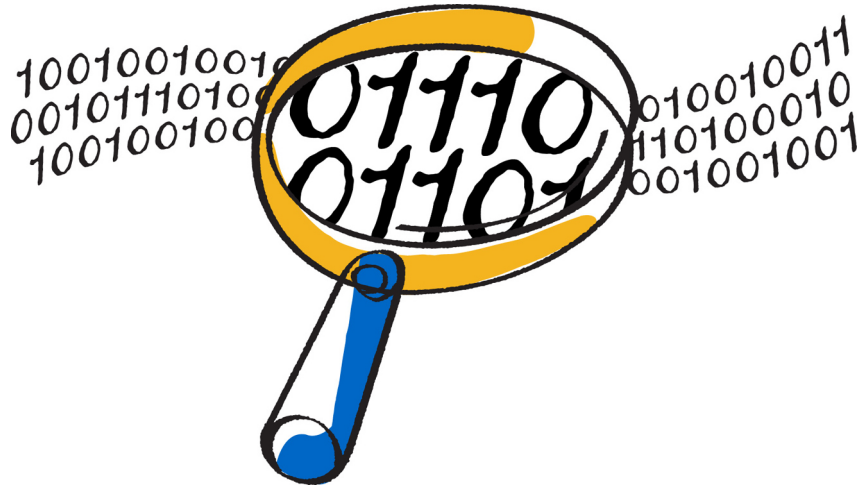




NetApp®

Virtual Storage Console 6.0 for VMware vSphere®

RBAC Configuration for Experienced Users



NetApp, Inc.
495 East Java Drive
Sunnyvale, CA 94089
U.S.

Telephone: +1 (408) 822-6000
Fax: +1 (408) 822-4501
Support telephone: +1 (888) 463-8277
Web: www.netapp.com
Feedback: doccomments@netapp.com

Part number: 215-09834_A0_ur002
July 2015

Contents

Changes to this document: July 2015	5
vCenter Server and Data ONTAP RBAC	8
Working with vCenter Server RBAC roles	9
Creating a new vCenter Server role	9
Privileges used in VSC standard roles	12
VSC Administrator role	12
VSC Read-only role	17
VSC Provision role	18
VSC Clone role	19
VSC Scan/Migrate role	22
VSC Backup role	23
VSC Restore role	23
Working with Data ONTAP RBAC roles	26
Provisioning and cloning example of adjusting roles to match tasks	26
(Clustered Data ONTAP) Adding an RBAC role using security login commands	28
Privileges used in clustered Data ONTAP roles	30
Discovery role privileges: Clustered Data ONTAP	30
Discovery role privileges: Clustered Data ONTAP with directly connected SVMs	32
Create Clone role privileges: Clustered Data ONTAP	33
Create Clone role privileges: Clustered Data ONTAP with directly connected SVMs	35
Create Storage role privileges: Clustered Data ONTAP	36
Create Storage role privileges: Clustered Data ONTAP with directly connected SVMs	38
Modify Storage role privileges: Clustered Data ONTAP	41
Modify Storage role privileges: Clustered Data ONTAP with directly connected SVMs	41
Destroy Storage role privileges: Clustered Data ONTAP	41
Destroy Storage role privileges: Clustered Data ONTAP with directly connected SVMs	42
Backup and Restore role privileges: Clustered Data ONTAP	42
Backup and Restore role privileges: Clustered Data ONTAP with directly connected SVMs	45
VASA Provider PBM role privileges: Clustered Data ONTAP	49
(Data ONTAP operating in 7-Mode) Adding an RBAC role using System Manager	52
Privileges used in Data ONTAP operating in 7-Mode roles	54
Copyright information	65
Trademark information	66

How to send comments about documentation and receive update notifications	67
Index	68

Changes to this document: July 2015

This section contains information about the changes made to this guide for the 6.0 version of Virtual Storage Console for VMware vSphere.

The guide provides information about the privileges required to create your own VSC for VMware vSphere roles using role-based access control (RBAC). It also lists the privileges and permissions required to create Data ONTAP roles that are recommended when you are using VSC.

When this guide is updated, a note is added to the VSC Release Notes. It is a good practice to check the online release notes on a regular basis to determine whether there is new information about using VSC or changes to this guide. The most current versions of the release notes and this guide are posted on the NetApp Support Site, which is available online at mysupport.netapp.com.

July 2015 update

Some of the required privileges for roles that apply to clustered Data ONTAP and clustered Data ONTAP with Storage Virtual Machines (SVMs) that are directly connected to VSC did not correctly specify their Data ONTAP version requirements. To make it easy for you to see the changes, the privileges that have been updated or added are listed below as well as in the complete privilege listings.

Note: To set up these roles, you must use the complete listings of All-access and Read-only commands, which are provided later in this document. A link to the complete listing is provided with each privilege summary.

- Discovery role privileges for clustered Data ONTAP (*Discovery role privileges: Clustered Data ONTAP* on page 30):
 - security login role show-user-capability (**Data ONTAP 8.2 and later**)
 - snapmirror list-destinations (**Data ONTAP 8.2 and later**)
- Discovery role privileges for clustered Data ONTAP with directly connected SVMs (*Discovery role privileges: Clustered Data ONTAP with direct SVMs* on page 32):
 - security login role show-user-capability (**Data ONTAP 8.2 and later**)
 - snapmirror list-destinations (**Data ONTAP 8.2 and later**)
- Create Clones role privileges for clustered Data ONTAP (*Create Clone role privileges: Clustered Data ONTAP* on page 33):
 - snapmirror list-destinations (**Data ONTAP 8.2 and later**)
- Create Clones role privileges for clustered Data ONTAP with directly connected SVMs (*Create Clone role privileges: Clustered Data ONTAP with directly connected SVMs* on page 35):
 - snapmirror list-destinations (**Data ONTAP 8.2 and later**)
- Create Storage role privileges for clustered Data ONTAP (*Create Storage role privileges: Clustered Data ONTAP* on page 36):
 - snapmirror show (**Data ONTAP 8.2.x and later**)
 - snapmirror update-ls-set (**Data ONTAP 8.2.x and later**)
- Create Storage role privileges for clustered Data ONTAP with directly connected SVMs (*Create Storage role privileges: Clustered Data ONTAP with directly connected SVMs* on page 38):

- snapmirror list-destinations (**Data ONTAP 8.2 and later**)
- Backup and Restore role privileges for clustered Data ONTAP (*Backup and Restore role privileges: Clustered Data ONTAP* on page 42):
 - lun create (**Data ONTAP 8.3 and later**)
 - lun igroup new (**Data ONTAP 7.3.4 through Data ONTAP 8.2.x**)
 - lun mapping show (**Data ONTAP 8.3 and later**)
 - lun mapping show-initiator (**Data ONTAP 8.3 and later**)
 - lun new (**Data ONTAP 7.3.4 through Data ONTAP 8.2.x**)
 - network interface create (**Data ONTAP 8.3 and later**)
 - network interface new (**Data ONTAP 7.3.4 through Data ONTAP 8.2.x**)
 - snapmirror create (**Data ONTAP 8.3 and later**)
 - snapmirror new (**Data ONTAP 7.3.4 through Data ONTAP 8.2.x**)
 - volume clone new (**Data ONTAP 7.3.4 through Data ONTAP 8.2.x**)
 - volume create (**Data ONTAP 8.3 and later**)
 - volume new (**Data ONTAP 7.3.4 through Data ONTAP 8.2.x**)
 - volume qtree create (**Data ONTAP 8.3 and later**)
 - volume qtree new (**Data ONTAP 7.3.4 through Data ONTAP 8.2.x**)
 - volume snapshot new (**Data ONTAP 7.3.4 through Data ONTAP 8.2.x**)
 - vservers export-policy create (**Data ONTAP 8.3 and later**)
 - vservers export-policy new (**Data ONTAP 7.3.4 through Data ONTAP 8.2.x**)
 - vservers new (**Data ONTAP 7.3.4 through Data ONTAP 8.2.x**)
- Backup and Restore role privileges for clustered Data ONTAP with directly connected SVMs (*Backup and Restore role privileges: Clustered Data ONTAP with directly connected SVMs* on page 45):
 - lun igroup create (**Data ONTAP 8.3 and later**)
 - lun igroup new (**Data ONTAP 7.3.4 through Data ONTAP 8.2.x**)
 - lun mapping show (**Data ONTAP 8.3 and later**)
 - lun mapping show-initiator (**Data ONTAP 8.3 and later**)
 - snapmirror (**Data ONTAP 8.2.x and later**)
 - volume clone new (**Data ONTAP 7.3.4 through Data ONTAP 8.2.x**)
 - volume new (**Data ONTAP 7.3.4 through Data ONTAP 8.2.x**)
 - volume qtree create (**Data ONTAP 8.3 and later**)
 - volume qtree new (**Data ONTAP 7.3.4 through Data ONTAP 8.2.x**)
 - volume snapshot new (**Data ONTAP 7.3.4 through Data ONTAP 8.2.x**)
 - vservers export-policy new (**Data ONTAP 7.3.4 through Data ONTAP 8.2.x**)

- vsserver export-policy create (**Data ONTAP 8.3 and later**)

March 2015 update

The lists containing the privileges you must provide to create clustered Data ONTAP roles have been updated.

Keep in mind that the privileges for each of the clustered Data ONTAP roles builds on the previous roles. As a result, you must include the privileges from the previous roles.

vCenter Server and Data ONTAP RBAC

Virtual Storage Console for VMware vSphere supports both vCenter Server role-based access-control (RBAC) and Data ONTAP RBAC. This guide provides lists containing the different privileges required to create VSC and Data ONTAP roles.

