



# **Clone SAP HANA resource backups**

## **SnapCenter Software**

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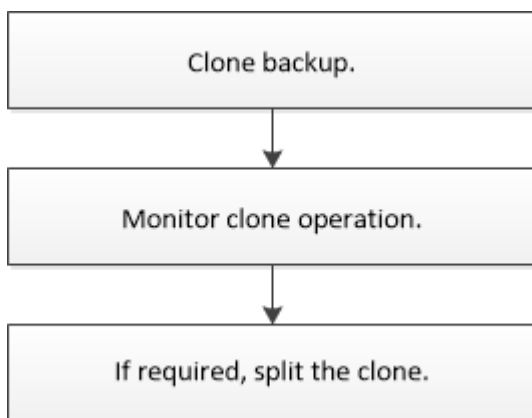
# Clone SAP HANA resource backups

The clone workflow includes performing the clone operation and monitoring the operation.

## About this task

- You can clone on the source SAP HANA server.
- You might clone resource backups for the following reasons:
  - To test functionality that has to be implemented using the current resource structure and content during application development cycles
  - For data extraction and manipulation tools when populating data warehouses
  - To recover data that was mistakenly deleted or changed

The following workflow shows the sequence in which you must perform the clone operation:



You can also use PowerShell cmdlets manually or in scripts to perform backup, restore, and clone operations. The SnapCenter cmdlet help and the cmdlet reference information contain detailed information about PowerShell cmdlets.

## Clone a SAP HANA database backup

You can use SnapCenter to clone a backup. You can clone from primary or secondary backup.

### What you will need

- You should have backed up the resources or resource group.
- You should ensure that the aggregates hosting the volumes should be in the assigned aggregates list of the storage virtual machine (SVM).
- You cannot clone file-based backups.
- The target clone server should have the same SAP HANA instance SID that is provided in the Target Clone SID field.

### Steps

1. In the left navigation pane, click **Resources**, and then select the appropriate plug-in from the list.

2. On the **Resources** page, filter resources from the **View** drop-down list based on resource type.


The resources are displayed along with information such as type, host, associated resource groups and policies, and status.

3. Select the resource or resource group.

You must select a resource if you select a resource group.

The resource or resource group topology page is displayed.

4. From the Manage Copies view, select **Backups** either from the primary or secondary (mirrored or vaulted) storage systems.

5. Select the data backup from the table, and then click .

6. On the **Location** page, perform the following actions:

For this field...	Do this...
Plug-in host	Select the host on which the clone should be mounted and the plug-in is installed.
Target Clone SID	Enter the SAP HANA instance ID to clone from the existing backups.
NFS Export IP Address	Enter IP addresses or the host names on which the cloned volumes will be exported.
iSCSI Initiator	Enter iSCSI initiator name of the host to which the LUNs are exported. This option is available only if you selected LUN resource type.
Protocol	Enter the LUN protocol. This option is available only if you selected LUN resource type.  +

If the resource selected is a LUN and you are cloning from a secondary backup, then the destination volumes are listed. A single source can have multiple destination volumes.



Before cloning, you must ensure that the iSCSI initiator or the FCP is present and are configured and logged into alternate hosts.

7. On the **Scripts** page, perform the following steps:



The scripts are run on the plug-in host.

- a. Enter the commands for pre clone or post clone that should be run before or after the clone operation, respectively.
  - Pre clone command: delete existing databases with the same name

- Post clone command: verify a database or start a database.
- b. Enter the mount command to mount a file system to a host.

Mount command for a volume or qtree on a Linux machine:

Example for NFS:

```
mount VSERVER_DATA_IP:${VOLUME_NAME_Clone} /mnt
```

8. On the **Notification** page, from the **Email preference** drop-down list, select the scenarios in which you want to send the emails.

You must also specify the sender and receiver email addresses, and the subject of the email.

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

## Clone SAP HANA database backups using PowerShell cmdlets

The clone workflow includes planning, performing the clone operation, and monitoring the operation.

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

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](#).

