



Create and manage backup jobs in SnapManager for Hyper-V

SnapManager for Hyper-V

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Create and manage backup jobs in SnapManager for Hyper-V

You can create and monitor on-demand backups or managed scheduled backups in SnapManager for Hyper-V. You can also perform two types of backup jobs with SnapManager for Hyper-V: application consistent and crash consistent.

About SnapManager for Hyper-V backups

You can create on-demand backup jobs and run them when you want or you can create scheduled backup jobs using policies attached to datasets. An on-demand backup job can include retention and replication policies as well as scripts to run before and after the backup takes place. You can create, modify, view, and delete the policies that make up scheduled backup jobs.

Types of backup jobs SnapManager for Hyper-V can perform

You can perform two types of backup jobs with SnapManager for Hyper-V: application consistent and crash consistent.

Application-consistent backup jobs

Application-consistent backup jobs are thorough, reliable, and resource intensive. They are performed in coordination with Microsoft Volume Shadow Copy Service (VSS) to ensure that each application running on the VM is quiesced before creating a Snapshot copy. This backup method guarantees application data consistency. You can use it to restore VMs and the applications running on them. However, application-consistent backup jobs are time consuming and can be complex.

Crash-consistent backup jobs

Crash-consistent backup jobs are quick Snapshot copies of all the LUNs used by VMs involved in a dataset. The resulting backup copies are similar to the data captures of VMs that crash or are otherwise abruptly powered off. Crash-consistent backup jobs provide a quick way to capture data, but the VMs must be present to be restored from a crash-consistent backup. Crash-consistent backup jobs are not intended to replace application-consistent backup jobs.

SnapManager for Hyper-V backup requirements and limitations

You should be aware of the requirements and limitations of a SnapManager for Hyper-V backup:

- Backup and restore operations are not supported if you are performing a switchover or switchback operation on a MetroCluster configuration. If a backup and restore operation and a switchover or switchback operation are running simultaneously, the `.vhd` file format of a VM might change to `.avhdx` in Windows Server 2012 R2 systems. The VM is not affected by this change.
- The `distributed application-consistent backup` option enables multiple VMs running on the partner cluster nodes to be consistent in one single hardware Snapshot copy created from the backup

node. This option is supported for all the VMs running on a CSV 2.0 Windows volume across multiple nodes in a Windows Failover Cluster.

- When operating in 7-Mode, application-consistent backup jobs use the VSS Hardware Provider to make two Snapshot copies. The Snapshot copies are called `snapshot_name` and `snapshot_name_backup`. The two Snapshot copies are made to facilitate automatic recovery during the VSS backup.
- In clustered environments, application-consistent backups require only one Snapshot copy for the automatic recovery process. SIS clones are leveraged to perform automatic recovery, and after automatic recovery is complete, the first Snapshot copy (`snapshot_name`) is deleted.
- Each Windows volume in the VM must have at least 300 MB of free disk space. This includes the Windows volumes corresponding to VHDs, iSCSI LUNs, and pass-through disks attached to the VM.
- A crash-consistent backup job always creates only one Snapshot copy. It does not provide VSS integration.
- Multiple crash-consistent backup jobs can execute in parallel. A crash-consistent backup job can run in parallel with an application-consistent backup job.
- `Allow Saved State Backup` is not applicable to crash-consistent backup jobs.

Requirements for manually backing up a dataset

To backup a dataset manually, you must first name and describe the dataset, choose a backup type and options, and set a retention policy.

Backup name and description

You must assign a name and description to the backup.

The default naming convention for backups is `DatasetName_Timestamp`. You can change everything in the backup name except the timestamp, which always appears as part of the backup name.

Backup names and descriptions are limited to these characters:

- a to z
- A to Z
- 0 to 9
- `_` (underscore)
- `-` (hyphen)

Policy choice

You must decide which policy you want to use for the on-demand backup.

You can select a specific policy in the Backup wizard. You can override the retention or replication policy, as well as scripts associated with the policy, without changing the policy itself.

You can also choose None, which enables you to make an on-demand backup without creating any policies. This option uses the default values for retention policies, replication policies, and scripts.

Retention value

You can choose to override the retention policy specified in the policy that you selected. If you do this, you

must decide what the minimum length of time is that you want to keep your hourly, daily, weekly, monthly, or unlimited backup copies before they are deleted.