Note: Before you perform the tasks in this guide, you should review the information in the *Virtual Storage System for VMware vSphere Installation and Administration Guide*, which is available for download from the the NetApp Support Site at mysupport.netapp.com. This document is part of the Virtual Storage Console for VMware vSphere product documentation library.

<http://library-clnt.dmz.netapp.com/documentation/productlibrary/index.html?productID=30048>

To enable users to work with VSC and the storage systems, you must ensure that each user has the correct privileges. This means that for your vCenter Server users and for your Data ONTAP users, you must perform one of the following actions:

- Set up RBAC roles that you can assign to users
- Provide users with a system administrator login

Because vCenter Server RBAC and Data ONTAP RBAC are separate, you could assign a user a standard VSC RBAC role for the VSC tasks and provide him with a system administrator login for the storage systems, or vice versa.

To simplify RBAC, VSC provides the following:

- Standard VSC-specific roles that let you perform key VSC tasks

These roles contain both the VSC privileges and the vCenter Server privileges that you need to perform those tasks. As an administrator, you can assign these roles to users, combine them to create more expansive roles for users, or clone them and use them as the basis for creating custom roles.
- Recommended roles for Data ONTAP

You can use these recommendations to set up Data ONTAP RBAC for your storage systems. To create these roles you need to use a tool such as one of the following:

 - **(Recommended)** RBAC User Creator for Data ONTAP

The NetApp Communities forum contains information about getting this tool:
[NetApp Community Document: RBAC User Creator for Data ONTAP](#)
 - OnCommand System Manager

You can download OnCommand System Manager from the NetApp Support Site.
 - The Data ONTAP CLI (command-line interface)

The System Administration Guide for Cluster Administrators, which provides information about using CLI commands with roles, is available for download from the NetApp Support Site.

To create customized RBAC roles for your system, use the privileges provided in this document to ensure that your roles contain all the necessary privileges required by a task.

Working with vCenter Server RBAC roles

You can use the standard Virtual Storage Console for VMware vSphere roles, or, if they are too fine-grained for the tasks you want a user to perform, you can expand the tasks available to that user by combining these roles.

You have two options for expanding the roles:

- Clone the standard VSC roles and use the cloned roles to create custom roles.
 - Note:** If you create custom roles by cloning standard VSC roles, you must maintain and update those custom roles when you upgrade VSC. VSC does not update these roles automatically.
- Set up a group for each task and add users to each of those groups.

Information about the standard VSC roles and the privileges they use can be found in the section *Privileges used in standard, VSC-specific roles*.

Note: When you use the standard VSC roles, you must assign the permission to the root object and propagate it to the child objects. This is because some native vCenter Server privileges included in these roles can only be validated by the vCenter Server on the root object in the inventory. For example, all permissions containing the Task Create privilege must be assigned to the root object.

The following documents contain more information:

- For standard VSC roles for vCenter Servers, see the *Virtual Storage System for VMware vSphere Installation and Administration Guide*.
- For information about vCenter Server native privileges, see VMware's vSphere Security guide. At the time this document was created, that guide was online at <http://pubs.vmware.com/vsphere-51/topic/com.vmware.ICbase/PDF/vsphere-esxi-vcenter-server-51-security-guide.pdf>.

Creating a new vCenter Server role

The standard Virtual Storage Console for VMware vSphere roles enable you to perform VSC tasks; however, you might want to create own custom roles tailored to your environment.

Before you begin

Before you create a custom role, you must have made decisions about the following:

- The task (or tasks) that you want to perform
- The privileges required to perform the task
- The object to which you must assign the permission

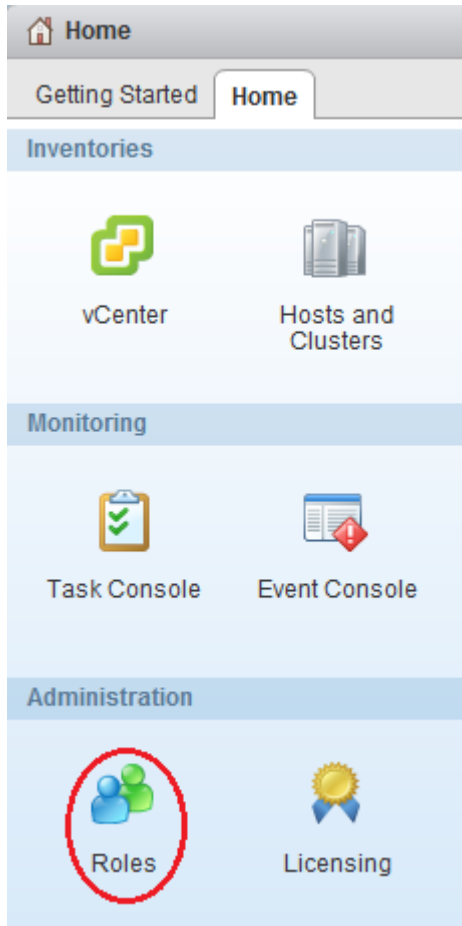
About this task

When you use the standard, VSC-specific roles, you must assign the permission to the root object and propagate it to the child objects. This is because some native vCenter Server privileges included in these roles can only be validated by the vCenter Server on the root object in the inventory. For example, the Task Create privilege must be assigned to the root object.

Setting permissions on the root object allows all the child objects to inherit those permissions, unless you place a restriction on a child object to exclude it from the permissions. If your company's security policies require more restrictive permissions, you can use this exclude feature.

Steps

1. From the VMware vSphere Web Client **Home** page, click the **Roles** icon.



2. Click the **Create role action** icon (+).
3. In the **Create Role** dialog box, do the following:


Action	Explanation
Enter a name for the role.	Supply a name that makes it easy for you to quickly identify the role and know which tasks it supports.

Action	Explanation
Select the necessary privileges.	<p>Check all the privileges that are required for this task. You can expand the folders to view the individual privileges contained in them.</p> <p>Make sure that you include the VSC read-only View privilege. All roles require this privilege. Without it, the user cannot access VSC. The privilege is located under NetApp Virtual Storage Console.</p> <p>You might need to include other View privileges that are associated with certain tasks. For example, if you want to be able to see storage capability profiles when provisioning storage, you must have the Profile-driven storage > Profile-driven storage view privilege.</p> <p>If you do not supply a role with all the necessary privileges, the task might appear to succeed, but then fail at the end.</p>

4. Add users and/or groups to the roles you created:

- a. From the vCenter Server, select Datacenters.
- b. In the **Objects** pane, select a Datacenter.
- c. Select **Manage > Permissions**.

When you use the standard VSC roles, you must assign the permission to the root object and propagate it to the child objects. The vCenter Server requires that certain privileges be on the root object, or it cannot validate them. Setting permissions on the root object normally allows all the child objects to inherit the permissions. If your company's security policies require a more controlled permission policy, you can place a restriction on a child object that excludes it from the permission.

5. Select an existing User/Group or a blank row and click the Add permission icon ()

Tip: As a best practice, you can set up high-level groups and then assign a single user to multiple groups. Doing that allows the user to have all the permissions provided by the different groups and simplifies managing the permissions because you do not need to repeatedly set up the same permissions for each individual user.

6. **(Recommended)** To allow all the child objects to inherit the permission, check the box: **Propagate to Child Objects**.

Privileges used in VSC standard roles

The seven standard Virtual Storage Console for VMware vSphere roles align with the key VSC features and contain all the privileges necessary to perform the tasks associated with each role.

The standard VSC roles are:

- VSC Administrator
- VSC Read-only
- VSC Provision
- VSC Clone
- VSC Scan/Migrate
- VSC Backup
- VSC Restore

The following sections provide information about these roles and list the privileges associated with each role.

All of these roles include the VSC-specific View privilege. Without this privilege, the user cannot access the VSC GUI.

VSC Administrator role

The VSC Administrator role enables you to perform all VSC and VASA Provider tasks.

Location	Privileges for VSC Administrator role
Datastore	<ul style="list-style-type: none"> • Allocate space • Browse datastore • Low level file operations • Move datastore • Remove datastore • Remove file • Rename datastore • Update virtual machine files
Datastore cluster	<ul style="list-style-type: none"> • Configure a datastore cluster
Distributed switch <i>(Prior to vCenter Server 5.2, this was called "Distributed virtual switch.")</i>	<ul style="list-style-type: none"> • Modify • Port configuration operation • Port setting operation

Location	Privileges for VSC Administrator role
Extension	<ul style="list-style-type: none"> • Register extension • Update extension
Global	<ul style="list-style-type: none"> • Cancel task • Diagnostics • Licenses • Log event • Manage custom attributes • Set custom attributes • Settings
Host > Cim	<ul style="list-style-type: none"> • CimInteraction
Host > Configuration	<ul style="list-style-type: none"> • Advanced settings • Change Settings • Query patch • Security profile and firewall • Storage partition configuration • System resources
Host > Local operations	<ul style="list-style-type: none"> • Create virtual machine • Delete virtual machine • Reconfigure virtual machine • Relay snapshots
NetApp Virtual Storage Console > Backup and Recovery > Backup	<ul style="list-style-type: none"> • Backup NOW • Backup Scheduled • Delete Backup/Job • Configure
NetApp Virtual Storage Console > Backup and Recovery > Recovery	<ul style="list-style-type: none"> • Mount/Unmount • Recover Datastore • Recover VM • Single-File Recovery