### Steps

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

```
Open-SmConnection -SMSbaseurl https://snapctr.demo.netapp.com:8146/
```

2. Retrieve the backups to perform the clone operation by using the Get-SmBackup cmdlet.

This example shows that two backups are available for cloning:

```
C:\PS> 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	

3. Initiate a clone operation from an existing backup and specify the NFS export IP addresses on which the cloned volumes are exported.

This example shows that the backup to be cloned has an NFSExportIPs address of 10.232.206.169:

```
New-SmClone -AppPluginCode hana -BackupName  
scscscore1_sccore_test_com_hana_H73_scsccore1_06-07-2017_02.54.29.3817  
-Resources @{"Host"="scscscore1.sccore.test.com";"Uid"="H73"}  
-CloneToInstance shivsc4.sccore.test.com -mountcommand 'mount  
10.232.206.169:%hana73data_Clone /hana83data' -preclonecreatecommands  
'/home/scripts/scpre_clone.sh' -postclonecreatecommands  
'/home/scripts/scpost_clone.sh'
```



If NFSExportIPs is not specified, the default is exported to the clone target host.

4. Verify that the backups were cloned successfully by using the Get-SmCloneReport cmdlet to view the clone job details.

You can view details such as clone ID, start date and time, end date and time.

```
PS C:\> Get-SmCloneReport -JobId 186
```







```
SmCloneId           : 1
SmJobId             : 186
StartDateTime       : 8/3/2015 2:43:02 PM
EndDateTime         : 8/3/2015 2:44:08 PM
Duration            : 00:01:06.6760000
Status              : Completed
ProtectionGroupName : Draper
SmProtectionGroupId : 4
PolicyName          : OnDemand_Clone
SmPolicyId          : 4
BackupPolicyName    : OnDemand_Full_Log
SmBackupPolicyId    : 1
CloneHostName       : SCSPR0054212005.mycompany.com
CloneHostId         : 4
CloneName           : Draper__clone__08-03-2015_14.43.53
SourceResources     : {Don, Betty, Bobby, Sally}
ClonedResources     : {Don_DRAPER, Betty_DRAPER, Bobby_DRAPER,
Sally_DRAPER}
SmJobError           :
```

## Monitor SAP HANA database clone operations

You can monitor the progress of SnapCenter clone 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

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 clone operations are listed.
  - b. Specify the start and end dates.
  - c. From the **Type** drop-down list, select **Clone**.
  - d. From the **Status** drop-down list, select the clone status.
  - e. Click **Apply** to view the operations that are completed successfully.
4. Select the clone job, and then click **Details** to view the job details.
  5. In the **Job Details** page, click **View logs**.

## Cancel SAP HANA database clone operations

You can cancel clone operations that are queued.


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

### About this task

- You can cancel a clone operation from either the Monitor page or the Activity pane.
- You cannot cancel a running clone operation.
- You can use the SnapCenter GUI, PowerShell cmdlets, or CLI commands to cancel the clone operations.
- 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 backup 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>a. In the left navigation pane, click <b>Monitor &gt; Jobs</b>.</li> <li>b. Select the operation, and click <b>Cancel Job</b>.</li> </ol>
Activity pane	<ol style="list-style-type: none"> <li>a. After initiating the clone operation, click  on the Activity pane to view the five most recent operations.</li> <li>b. Select the operation.</li> <li>c. In the Job Details page, click <b>Cancel Job</b>.</li> </ol>

## Delete or split SAP HANA database clones after upgrading SnapCenter

After upgrading to SnapCenter 4.3, you will no longer see the clones. You can delete the clone or split the clones from the Topology page of the resource from which the clones were created.





## About this task

If you want to locate the storage footprint of the hidden clones, run the following command: `Get-SmClone -ListStorageFootprint`

## Steps

1. Delete the backups of the cloned resources by using the `remove-smbbackup` cmdlet.
2. Delete the resource group of the cloned resources by using the `remove-smresourcegroup` cmdlet.
3. Remove the protection of the cloned resource by using the `remove-smprotectresource` cmdlet.
4. Select the parent resource from the **Resources** page.

The resource topology page is displayed.

5. From the **Manage Copies** view, select the clones either from the primary or secondary (mirrored or replicated) storage systems.
6. Select the clones, and then click  to delete clones or click  to split the clones.
7. Click **OK**.

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