Clone custom plug-in resource backups

SnapCenter Software 4.5

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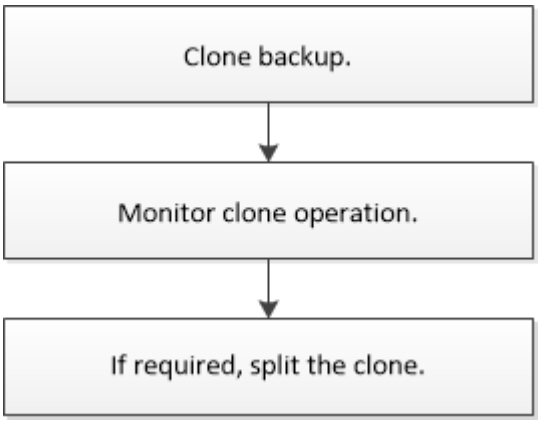
The clone workflow includes performing the clone operation and monitoring the operation.

About this task

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. For detailed information about PowerShell cmdlets, use the SnapCenter cmdlet help or see the SnapCenter Software Cmdlet Reference Guide.

Clone from a backup

You can use SnapCenter to clone a backup. You can clone from primary or secondary backup. The capabilities of the clone operations depends upon the plug-in that you use.

What you will need

- You must have backed up the resources or resource group.
- The default clone operation only clones storage objects. Clone operations at the application level can only be performed if the custom plug-in provides that capability.
- You should ensure that the aggregates hosting the volumes should be in the assigned aggregates list of the storage virtual machine (SVM).

Steps

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

2. In 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 or cluster name, 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. In the Locations page, perform the following:

For this field…	Do this…
Clone server	By default, the source host is populated. If you want to specify a different host, select the host on which the clone should be mounted and the plug-in is installed.
Clone suffix	This is mandatory when the clone destination is the same as the source. Enter a suffix that will be appended to the newly cloned resource name. The suffix ensures that the cloned resource is unique on the host. For example, rs1_clone. If you are cloning to the same host as the original resource, you must provide a suffix to differentiate the cloned resource from the original resource; otherwise, the operation fails.

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

7. In the **Settings** page, perform the following:

For this field…	Do this…
Initiator name	Enter the host initiator name, which is either a IQDN or WWPN.
Igroup protocol	Select Igroup protocol.

   Settings page is displayed only if the storage type is LUN.

8. In the **Scripts** page, enter the commands for pre clone or post clone that should be run before or after the clone operation, respectively. Enter the mount command to mount a file system to a host.

   For example:

   - Pre clone command: delete existing databases with the same name
   - Post clone command: verify a database or start a database.

     Mount command for a volume or qtree on a Linux machine:
     mount<VSERVER_NAME>:%<VOLUME_NAME_Clone /mnt>

9. In 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.

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

Clone backups using PowerShell cmdlets

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

What you will need

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

For information about PowerShell cmdlets, use the SnapCenter cmdlet help or see 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. List the backups that can be cloned using the Get-SmBackup or Get-SmResourceGroup cmdlet.

   This example displays information about all available backups:

```
 C:\PS>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 information about a specified resource group:

```
PS C:\> Get-SmResourceGroup

    Description                 :
    CreationTime                : 10/10/2016 4:45:53 PM
    ModificationTime            : 10/10/2016 4:45:53 PM
    EnableEmail                 : False
    EmailSMTPServer             :
    EmailFrom                   :
    EmailTo                     :
    EmailSubject                :
    EnableSysLog                : False
    ProtectionGroupType         : Backup
    EnableAsupOnFailure         : False
    Policies                    : {}
    HostResourceMaping          : {}
    Configuration               : SMCoreContracts.SmCloneConfiguration
    LastBackupStatus            : Completed
    VerificationServer          :
    EmailBody                   :
    EmailNotificationPreference : Never
    VerificationServerInfo      :
    SchedulerSQLInstance        :
    CustomText                  :
    CustomSnapshotFormat        :
    SearchResources             : False
    ByPassCredential            : False
    IsCustomSnapshot            :
    MaintenanceStatus           : Production
    PluginProtectionGroupTypes  : {SMSQL}
    Tag                         :
    IsInternal                  : False
    EnableEmailAttachment       : False
    VerificationSettings        : {}
```

```
Name                           : NFS_DB
Type                           : Group
Id                             : 2
Host                           :
UserName                       :
Passphrase                     :
Deleted                        : False
Auth                           : SMCoreContracts.SmAuth
IsClone                        : False
CloneLevel                     : 0
Hosts                          :
StorageName                    :
ResourceGroupNames             :
PolicyNames                    :

Description                    :
CreationTime                   : 10/10/2016 4:51:36 PM
ModificationTime               : 10/10/2016 5:27:57 PM
EnableEmail                    : False
EmailSMTPServer                :
EmailFrom                      :
EmailTo                        :
EmailSubject                   :
EnableSysLog                   : False
ProtectionGroupType            : Backup
EnableAsupOnFailure            : False
Policies                       : {}
HostResourceMaping             : {}
Configuration                  : SMCoreContracts.SmCloneConfiguration
LastBackupStatus               : Failed
VerificationServer             :
EmailBody                      :
EmailNotificationPreference    : Never
VerificationServerInfo         :
SchedulerSQLInstance           :
CustomText                     :
CustomSnapshotFormat           :
SearchResources                : False
ByPassRunAs                    : False
IsCustomSnapshot               :
MaintenanceStatus              : Production
PluginProtectionGroupTypes     : {SMSQL}
Tag                            :
IsInternal                     : False
EnableEmailAttachment          : False
VerificationSettings           : {}
```

```
    Name                           : Test
    Type                           : Group
    Id                             : 3
    Host                           :
    UserName                       :
    Passphrase                     :
    Deleted                        : False
    Auth                           : SMCoreContracts.SmAuth
    IsClone                        : False
    CloneLevel                     : 0
    Hosts                          :
    StorageName                    :
    ResourceGroupNames             :
    PolicyNames                    :
```

3. Initiate a clone operation from a clone resource group or an existing backup using the New-SmClone cmdlet.

   This example creates a clone from a specified backup with all logs:

```
New-SmClone -BackupName Verify_delete_clone_on_qtree_windows_scc54_10-
04-2016_19.05.48.0886 -Resources
@{"Host"="scc54.sccore.test.com";"Uid"="QTREE1"}  -
CloneToInstance scc54.sccore.test.com -Suffix '_QtreeCloneWin9'
-AutoAssignMountPoint -AppPluginCode 'DummyPlugin' -initiatorname
'iqn.1991-
05.com.microsoft:scc54.sccore.test.com' -igroupprotocol 'mixed'
```

4. View the status of the clone job by using the Get-SmCloneReport cmdlet.

   This example displays a clone report for the specified job ID:

```
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 custom plug-in resource 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**.

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