Location	Privileges for VSC Administrator role
NetApp Virtual Storage Console > Monitoring and Host Configuration > Configure Storage Systems	<ul style="list-style-type: none"> • Add, Modify, and Skip storage systems • Remove storage systems
NetApp Virtual Storage Console > Monitoring and Host Configuration > Host Management	<ul style="list-style-type: none"> • Apply recommended settings • Deploy VAAI for NFS Plug-in
NetApp Virtual Storage Console > Optimization and Migration	<ul style="list-style-type: none"> • Configure • Initiate Scan • Migrate virtual machines
NetApp Virtual Storage Console > Policy Based Management	<ul style="list-style-type: none"> • Management • View
NetApp Virtual Storage Console > Provisioning and Cloning	<ul style="list-style-type: none"> • Configure • Create Rapid Clones • Datastore <ul style="list-style-type: none"> ◦ Manage datastores ◦ Provision • Distribute Templates • Reclaim Space • Redeploy clones
NetApp Virtual Storage Console	<ul style="list-style-type: none"> • View
Network	<ul style="list-style-type: none"> • Assign network
Profile-driven storage	<ul style="list-style-type: none"> • Profile-driven storage update • Profile-driven storage view
Resource	<ul style="list-style-type: none"> • Apply recommendation • Assign virtual machine to resource pool • Migrate powered-off virtual machine • Migrate powered-on virtual machine • Query vMotion

Location	Privileges for VSC Administrator role
Storage views	<ul style="list-style-type: none"> • Configure service • View
Tasks	<ul style="list-style-type: none"> • Create tasks • Update tasks
Virtual Machine > Configuration	<ul style="list-style-type: none"> • Add existing disk • Add new disk • Add or remove device • Advanced • Change CPU count • Change resource • Disk change tracking • Extend virtual disk • Host USB device • Memory • Modify device settings • Raw device • Reload from path • Remove disk • Rename • Set annotation • Settings • Swapfile placement • Upgrade virtual machine compatibility
Virtual Machine > Guest Operations	<ul style="list-style-type: none"> • Guest operation modifications • Guest Operation Program Execution • Guest Operation Queries

Location	Privileges for VSC Administrator role
Virtual Machine > Interaction	<ul style="list-style-type: none"> • Answer question • Configure CD media • Configure floppy media • Device connection • Power off • Power on
Virtual Machine > Inventory	<ul style="list-style-type: none"> • Create from existing • Create new • Move • Register • Remove • Unregister
Virtual Machine > Provisioning	<ul style="list-style-type: none"> • Allow disk access • Allow read-only disk access • Allow virtual machine download • Clone template • Clone virtual machine • Create template from virtual machine • Customize • Deploy template • Read customization specifications
Virtual Machine > Snapshot Management <i>(Prior to vCenter Server 5.1, this was called "State.")</i>	<ul style="list-style-type: none"> • Create snapshot • Remove snapshot • Revert to snapshot
Virtual Machine > dvPort group <i>(Prior to vCenter Server 5.1, this was called "Distributed virtual port group.")</i>	<ul style="list-style-type: none"> • Modify

VSC Read-only role

The VSC Read-only role allows you to view the VSC GUI, but it does not permit you to perform any VSC tasks.

Location	Privileges for VSC Read-only role
Datastore	<ul style="list-style-type: none"> Update virtual machine files
Global	<ul style="list-style-type: none"> Diagnostics Manage custom attributes Set custom attributes
Host > Cim	<ul style="list-style-type: none"> CimInteraction
Host > Configuration	<ul style="list-style-type: none"> Change Settings
NetApp Virtual Storage Console > Policy Based Management	<ul style="list-style-type: none"> View
NetApp Virtual Storage Console	<ul style="list-style-type: none"> View
Tasks	<ul style="list-style-type: none"> Create tasks Update tasks
Virtual Machine > Configuration	<ul style="list-style-type: none"> Add existing disk Add new disk Add or remove device Raw device Remove disk Set annotation
Virtual Machine > Guest Operations	<ul style="list-style-type: none"> Guest operation modifications Guest Operation Program Execution Guest Operation Queries
Virtual Machine > Interaction	<ul style="list-style-type: none"> Power off Power on

VSC Provision role

The VSC Provision role enables you to provision storage.

With this role, the user can perform the following tasks:

- Create new datastores
- Destroy datastores
- View information about storage capability profiles on systems that have VASA Provider for clustered Data ONTAP installed

This role does **not** allow a user to perform the following tasks:

- Create clones
- Reclaim space
- Distribute templates
- Create, modify, or delete storage capability profiles

Location	Privileges for VSC Provision role
Datastore	<ul style="list-style-type: none"> • Allocate space • Browse datastore • Low-level file operations • Move datastore • Remove file • Rename datastore
Datastore cluster	<ul style="list-style-type: none"> • Configure a datastore cluster
Global	<ul style="list-style-type: none"> • Cancel task • Licenses • Log event • Manage custom attributes • Settings
Host > Configuration	<ul style="list-style-type: none"> • Advanced settings • Security profile and firewall • Storage partition configuration
NetApp Virtual Storage Console > Policy Based Management	<ul style="list-style-type: none"> • View

Location	Privileges for VSC Provision role
NetApp Virtual Storage Console > Provisioning and Cloning	<ul style="list-style-type: none"> • Datastore
NetApp Virtual Storage Console	<ul style="list-style-type: none"> • View
Profile-driven storage	<ul style="list-style-type: none"> • Profile-driven storage update • Profile-driven storage view
Storage views	<ul style="list-style-type: none"> • Configure service • View
Tasks	<ul style="list-style-type: none"> • Create tasks • Update tasks
Virtual Machine > Interaction	<ul style="list-style-type: none"> • Power off
Virtual Machine > Inventory	<ul style="list-style-type: none"> • Remove • Unregister
Virtual Machine > Provisioning	<ul style="list-style-type: none"> • Allow disk access • Allow read-only disk access • Customize • Read customization specifications

VSC Clone role

The VSC Clone role enables you to clone storage and view information about storage capability profiles on systems that have the VASA Provider for clustered Data ONTAP installed.

This role does **not** allow you to perform the following tasks:

- Provision storage
- Reclaim space
- Distribute templates

Location	Privileges for VSC Clone role
Datastore	<ul style="list-style-type: none"> • Allocate space • Browse datastore • Low level file operations • Move datastore • Remove file • Rename datastore
Global	<ul style="list-style-type: none"> • Log event • Manage custom attributes • Set custom attributes • Settings
Host > Configuration	<ul style="list-style-type: none"> • Advanced settings • Security profile and firewall • Storage partition configuration
NetApp Virtual Storage Console > Policy-Based Management	<ul style="list-style-type: none"> • View
NetApp Virtual Storage Console > Provisioning and Cloning	<ul style="list-style-type: none"> • Create Rapid Clones • Redeploy clones
NetApp Virtual Storage Console	<ul style="list-style-type: none"> • View
Network	<ul style="list-style-type: none"> • Assign network
Resource	<ul style="list-style-type: none"> • Assign virtual machine to resource pool
Tasks	<ul style="list-style-type: none"> • Create tasks • Update tasks

Location	Privileges for VSC Clone role
Virtual Machine > Configuration	<ul style="list-style-type: none"> • Add existing disk • Add new disk • Add or remove device • Advanced • Change CPU count • Change resource • Disk change tracking • Extend virtual disk • Host USB device • Memory • Modify device settings • Raw device • Remove disk • Set annotation • Settings • Swapfile placement • Upgrade virtual machine compatibility
Virtual Machine > Interaction	<ul style="list-style-type: none"> • Answer question • Power off • Power on
Virtual Machine > Inventory	<ul style="list-style-type: none"> • Create from existing • Create new • Remove • Unregister
Virtual Machine > Provisioning	<ul style="list-style-type: none"> • Clone template • Clone virtual machine • Customize • Deploy template • Read customization specifications

VSC Scan/Migrate role

The VSC Scan/Migrate role enables you to scan databases and migrate virtual machines. You can also view information about storage capability profiles on systems that have VASA Provider for clustered Data ONTAP installed.

Location	Privileges for VSC Scan/Migrate role
Datastore	<ul style="list-style-type: none"> Allocate space
Global	<ul style="list-style-type: none"> Cancel task Licenses Log event Manage custom attributes Settings
Host > Configuration	<ul style="list-style-type: none"> Advanced settings Security profile and firewall Storage partition configuration
NetApp Virtual Storage Console > Optimization and Migration	<ul style="list-style-type: none"> Initiate Scan Migrate virtual machines
NetApp Virtual Storage Console > Policy Based Management	<ul style="list-style-type: none"> View
NetApp Virtual Storage Console	<ul style="list-style-type: none"> View
Resource	<ul style="list-style-type: none"> Assign virtual machine to resource pool Migrate powered off virtual machine Migrate powered on virtual machine
Tasks	<ul style="list-style-type: none"> Create tasks Update tasks
Virtual Machine > Inventory	<ul style="list-style-type: none"> Move
Virtual Machine > Provisioning	<ul style="list-style-type: none"> Allow virtual machine download
Virtual Machine > Snapshot Management	<ul style="list-style-type: none"> Create snapshot Remove snapshot

VSC Backup role

The VSC Backup role enables you to back up virtual machines and datastores. In addition, you can access the configure privilege and view information about storage capability profiles on systems that have VASA Provider for clustered Data ONTAP installed.

Location	Privileges for VSC Backup role
Datastore	<ul style="list-style-type: none"> • Browse datastore
NetApp Virtual Storage Console > Backup and Recovery	<ul style="list-style-type: none"> • Configure
NetApp Virtual Storage Console > Backup and Recovery > Backup	<ul style="list-style-type: none"> • Backup NOW • Backup Scheduled • Delete Backup/Job
NetApp Virtual Storage Console > Policy Based Management	<ul style="list-style-type: none"> • View
NetApp Virtual Storage Console	<ul style="list-style-type: none"> • View
Tasks	<ul style="list-style-type: none"> • Create tasks • Update tasks
Virtual Machine > Snapshot Management	<ul style="list-style-type: none"> • Create snapshot • Remove snapshot

VSC Restore role

The VSC Restore role enables you to restore virtual machines and datastores that have been backed up using VSC. In addition, you can view information about storage capability profiles on systems that have VASA Provider for clustered Data ONTAP installed.