You can keep backups based on either time or a specified number of backups. For example, you can keep the 10 most current backups, or you can delete backups older than 15 days.

Type of backup

You can perform an application-consistent or crash-consistent backup.

Backup options

You can allow saved state backups.

The default behavior of SnapManager for Hyper-V is to fail a backup if one or more virtual machines cannot be backed up online. If a virtual machine is in the saved state or shut down, you cannot perform an online backup. In some cases, virtual machines are in the saved state or shut down for maintenance, but backups still must proceed, even if an online backup is not possible. To do this, you can move the virtual machines that are in the saved state or shut down to a different dataset, one with a policy that allows saved state backups.

You can also modify the existing policy by selecting the Allow saved state VM backup check box. This allows SnapManager for Hyper-V to back up the virtual machine in the saved state. If you select this option, SnapManager for Hyper-V does not fail the backup when the Hyper-V VSS writer backs up the virtual machine in the saved state or performs an offline backup of the virtual machine. Performing a saved state or offline backup can cause downtime.

The `distributed application-consistent backup` feature enables multiple VMs running on the partner cluster nodes to be consistent in one single hardware Snapshot copy made from the backup node. This feature is supported for all the VMs running on a CSV 2.0 Windows volume across multiple nodes in a Windows Failover Cluster.

Secondary storage in a SnapMirror backup

These options enable you to accept options applicable to a secondary storage defined in a SnapMirror relationship. You can select **Update SnapMirror after backup**. Under the Vault label option pane, you can select **Update SnapVault after backup**. If you select **Update SnapVault after backup**, you must choose a vault label from the drop-down menu or enter a custom label.

Backup scripts

You can override the script options specified in the policy that you selected.

These scripts run on all dataset member hosts, unless you indicate a specific host in the script.

Related information

[Microsoft TechNet: Hyper-V](#)

[ONTAP 9 Volume Backup Using SnapVault Express Guide](#)

How SnapManager for Hyper-V handles saved-state backups

Although the default behavior of SnapManager for Hyper-V is to cause backups containing virtual machines that are in the saved state to shut down or fail, you can perform a saved-state backup by moving the virtual machines to a dataset that has a policy that allows saved-state backups.

You can also create or edit your dataset policy to allow a saved-state virtual machine backup. If you choose this option, SnapManager for Hyper-V does not cause the backup to fail when the Hyper-V VSS writer backs up the virtual machine using the saved state or performs an offline backup of the virtual machine. However, performing a saved-state or offline backup can cause downtime.

Related information

[Microsoft TechNet: Hyper-V](#)

Manually backing up a dataset

You can create an on-demand backup of a dataset.

What you'll need

You must have the following information available:

- Backup name and description
- Policy name, if necessary
- Policy override information (if you plan to change any of the previously specified policy options)
- Backup type
- Backup options information

Steps

1. From the navigation pane, click **Protection > Datasets**.
2. Select the dataset for which you want to create a manual backup and click **Backup**.

The **Backup wizard** appears.

3. Complete the steps in the wizard to create your on-demand backup.

Closing the wizard does not cancel the on-demand backup.

Results

You can view the status of the on-demand backup in the Jobs Management window.

Monitor backup jobs

You can view the scheduled backup jobs for a particular dataset by using the Jobs Management window Scheduled tab. You can also view the backup and restore jobs that

are currently running by using the Jobs Management window Running tab.

Steps

1. From the navigation pane, click **Jobs**.
2. Click either the **Scheduled** tab or the **Running** tab.
3. Select the scheduled or running backup job, or the restore job, that you want to monitor.

Information about the job appears in the Details pane.

4. Use the Running Job report in **Reports view**, if you want to view a live report of a running job.



You can also monitor backup jobs with Microsoft's SCOM console. See the Microsoft web site for more information.

Delete a backup

You can delete one or more backups associated with either a dataset or a virtual machine.

Steps

1. From the navigation pane, click **Recovery**.
2. Select the virtual machine within the dataset that contains the backup you want to delete.

If you delete a backup associated with a dataset, the backups associated with any virtual machines belonging to that dataset are also deleted. If you delete a backup associated with a virtual machine, only that backup is deleted.

3. In the Backups pane, select the backup that you want to delete.
4. Click **Delete**.

The **Delete Backup** dialog displays. You have the option to delete backups for a selected VM or for an entire dataset.

5. Select the appropriate option, and click **Confirm Delete**.

You can view the status of the backup delete operation in the status window.

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