime : 2/2/2015 1:02:53 PM
Status          : Completed
ProtectionGroupName : Clone
SmProtectionGroupId : 34
PolicyName      : Vault
SmPolicyId      : 18
BackupName       : Clone_SCSPR0019366001_02-02-2015_13.02.45
VerificationStatus : NotVerified
```

3. Restore data from the backup by using the `Restore-SmBackup` cmdlet.

```

Restore-SmBackup -PluginCode 'DummyPlugin' -AppObjectId
'scc54.sccore.test.com\DummyPlugin\NTP\DB1' -BackupId 269
-Confirm:$false
output:
Name : Restore
'scc54.sccore.test.com\DummyPlugin\NTP\DB1'
Id : 2368
StartTime : 10/4/2016 11:22:02 PM
EndTime :
IsCancellable : False
IsRestartable : False
IsCompleted : False
IsVisible : True
IsScheduled : False
PercentageCompleted : 0
Description :
Status : Queued
Owner :
Error :
Priority : None
Tasks : { }
ParentJobID : 0
EventId : 0
JobTypeId :
ApisJobKey :
ObjectId : 0
PluginCode : NONE
PluginName :

```

The information regarding the parameters that can be used with the cmdlet and their descriptions can be obtained by running *Get-Help command_name*. Alternatively, you can also refer to the [SnapCenter Software Cmdlet Reference Guide](#).

Monitor restore operations

You can monitor the progress of different SnapCenter restore operations by using the Jobs page. You might want to check the progress of an operation to determine when it is complete or if there is an issue.

About this task

Post-restore states describe the conditions of the resource after a restore operation and any further restore actions that you can take.

The following icons appear on the Jobs page, and indicate the state of the operation:

-

- In progress
- Completed successfully
- Failed
- Completed with warnings or could not start due to warnings
- Queued
- Canceled

Steps

1. In the left navigation pane, click **Monitor**.
2. In the **Monitor** page, click **Jobs**.
3. In the **Jobs** page, perform the following steps:
 - a. Click to filter the list so that only restore operations are listed.
 - b. Specify the start and end dates.
 - c. From the **Type** drop-down list, select **Restore**.
 - d. From the **Status** drop-down list, select the restore status.
 - e. Click **Apply** to view the operations that have been completed successfully.
4. Select the restore job, and then click **Details** to view the job details.
5. In the **Job Details** page, click **View logs**.

The **View logs** button displays the detailed logs for the selected operation.

Cancel restore operations

You can cancel restore jobs that are queued.

You should be logged in as the SnapCenter Admin or job owner to cancel restore operations.

About this task

- You can cancel a queued restore operation from either the **Monitor** page or the **Activity** pane.
- You cannot cancel a running restore operation.
- You can use the SnapCenter GUI, PowerShell cmdlets, or CLI commands to cancel the queued restore operations.
- The **Cancel Job** button is disabled for restore operations that cannot be canceled.
- If you selected **All members of this role can see and operate on other members objects** in **Users\Groups** page while creating a role, you can cancel the queued restore operations of other members while using that role.

Step

Perform one of the following actions:

From the...	Action
Monitor page	<ol style="list-style-type: none"> <li data-bbox="833 164 1491 202">In the left navigation pane, click Monitor > Jobs. <li data-bbox="833 213 1328 251">Select the job and click Cancel Job.
Activity pane	<ol style="list-style-type: none"> <li data-bbox="833 302 1475 397">After initiating the restore operation, click  on the Activity pane to view the five most recent operations. <li data-bbox="833 407 1132 445">Select the operation. <li data-bbox="833 456 1393 494">In the Job Details page, click Cancel Job.

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