Location	Privileges for VSC Restore role
Datastore	<ul style="list-style-type: none"> • Allocate space • Browse datastore • Low level file operations • Move datastore • Remove datastore • Rename datastore

Location	Privileges for VSC Restore role
Host > Configuration	<ul style="list-style-type: none"> • Advanced settings • Change Settings • Storage partition configuration • System resources
Host > Local operations	<ul style="list-style-type: none"> • Create virtual machine • Delete virtual machine • Reconfigure virtual machine • Relay layout snapshots
NetApp Virtual Storage Console > Backup and Recovery > Recovery	<ul style="list-style-type: none"> • Mount/Unmount • Recover Datastore • Recover VM • Single-File Recovery
NetApp Virtual Storage Console > Policy Based Management	<ul style="list-style-type: none"> • View
NetApp Virtual Storage Console	<ul style="list-style-type: none"> • View
Resource	<ul style="list-style-type: none"> • Apply recommendation • Assign virtual machine to resource pool • Query vMotion
Tasks	<ul style="list-style-type: none"> • Create tasks • Update tasks
Virtual Machine > Configuration	<ul style="list-style-type: none"> • Add existing disk • Add new disk • Advanced • Change resource • Reload from path • Remove disk
Virtual Machine > Interaction	<ul style="list-style-type: none"> • Power off • Power on

Location	Privileges for VSC Restore role
Virtual Machine > Inventory	<ul style="list-style-type: none">• Create from existing• Move• Register• Remove• Unregister
Virtual Machine > Snapshot Management	<ul style="list-style-type: none">• Remove snapshot• Revert to snapshot

Working with Data ONTAP RBAC roles

To enable Virtual Storage Console for VMware vSphere to work with storage systems, you must set up Data ONTAP RBAC roles.

NetApp recommends that you use the RBAC User Creator for Data ONTAP tool to configure these roles on storage systems. This tool and detailed screenshots explaining how to use it are posted on the NetApp Communities Forum at:

[NetApp Community Document: RBAC User Creator for Data ONTAP](#)

Note: If you upgrade your version of VSC or Data ONTAP, you must re-run the RBAC User Creator for Data ONTAP tool to update the user roles you created previously. User roles created for an earlier version of VSC or Data ONTAP do not work properly with upgraded versions. When you re-run the tool, it automatically handles the upgrade. You do not need to re-create the roles.

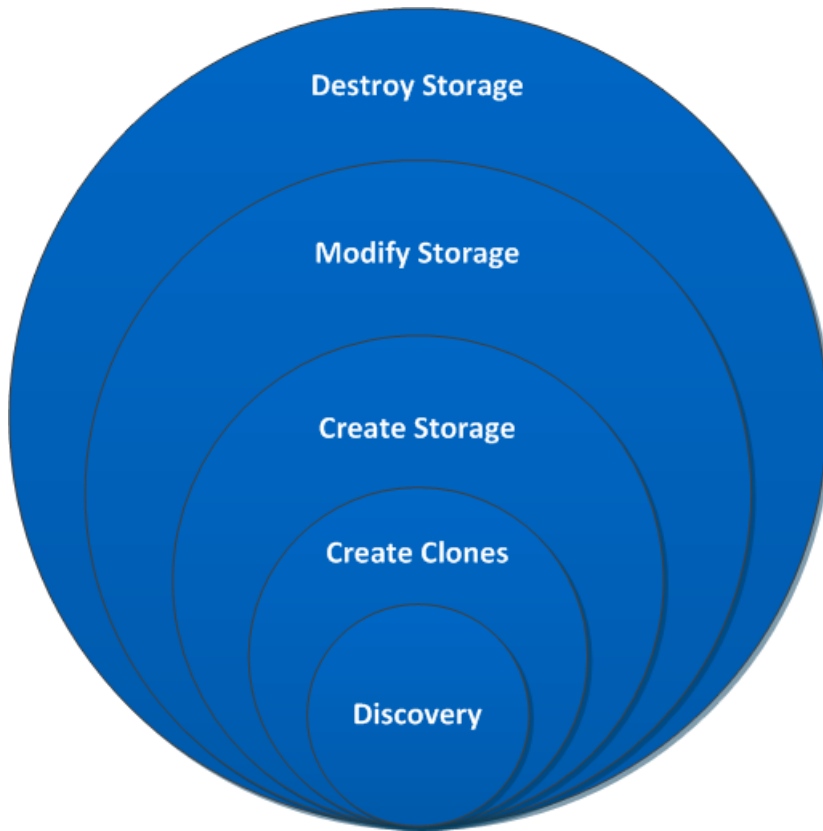
If you do not want to use the RBAC User Creator for Data ONTAP tool, you can use one of the following methods:

- OnCommand System Manager, which you can download from the NetApp Support Site for either Windows or Linux platforms
- The Data ONTAP CLI, using the `security login` set of commands

Provisioning and cloning example of adjusting roles to match tasks

When you are working with roles, you can create subroles based on the tasks a user needs to perform.

The following graphic shows how you can set up provisioning and cloning roles to allow a user to perform only certain aspects of these tasks. In this graphic, as the circle expands, each role has both its privileges and the privileges associated with the roles under it. For example, you might assign to UserA the Create Clones role. That user would be able to discover storage and clone it. You then give UserB the Modify Storage role. UserB would be able to perform the same tasks as UserA. However, UserB would also be able to create and modify storage.



(Clustered Data ONTAP) Adding an RBAC role using security login commands

You can use the `security login` commands to add an RBAC role when your storage systems are running clustered Data ONTAP.

Before you begin

Before you create a Data ONTAP RBAC role for storage systems running clustered Data ONTAP, you must identify the following:

- The task (or tasks) that you want to perform
- The privileges required to perform these tasks

About this task

Actually configuring the RBAC role requires that you perform the following actions:

- Grant privileges to commands and/or command directories.
There are two levels of access for each command/command directory:
 - All-access
 - Read-onlyYou must always assign the all-access privileges first.
- Assign users directly to roles.
- Vary your configuration depending on whether you have Virtual Storage Console for VMware vSphere connected to the Cluster Administrator IP for the entire cluster or directly connected to a Storage Virtual Machine (SVM, formerly known as Vserver) within the cluster.

To simplify configuring these roles on storage systems, you can use the RBAC User Creator for Data ONTAP tool, which is posted on the NetApp Communities Forum at

<http://community.netapp.com/t5/Virtualization-and-Cloud-Articles-and-Resources/RBAC-User-Creator-for-Data-ONTAP/ta-p/86601>

This tool automatically handles setting up the Data ONTAP privileges correctly. For example, RBAC User Creator for Data ONTAP tool automatically adds the privileges in the correct order so that the all-access privileges appear first. If you add the read-only privileges first and then add the all-access privileges, Data ONTAP marks the all-access privileges as duplicates and ignores them.

Note: If you later upgrade your version of VSC or Data ONTAP, you should re-run the RBAC User Creator for Data ONTAP tool to update the user roles you created previously. User roles created for an earlier version of VSC or Data ONTAP do not work properly with upgraded versions. When you re-run the tool, it automatically handles the upgrade. You do not need to recreate the roles.

More information about setting up Data ONTAP RBAC roles is in the *Data ONTAP Cluster-Mode Systems Administration Guide*.

Note: For consistency, the VSC documentation refers to the roles as using privileges. The OnCommand System Manager GUI uses the term “attribute” instead of “privilege.” When setting up Data ONTAP RBAC roles, both these terms mean the same thing.

Steps

1. On the storage system, create a new role by entering the following command:

```
security login role create -vserver <svm_name> -role <role_name> -  
cmddirname "<command>" -access <access_level>
```

svm_name is the name of the SVM. If you leave this blank, it defaults to cluster administrator. You only need this option if you are using SVMs that are directly connected to VSC.

role_name is the name you specify for the role.

command is the Data ONTAP capability.

access_level specifies whether command can be listed as read-only or all-access.

Note: Remember that all-access commands must be listed before read-only commands.

2. Create a user name by entering the following command line:

```
security login create -username <user_name> -vserver <svm_name> -  
application ontapi -application console -authmethod <password>
```

user_name is the name of the user you are creating.

svm_name is the name of the SVM. If you leave this blank, it defaults to cluster administrator. You only need this option if you are using SVMs that are directly connected to VSC.

password is your password . If you do not specify a password, the system will prompt you for one.

3. Associate the user with the role by entering the following command:

```
security login modify -username <user_name> -vserver <svm_name> -role  
<role_name> -application ontapi -application console -authmethod  
<password>
```

user_name is the name of the user you created in Step 2. This command lets you modify the user to associate it with the role.

svm_name is the name of the SVM. If you leave this blank, it defaults to cluster administrator. You only need this option if you are using SVMs that are directly connected to VSC.

role_name is the name of the role you created in Step 1.

password is your password. If you do not specify a password, the system will prompt you for one.

4. Verify that the user was created correctly by entering the following command:

```
security login show -username <user_name>
```

user_name is the name of the user you created in Step 2.

This command displays information about the user and the role.

Privileges used in clustered Data ONTAP roles

The seven recommended Data ONTAP roles for Virtual Storage Console for VMware vSphere align with the key VSC features and contain all the privileges necessary to perform tasks on the storage system that are associated with each role.

The recommended roles are as follows:

- Discovery
- Create Clones
- Create Storage
- Modify Storage
- Destroy Storage
- Backup-Recovery
- PBM (policy-based management)

The following sections list the privileges required for the recommended roles when the storage systems are running clustered Data ONTAP or clustered Data ONTAP with directly connected Storage Virtual Machines (SVMs, formerly known as Vservers).

Discovery role privileges: Clustered Data ONTAP

The Discovery role contains the minimum set of required privileges for using VSC. It enables you to discover all of the storage systems connected to VSC.

Type of command	Privileges for Discovery role
All-access commands	<ul style="list-style-type: none"> • network interface migrate • security login profiles (Data ONTAP 7.3.4 through Data ONTAP 8.2.x) • security login role show-user-capability (Data ONTAP 8.2 and later) • set • storage failover show • system node run • volume efficiency stat

Type of command	Privileges for Discovery role
Read-only commands	<ul style="list-style-type: none"> • cluster identity show • cluster peer show • cluster show • lun geometry • lun igroup show • lun mapped show (Data ONTAP 7.3.4 through Data ONTAP 8.2.x) • lun mapping show (Data ONTAP 8.3 and later) • lun show • network fcp adapter show • network interface show • network port show • security login role show-ontapi • security login role show • security login show • snapmirror list-destinations (Data ONTAP 8.2 and later) • snapmirror show • storage aggregate show • storage disk show • system health alert show • system health status show • system license show • system node show • version • volume efficiency show • volume qtree show • volume quota report • volume show

Type of command	Privileges for Discovery role
Read-only commands <i>(continued)</i>	<ul style="list-style-type: none"> • vserver export-policy rule show • vserver export-policy show • vserver fcp initiator show • vserver fcp interface show • vserver fcp show • vserver iscsi show • vserver nfs show • vserver show

Discovery role privileges: Clustered Data ONTAP with directly connected SVMs

The Discovery role contains the minimum set of required privileges for using VSC. It enables you to discover all Storage Virtual Machines (SVMs, formerly known as Vservers) that are directly connected to VSC.

Type of command	Privileges for Discovery role (SVM)
All-access commands	<ul style="list-style-type: none"> • security login profiles(Data ONTAP 7.3.4 through Data ONTAP 8.2.x) • security login role show-user-capability (Data ONTAP 8.2 and later) • set • snapmirror show (Data ONTAP 8.2.x and later) • volume efficiency stat

Type of command	Privileges for Discovery role (SVM)
Read-only commands	<ul style="list-style-type: none"> • lun geometry • lun igroup show • lun mapped show (Data ONTAP 7.3.4 through Data ONTAP 8.2.x) • lun mapping show(Data ONTAP 8.3 and later) • lun show • network interface • snapmirror list-destinations (Data ONTAP 8.2 and later) • version • volume efficiency show • volume qtree show • volume quota report • volume show • vserver • vserver export-policy rule show • vserver export-policy show • vserver fcp initiator show • vserver fcp interface show • vserver fcp show • vserver iscsi show • vserver nfs show

Create Clone role privileges: Clustered Data ONTAP

The Create Clone role contains the set of privileges required to create virtual machine clones when the storage system is running clustered Data ONTAP.

Note: The privileges in roles are cumulative. When you set up a role, you must include the privileges for all the previous roles.

Type of command	Privileges for Create Clone role
All-access commands	<ul style="list-style-type: none"> • set • snapmirror list-destinations (Data ONTAP 8.2 and later) • system node run • system node show • volume file modify • volume file reservation • volume file show-disk-usage • volume file show-filehandle • volume file clone • volume file repository fhmap show • vservers export-policy show • vservers nfs show
Read-only commands	<ul style="list-style-type: none"> • lun geometry • lun igroup show • lun mapped show (Data ONTAP 7.3.4 through Data ONTAP 8.2.x) • lun mapping show (Data ONTAP 8.3 and later) • lun show • network fcp adapter show • storage aggregate show • system license show • version • volume efficiency show • volume qtree show • volume quota report • volume quota show • volume show • vservers fcp show • vservers iscsi show • vservers nfs status • vservers show

Create Clone role privileges: Clustered Data ONTAP with directly connected SVMs

The Create Clone role contains the privileges required to create virtual machine clones when using Storage Virtual Machines (SVMs, formerly known as Vservers) that are directly connected to Virtual Storage Console for VMware vSphere.

Note: The privileges in roles are cumulative. When you set up a role, you must include the privileges for all the previous roles.

Type of command	Privileges for Create Clone role (SVM)
All-access commands	<ul style="list-style-type: none"> • network interface • network interface lif-weights show • network interface dns-lb-stats show • set • snapmirror list-destinations (Data ONTAP 8.2 and later) • volume file clone • volume file reservation • volume file show-disk-usage • volume file show-filehandle • vsserver export-policy show • vsserver nfs show
Read-only commands	<ul style="list-style-type: none"> • lun geometry • lun igroup show • lun mapped show (Data ONTAP 7.3.4 through Data ONTAP 8.2.x) • lun mapping show (Data ONTAP 8.3 and later) • lun show • version • volume efficiency show • volume qtree show • volume quota report • volume quota show • volume show • vsserver fcp show • vsserver iscsi show • vsserver nfs status

Create Storage role privileges: Clustered Data ONTAP

The Create Storage role contains the set of privileges required to create volumes and LUNs on storage systems running clustered Data ONTAP.

Note: The privileges in roles are cumulative. When you set up a role, you must include the privileges for all the previous roles.

Type of command	Privileges for Create Storage role
All-access commands	<ul style="list-style-type: none"> • lun comment • lun create • lun igroup add • lun igroup create • lun igroup set • lun igroup show • lun map (Data ONTAP 7.3.4 through Data ONTAP 8.2.x) • lun mapping create (Data ONTAP 8.3 and later) • lun mapping delete (Data ONTAP 8.3 and later) • lun modify • lun move • lun online • lun unmap (Data ONTAP 7.3.4 through Data ONTAP 8.2.x) • qos policy-group create (Data ONTAP 8.2.x and later) • snapmirror update-ls-set

Type of command	Privileges for Create Storage role
All-access commands <i>(continued)</i>	<ul style="list-style-type: none"> • system node autosupport invoke • volume autosize • volume clone create • volume create • volume efficiency on • volume efficiency show • volume efficiency start • volume efficiency stop • volume modify • volume restrict • volume snapshot create • volume snapshot delete • volume unmount • vserver export-policy rule create • vserver export-policy rule setindex • vserver iscsi interface accesslist add • vserver nfs status • vserver services unix-group (Data ONTAP 7.3.4 through Data ONTAP 8.2.x) • vserver services unix-user (Data ONTAP 7.3.4 through Data ONTAP 8.2.x) • vserver services name-service unix-group (Data ONTAP 8.3 and later) • vserver services name-service unix-user (Data ONTAP 8.3 and later)
Read-only commands	<ul style="list-style-type: none"> • job show-completed • lun initiatorListMap show (Data ONTAP 7.3.4 through Data ONTAP 8.2.x) • snapmirror list-destinations (Data ONTAP 8.2 and later) • snapmirror show • vserver fcp initiator show • vserver iscsi connection show • vserver iscsi interface show • vserver iscsi session show

Create Storage role privileges: Clustered Data ONTAP with directly connected SVMs

The Create Storage role contains the privileges required to create volumes and LUNs when using Storage Virtual Machines (SVMs, formerly known as Vservers) that are directly connected to Virtual Storage Console for VMware vSphere.

Note: The privileges in roles are cumulative. When you set up a role, you must include the privileges for all the previous roles.

Type of command	Privileges for Create Storage role (SVM)
All-access commands	<ul style="list-style-type: none"> • lun comment • lun create • lun igroup add • lun igroup create • lun igroup set • lun igroup show • lun map (Data ONTAP 7.3.4 through Data ONTAP 8.2.x) • lun mapping create (Data ONTAP 8.3 and later) • lun mapping delete (Data ONTAP 8.3 and later) • lun modify • lun move • lun online • lun unmap (Data ONTAP 7.3.4 through Data ONTAP 8.2.x) • snapmirror abort (Data ONTAP 8.2.x and later) • snapmirror break (Data ONTAP 8.2.x and later) • snapmirror check (Data ONTAP 8.2.x and later) • snapmirror create (Data ONTAP 8.2.x and later) • snapmirror delete (Data ONTAP 8.2.x and later)

Type of command	Privileges for Create Storage role (SVM)
All-access commands <i>(continued)</i>	<ul style="list-style-type: none"> • snapmirror get-volume-status (Data ONTAP 8.2.x and later) • snapmirror initialize (Data ONTAP 8.2.x and later) • snapmirror list-destinations (Data ONTAP 8.2.x and later) • snapmirror modify (Data ONTAP 8.2.x and later) • snapmirror policy add-rule (Data ONTAP 8.2.x and later) • snapmirror policy create (Data ONTAP 8.2.x and later) • snapmirror policy delete (Data ONTAP 8.2.x and later) • snapmirror policy modify (Data ONTAP 8.2.x and later) • snapmirror policy modify-rule (Data ONTAP 8.2.x and later) • snapmirror policy remove-rule (Data ONTAP 8.2.x and later) • snapmirror policy show (Data ONTAP 8.2.x and later) • snapmirror quiesce (Data ONTAP 8.2.x and later) • snapmirror release (Data ONTAP 8.2.x and later) • snapmirror restore (Data ONTAP 8.2.x and later) • snapmirror resume (Data ONTAP 8.2.x and later) • snapmirror resync (Data ONTAP 8.2.x and later) • snapmirror show (Data ONTAP 8.2.x and later) • snapmirror snapshot-owner create (Data ONTAP 8.2.x and later) • snapmirror snapshot-owner delete (Data ONTAP 8.2.x and later) • snapmirror snapshot-owner show (Data ONTAP 8.2.x and later) • snapmirror update (Data ONTAP 8.2.x and later) • snapmirror update-ls-set (Data ONTAP 8.2.x and later)

Type of command	Privileges for Create Storage role (SVM)
All-access commands <i>(continued)</i>	<ul style="list-style-type: none"> • volume autosize • volume clone create • volume create • volume efficiency on • volume efficiency show • volume efficiency start • volume efficiency stop • volume modify • volume restrict • volume snapshot create • volume snapshot delete • volume unmount • vserver export-policy rule create • vserver export-policy rule setindex • vserver iscsi interface accesslist add • vserver nfs status • vserver services unix-group (Data ONTAP 7.3.4 through Data ONTAP 8.2.x) • vserver services unix-user (Data ONTAP 7.3.4 through Data ONTAP 8.2.x) • vserver services name-service unix-group (Data ONTAP 8.3 and later) • vserver services name-service unix-user (Data ONTAP 8.3 and later)
Read-only commands	<ul style="list-style-type: none"> • job show-completed • lun initiatorListMap show (Data ONTAP 7.3.4 through Data ONTAP 8.2.x) • lun mapping show (Data ONTAP 8.3 and later) • volume snapshot show • vserver fcp initiator show • vserver iscsi connection show • vserver iscsi interface show • vserver iscsi session show

Modify Storage role privileges: Clustered Data ONTAP

The Modify Storage role contains the set of privileges required to resize and duplicate storage.

Note: The privileges in roles are cumulative. When you set up a role, you must include the privileges for all the previous roles.

Type of command	Privileges for Modify Storage role
All-access commands	<ul style="list-style-type: none"> • lun resize • volume efficiency off • volume file show-disk-usage • volume size
Read-only commands	There are no read-only commands.

Modify Storage role privileges: Clustered Data ONTAP with directly connected SVMs

The Modify Storage role contains the set of privileges required to resize and duplicate storage when using Storage Virtual Machines (SVMs, formerly known as Vservers) that are directly connected to Virtual Storage Console for VMware vSphere.

Note: The privileges in roles are cumulative. When you set up a role, you must include the privileges for all the previous roles.

Type of command	Privileges for Modify Storage role (SVM)
All-access commands	<ul style="list-style-type: none"> • lun resize • volume efficiency off • volume file show-disk-usage • volume size
Read-only commands	There are no read-only commands.

Destroy Storage role privileges: Clustered Data ONTAP

The Destroy Storage role contains the set of privileges required to destroy volumes and LUNs.

Note: The privileges in roles are cumulative. When you set up a role, you must include the privileges for all the previous roles.

Type of command	Privileges for Destroy Storage role
All-access commands	<ul style="list-style-type: none"> • lun delete • lun offline • volume destroy • volume offline
Read-only commands	There are no read-only commands.

Destroy Storage role privileges: Clustered Data ONTAP with directly connected SVMs

The Destroy Storage role contains the set of privileges required to destroy volumes and LUNs when using Storage Virtual Machines (SVMs, formerly known as Vservers) that are directly connected to Virtual Storage Console for VMware vSphere.

Note: The privileges in roles are cumulative. When you set up a role, you must include the privileges for all the previous roles.

Type of command	Privileges for Destroy Storage role (SVM)
All-access commands	<ul style="list-style-type: none"> • lun delete • lun offline • volume destroy • volume offline
Read-only commands	There are no read-only commands.

Backup and Restore role privileges: Clustered Data ONTAP

The Backup and Restore role contains the set of privileges required to back up and restore volumes and LUNs.

Note: The privileges in roles are cumulative. When you set up a role, you must include the privileges for all the previous roles.

Type of command	Privileges for Backup and Restore role
All-access commands	<ul style="list-style-type: none"> • cluster identity show • job history show • lun create (Data ONTAP 8.3 and later) • lun delete • lun igroup add • lun igroup create • lun igroup delete • lun igroup new (Data ONTAP 7.3.4 through Data ONTAP 8.2.x) • lun igroup show • lun initiatorListMap show (Data ONTAP 7.3.4 through Data ONTAP 8.2.x) • lun map (Data ONTAP 7.3.4 through Data ONTAP 8.2.x) • lun mapped show (Data ONTAP 7.3.4 through Data ONTAP 8.2.x) • lun mapping create (Data ONTAP 8.3 and later) • lun mapping delete (Data ONTAP 8.3 and later) • lun mapping show (Data ONTAP 8.3 and later) • lun mapping show-initiator (Data ONTAP 8.3 and later) • lun new (Data ONTAP 7.3.4 through Data ONTAP 8.2.x) • lun online • lun serial • lun show • lun unmap (Data ONTAP 7.3.4 through Data ONTAP 8.2.x) • network interface create (Data ONTAP 8.3 and later) • network interface new (Data ONTAP 7.3.4 through Data ONTAP 8.2.x) • network interface show • security login role show-ontapi • snapmirror create (Data ONTAP 8.3 and later) • snapmirror get-volume-status (Data ONTAP 7.3.4 through Data ONTAP 8.1.x) • snapmirror new (Data ONTAP 7.3.4 through Data ONTAP 8.2.x) • snapmirror show

Type of command	Privileges for Backup and Restore role
All-access commands <i>(continued)</i>	<ul style="list-style-type: none"> • system license show • snapmirror update • snapmirror update-ls-set • system node run • system node show • version • volume clone create • volume clone new (Data ONTAP 7.3.4 through Data ONTAP 8.2.x) • volume create (Data ONTAP 8.3 and later) • volume destroy • volume file clone • volume file modify • volume file repository fhmap show • volume file reservation • volume file show-disk-usage • volume file show-filehandle • volume mount • volume new (Data ONTAP 7.3.4 through Data ONTAP 8.2.x) • volume offline • volume qtree create (Data ONTAP 8.3 and later) • volume qtree new (Data ONTAP 7.3.4 through Data ONTAP 8.2.x) • volume qtree show • volume show • volume snapshot create • volume snapshot delete

Type of command	Privileges for Backup and Restore role
All-access commands <i>(continued)</i>	<ul style="list-style-type: none"> • volume snapshot new (Data ONTAP 7.3.4 through Data ONTAP 8.2.x) • volume snapshot rename • volume snapshot restore-file • volume snapshot show • volume unmount • vservers create • vservers delete • vservers export-policy create (Data ONTAP 8.3 and later) • vservers export-policy new (Data ONTAP 7.3.4 through Data ONTAP 8.2.x) • vservers export-policy show • vservers fcp nodename • vservers fcp status • vservers iscsi nodename • vservers iscsi status • vservers modify • vservers new (Data ONTAP 7.3.4 through Data ONTAP 8.2.x) • vservers peer show (Data ONTAP 8.2.x and later) • vservers show
Read-only commands	There are no read-only commands.

Backup and Restore role privileges: Clustered Data ONTAP with directly connected SVMs

The Backup and Restore role contains the set of privileges required to back up and restore volumes and LUNs when using Storage Virtual Machines (SVMs, formerly known as Vservers) that are directly connected to Virtual Storage Console for VMware vSphere.

Note: The privileges in roles are cumulative. When you set up a role, you must include the privileges for all the previous roles.

Type of command	Privileges for Backup and Restore role (SVM)
All-access commands	<ul style="list-style-type: none"> • job history show • lun create (Data ONTAP 8.3 and later) • lun delete • lun igroup add • lun igroup create (Data ONTAP 8.3 and later) • lun igroup delete • lun igroup new (Data ONTAP 7.3.4 through Data ONTAP 8.2.x) • lun igroup show • lun initiatorListMap show (Data ONTAP 7.3.4 through Data ONTAP 8.2.x) • lun map (Data ONTAP 7.3.4 through Data ONTAP 8.2.x) • lun new (Data ONTAP 7.3.4 through Data ONTAP 8.2.x)

Type of command	Privileges for Backup and Restore role (SVM)
All-access commands <i>(continued)</i>	<ul style="list-style-type: none"> • lun mapped show (Data ONTAP 7.3.4 through Data ONTAP 8.2.x) • lun mapping create (Data ONTAP 8.3 and later) • lun mapping delete (Data ONTAP 8.3 and later) • lun mapping show (Data ONTAP 8.3 and later) • lun mapping show-initiator (Data ONTAP 8.3 and later) • lun online • lun serial • lun show • lun unmap (Data ONTAP 7.3.4 through Data ONTAP 8.2.x) • network interface • security login role show-ontapi • snapmirror (Data ONTAP 8.2.x and later) • snapmirror abort (Data ONTAP 8.2.x and later) • snapmirror break (Data ONTAP 8.2.x and later) • snapmirror check (Data ONTAP 8.2.x and later) • snapmirror create (Data ONTAP 8.2.x and later) • snapmirror delete (Data ONTAP 8.2.x and later) • snapmirror get-volume-status (Data ONTAP 8.2.x and later) • snapmirror initialize (Data ONTAP 8.2.x and later) • snapmirror list-destinations (Data ONTAP 8.2.x and later) • snapmirror modify (Data ONTAP 8.2.x and later) • snapmirror policy add-rule (Data ONTAP 8.2.x and later) • snapmirror policy create (Data ONTAP 8.2.x and later) • snapmirror policy delete (Data ONTAP 8.2.x and later)

Type of command	Privileges for Backup and Restore role (SVM)
All-access commands <i>(continued)</i>	<ul style="list-style-type: none"> • snapmirror policy modify (Data ONTAP 8.2.x and later) • snapmirror policy modify-rule (Data ONTAP 8.2.x and later) • snapmirror policy remove-rule (Data ONTAP 8.2.x and later) • snapmirror policy show (Data ONTAP 8.2.x and later) • snapmirror quiesce (Data ONTAP 8.2.x and later) • snapmirror release (Data ONTAP 8.2.x and later) • snapmirror restore (Data ONTAP 8.2.x and later) • snapmirror resume (Data ONTAP 8.2.x and later) • snapmirror resync (Data ONTAP 8.2.x and later) • snapmirror show (Data ONTAP 8.2.x and later) • snapmirror snapshot-owner create (Data ONTAP 8.2.x and later) • snapmirror snapshot-owner delete (Data ONTAP 8.2.x and later) • snapmirror snapshot-owner show (Data ONTAP 8.2.x and later) • snapmirror update (Data ONTAP 8.2.x and later) • version • volume clone create • volume clone new (Data ONTAP 7.3.4 through Data ONTAP 8.2.x) • volume create • volume destroy • volume file clone • volume file reservation • volume file show-disk-usage • volume file show-filehandle • volume mount • volume new (Data ONTAP 7.3.4 through Data ONTAP 8.2.x) • volume offline

Type of command	Privileges for Backup and Restore role (SVM)
All-access commands <i>(continued)</i>	<ul style="list-style-type: none"> • volume qtree create (Data ONTAP 8.3 and later) • volume qtree new (Data ONTAP 7.3.4 through Data ONTAP 8.2.x) • volume qtree show • volume show • volume snapshot create • volume snapshot delete • volume snapshot new (Data ONTAP 7.3.4 through Data ONTAP 8.2.x) • volume snapshot rename • volume snapshot restore-file • volume snapshot show • volume unmount • vserver • vserver export-policy create (Data ONTAP 8.3 and later) • vserver export-policy new (Data ONTAP 7.3.4 through Data ONTAP 8.2.x) • vserver export-policy show • vserver fcp nodename • vserver fcp status • vserver iscsi nodename • vserver iscsi status • vserver peer show (Data ONTAP 8.2.x and later)
Read-only commands	There are no read-only commands.

VASA Provider PBM role privileges: Clustered Data ONTAP

The PBM role for VASA Provider for clustered Data ONTAP contains the set of privileges required to enable policy-based management of storage using storage capability profiles.

You must have VASA Provider installed to use this role.

Note: The privileges in roles are cumulative. When you set up a role, you must include the privileges for all the previous roles.

Type of command	Privileges for VASA Provider PBM role
All-access commands	<ul style="list-style-type: none"> • event generate-autosupport-log • lun • qos policy-group create (Data ONTAP 8.2 and later) • qos policy-group show (Data ONTAP 8.2 and later) • storage failover show • system node run • system services ndmp • system snmp traphost add • system snmp traphost delete • volume efficiency show • volume file • volume modify • volume qtree show • volume quota report • volume show
All-access commands <i>(continued)</i>	<ul style="list-style-type: none"> • vserver export-policy rule create • vserver export-policy rule show • vserver export-policy show • vserver fcp initiator show • vserver fcp interface show • vserver fcp show • vserver iscsi create • vserver iscsi show • vserver iscsi start • vserver nfs show • vserver nfs status • vserver peer show (Data ONTAP 8.2 and later) • vserver show

Type of command	Privileges for VASA Provider PBM role
Read-only commands	<ul style="list-style-type: none"> • cluster identity show • cluster peer show • cluster show • job schedule cron show • metrocluster show (Data ONTAP 8.3 and later) • network fcp adapter show • network interface show • snapmirror list-destinations • snapmirror policy show • snapmirror show • storage aggregate show • storage disk show • system license show • system node show • system snmp show • version

(Data ONTAP operating in 7-Mode) Adding an RBAC role using System Manager

You can use System Manager to add an RBAC role when your storage systems are running Data ONTAP operating in 7-Mode.

Before you begin

Before you create a Data ONTAP RBAC role for storage systems running Data ONTAP operating in 7-Mode, you must identify the following:

- The task (or tasks) that you want to perform
- The privileges required to perform these tasks

About this task

Configuring an RBAC role requires three basic steps.

1. Configure the roles.

To simplify configuring these roles on storage systems, you can use the RBAC User Creator for Data ONTAP tool, which is posted on the NetApp Communities Forum at

<http://community.netapp.com/t5/Virtualization-and-Cloud-Articles-and-Resources/RBAC-User-Creator-for-Data-ONTAP/ta-p/86601>

This tool automatically handles setting up the Data ONTAP privileges correctly. For example, RBAC User Creator for Data ONTAP tool automatically adds the privileges in the correct order so that the all-access privileges appear first. If you add the read-only privileges first and then add the all-access privileges, Data ONTAP marks the all-access privileges as duplicates and ignores them.

Note: If you later upgrade your version of VSC or Data ONTAP, you should re-run the RBAC User Creator for Data ONTAP tool to update the user roles you created previously. User roles created for an earlier version of VSC or Data ONTAP do not work properly with upgraded versions. When you re-run the tool, it automatically handles the upgrade. You do not need to recreate the roles.

You can also use System Manager or the CLI `useradmin` set of commands.

2. Assign permissions for the API functions to these roles.

3. Add the users and/or groups to the roles.

You perform these steps on all the storage systems that host VMFS or NFS datastores.

Because the RBAC User Creator Tool is well documented on the Communities site, the steps that follow provide an example of how you might create a Data ONTAP RBAC role using the `useradmin` set of commands.

More information about setting up Data ONTAP RBAC roles is in the *Data ONTAP Cluster-Mode Systems Administration Guide*.

Note: For consistency, the Virtual Storage Console for VMware vSphere documentation refers to the roles as using privileges. The OnCommand System Manager GUI uses the term “attribute” instead of “privilege.” When setting up Data ONTAP RBAC roles, both these terms mean the same thing.

Steps

1. On the storage system, create a new role by entering the following command:

```
useradmin role add <role_name> -a <capability_list>
```

svm_name is the name of the SVM. If you leave this blank, it defaults to cluster administrator. You only need this option if you are using SVMs that are directly connected to VSC.

role_name is the name you specify for the role.

capability_list is the comma-separated list of Data ONTAP privileges. The section *Privileges used with Data ONTAP operating in 7-Mode roles* contains a table listing privileges for the recommended Data ONTAP roles.

2. Create a user group with the role you set up by entering the following command line:

```
useradmin group add <group_name> -r <role_name>
```

group_name is the name of the group you are creating.

role_name is the name of the role you created in the previous step.

3. Create a user in the group by entering the following command:

```
useradmin user add <user_name> [-p password] -g <group_name>
```

user_name is the name of the user you are creating.

password is the password for this user. If you do not specify a password, the system prompts you for one.

group_name is the name of the group you created in the previous step.

4. Verify that the user was created correctly by entering the following command:

```
useradmin user list <user_name>
```

user_name is the name of the user you created in the previous step.

This command displays information about the user and the group.

Privileges used in Data ONTAP operating in 7-Mode roles

You can specify privileges for Data ONTAP operating in 7-Mode as either individual privileges or categories of privileges.

Specifying individual privileges limits what the user can do on the storage system.

If you specify the privileges by categories, the user can perform more tasks. Here are the minimum privileges needed for any Virtual Storage Console for VMware vSphere operation:

```
login-*, api-*
```

If you are using VSC's backup, restore, provision, clone, optimization, or migration features, you should include the following privileges. These privileges provide the user with access to the storage system.

```
login-*, api-*, cli-*
```

If you want to specify individual privileges, the following table lists the roles for the VSC features and the privileges required for those roles:

Role	Privileges for Data ONTAP operating in 7-Mode
<p>Discovery role</p> <p>You must have this role to use VSC. This role enables you to discover all the connected storage systems.</p>	<ul style="list-style-type: none"> • api-aggr-list-info • api-cf-get-partner • api-cf-status • api-copyoffload-show (Data ONTAP 8.0.1 and later) • api-disk-list-info • api-ems-autosupport-log • api-fcp-adapter-linitiators-list-info • api-fcp-adapter-list-info • api-fcp-get-cfmode • api-fcp-node-get-name • api-fcp-service-status • api-feature-status-list-info (Data ONTAP 8.2 and later) • api-igroup-list-info

Role	Privileges for Data ONTAP operating in 7-Mode
Discovery role <i>(continued)</i>	<ul style="list-style-type: none"> • api-iscsi-adapter-initiators-list-info • api-iscsi-adapter-list-info • api-iscsi-portal-list-info • api-iscsi-service-status • api-license-list-info (Data ONTAP 7.3.4 through Data ONTAP 8.1.x) • api-license-v2-list-info (Data ONTAP 8.2.x and later) • api-lun-get-vdisk-attributes • api-lun-list-info • api-lun-map-list-info • api-net-ifconfig-get • api-nfs-exportfs-list-rules • api-nfs-exportfs-list-rules-2 • api-nfs-status • api-qtree-list • api-quota-report • api-snapmirror-get-volume-status • api-snapshot-list-info • api-snmp-get • api-snmp-get-next • api-system-api-list • api-system-cli • api-system-get-info • api-system-get-ontapi-version • api-system-get-version • api-useradmin-user-list

Role	Privileges for Data ONTAP operating in 7-Mode
<p>Discovery role <i>(continued)</i></p>	<ul style="list-style-type: none"> • api-vfiler-get-status • api-vfiler-list-info • api-volume-autosize-get • api-volume-list-info-iter-end • api-volume-list-info-iter-next • api-volume-list-info-iter-start • api-volume-options-list-info • login-http-admin • security-api-vfiler • security-priv-diagnostic
<p>Create Clones role</p> <p>This role allows you to create virtual machine clones.</p> <p>To create this role, you must include the privileges listed in the previous role, and you must add the privileges listed here.</p>	<ul style="list-style-type: none"> • api-aggr-list-info • api-cf-get-partner • api-cf-status • api-clone-* • api-copyoffload-show (Data ONTAP 8.0.1 and later) • api-disk-list-info • api-ems-autosupport-log • api-fcp-adapter-initiators-list-info • api-fcp-adapter-list-info • api-fcp-get-cfmode • api-fcp-port-name-list-info • api-fcp-service-status • api-file-create-directory • api-file-delete-directory

Role	Privileges for Data ONTAP operating in 7-Mode
<p>Create Clones role <i>(continued)</i></p>	<ul style="list-style-type: none"> • api-file-delete-file • api-file-get-file-info • api-file-read-file • api-file-write-file • api-igroup-list-info • api-iscsi-adapter-initiators-list-info • api-iscsi-adapter-list-info • api-iscsi-connection-list-info • api-iscsi-portal-list-info • api-iscsi-service-status • api-iscsi-session-list-info • api-license-list-info (Data ONTAP 7.3.4 through Data ONTAP 8.1.x) • api-license-v2-list-info (Data ONTAP 8.2.x and later) • api-lun-get-geometry • api-lun-list-info • api-lun-map-list-info • api-nfs-exportfs-list-rules • api-nfs-exportfs-list-rules-2 • api-nfs-status • api-qtree-list • api-quota-report • api-raid-info-listdisk (Data ONTAP 7.3.4 through Data ONTAP 8.1.x) • api-raid-info-listplex (Data ONTAP 7.3.4 through Data ONTAP 8.1.x) • api-snapmirror-get-volume-status • api-snapshot-list-info

Role	Privileges for Data ONTAP operating in 7-Mode
Create Clones role <i>(continued)</i>	<ul style="list-style-type: none"> • api-snmp-get • api-snmp-get-next • api-system-cli • api-system-get-info • api-system-get-version • api-useradmin-domainuser-list • api-useradmin-group-list • api-useradmin-user-list • api-vfiler-list-info • api-volume-autosize-get • api-volume-list-info-iter-end • api-volume-list-info-iter-next • api-volume-list-info-iter-start • api-volume-options-list-info • cli-cifs • cli-df • cli-ifconfig • cli-mv • cli-ndmpcopy • cli-ndmpd • login-http-admin • security-api-vfiler • security-priv-diagnostic

Role	Privileges for Data ONTAP operating in 7-Mode
<p>Create Storage role</p> <p>This role allows you to create volumes and LUNs as well as to optimize and migrate storage.</p> <p>To create this role, you must include the privileges listed in the previous roles, and you must add the privileges listed here.</p> <p>Be aware that these privileges cannot fit in a single Data ONTAP role. They must be broken into two roles.</p>	<ul style="list-style-type: none"> • api-igroup-add • api-igroup-create • api-igroup-set-attribute • api-lun-create-by-size • api-lun-create-from-file • api-lun-initiator-list-map-info • api-lun-map • api-lun-move • api-lun-online • api-lun-set-comment • api-lun-unmap • api-nfs-exportfs-append-rules-2 • api-nfs-exportfs-load-exports • api-nfs-exportfs-modify-rule-2 • api-sis-enable • api-sis-start • api-sis-stop • api-snapmirror-break • api-snapmirror-delete-schedule

Role	Privileges for Data ONTAP operating in 7-Mode
<p>Create Storage role <i>(continued)</i></p>	<ul style="list-style-type: none"> • api-snapmirror-get-status • api-snapmirror-initialize • api-snapmirror-off • api-snapmirror-on • api-snapmirror-release • api-snapmirror-resync • api-snapmirror-set-schedule • api-snapmirror-update • api-snapshot-create • api-snapshot-set-reserve • api-vfiler-add-storage • api-volume-autosize-set • api-volume-clone-create • api-volume-create • api-volume-restrict • api-volume-set-option • cli-iscsi • cli-qtree • cli-vfiler
<p>Modify Storage role</p> <p>This role allows you to resize and duplicate storage.</p> <p>To create this role, you must include the privileges listed in the previous roles, and you must add the privileges listed here.</p> <p>Be aware, these privileges cannot fit in a single Data ONTAP role. They must be broken into two roles.</p>	<ul style="list-style-type: none"> • api-file-punch-hole (Data ONTAP 7.3.4 and later) • api-lun-resize • api-sis-disable • api-volume-size

Role	Privileges for Data ONTAP operating in 7-Mode
<p>Destroy Storage role</p> <p>This role allows you to destroy volumes and LUNs.</p> <p>To create this role, you must include the privileges listed in the previous roles, and you must add the privileges listed here.</p> <p>Be aware, these privileges cannot fit in a single Data ONTAP role. They must be broken into two roles.</p>	<ul style="list-style-type: none"> • api-lun-destroy • api-lun-offline • api-volume-destroy • api-volume-offline

Role	Privileges for Data ONTAP operating in 7-Mode
<p>Backup and Restore role</p> <p>This role allows you to back up and restore datastores and virtual machines.</p> <p>To create this role, you should also include the privileges from the discovery role.</p> <p>Be aware, these privileges cannot fit in a single Data ONTAP role. They must be broken into two roles.</p>	<ul style="list-style-type: none"> • api-ems-autosupport-log • api-fcp-adapter-initiators-list-info • api-fcp-node-get-name • api-file-service-status • api-file-create-directory • api-file-delete-file • api-file-list-directory-iter-end • api-file-list-directory-iter-next • api-file-list-directory-iter-start • api-igroup-add • api-igroup-create • api-igroup-destroy • api-igroup-list-info • api-igroup-set-attribute • api-iscsi-initiator-list-info • api-iscsi-node-get-name • api-iscsi-service-status • api-license-list-info (Data ONTAP 7.3.4 through Data ONTAP 8.1.x) • api-license-v2-list-info (Data ONTAP 8.2.x and later) • api-lun-create-from-snapshot • api-lun-destroy • api-lun-get-serial-number • api-lun-initiator-list-map-info • api-lun-list-info

Role	Privileges for Data ONTAP operating in 7-Mode
Backup and Restore role <i>(continued)</i>	<ul style="list-style-type: none"> • api-lun-map • api-lun-map-list-info • api-lun-online • api-lun-restore-status • api-lun-unmap • api-net-ifconfig-get • api-nfs-exportfs-append-rules-2 • api-nfs-exportfs-list-rules-2 • api-nfs-exportfs-modify-rule-2 • api-nfs-exportfs-storage-path • api-snapmirror-get-status • api-snapmirror-get-volume-status • api-snapmirror-list-destinations • api-snapmirror-update • api-snapshot-create • api-snapshot-delete • api-snapshot-list-info • api-snapshot-rename • api-snapshot-restore-file • api-snapshot-restore-volume • api-system-api-list • api-system-cli • api-system-get-info • api-system-get-version • api-vfiler-create • api-vfiler-list-info

Role	Privileges for Data ONTAP operating in 7-Mode
Backup and Restore role <i>(continued)</i>	<ul style="list-style-type: none"> • api-volume-clone-create • api-volume-destroy • api-volume-offline • cli-ifconfig • cli-snap • cli-system (Data ONTAP 8.1.2 and later) • login-http-admin • security-priv-diagnostic

Copyright information

Copyright © 1994–2015 NetApp, Inc. All rights reserved. Printed in the U.S.

No part of this document covered by copyright may be reproduced in any form or by any means—graphic, electronic, or mechanical, including photocopying, recording, taping, or storage in an electronic retrieval system—without prior written permission of the copyright owner.

Software derived from copyrighted NetApp material is subject to the following license and disclaimer:

THIS SOFTWARE IS PROVIDED BY NETAPP "AS IS" AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY DISCLAIMED. IN NO EVENT SHALL NETAPP BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

NetApp reserves the right to change any products described herein at any time, and without notice. NetApp assumes no responsibility or liability arising from the use of products described herein, except as expressly agreed to in writing by NetApp. The use or purchase of this product does not convey a license under any patent rights, trademark rights, or any other intellectual property rights of NetApp.

The product described in this manual may be protected by one or more U.S. patents, foreign patents, or pending applications.

RESTRICTED RIGHTS LEGEND: Use, duplication, or disclosure by the government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.277-7103 (October 1988) and FAR 52-227-19 (June 1987).

Trademark information

NetApp, the NetApp logo, Go Further, Faster, AltaVault, ASUP, AutoSupport, Campaign Express, Cloud ONTAP, Clustered Data ONTAP, Customer Fitness, Data ONTAP, DataMotion, Fitness, Flash Accel, Flash Cache, Flash Pool, FlashRay, FlexArray, FlexCache, FlexClone, FlexPod, FlexScale, FlexShare, FlexVol, FPolicy, GetSuccessful, LockVault, Manage ONTAP, Mars, MetroCluster, MultiStore, NetApp Insight, OnCommand, ONTAP, ONTAPI, RAID DP, RAID-TEC, SANtricity, SecureShare, Simplicity, Simulate ONTAP, Snap Creator, SnapCenter, SnapCopy, SnapDrive, SnapIntegrator, SnapLock, SnapManager, SnapMirror, SnapMover, SnapProtect, SnapRestore, Snapshot, SnapValidator, SnapVault, StorageGRID, Tech OnTap, Unbound Cloud, and WAFL and other names are trademarks or registered trademarks of NetApp, Inc., in the United States, and/or other countries. All other brands or products are trademarks or registered trademarks of their respective holders and should be treated as such. A current list of NetApp trademarks is available on the web at <http://www.netapp.com/us/legal/netapptmlist.aspx>.

How to send comments about documentation and receive update notifications

You can help us to improve the quality of our documentation by sending us your feedback. You can receive automatic notification when production-level (GA/FCS) documentation is initially released or important changes are made to existing production-level documents.

If you have suggestions for improving this document, send us your comments by email to doccomments@netapp.com. To help us direct your comments to the correct division, include in the subject line the product name, version, and operating system.

If you want to be notified automatically when production-level documentation is released or important changes are made to existing production-level documents, follow Twitter account @NetAppDoc.

You can also contact us in the following ways:

- NetApp, Inc., 495 East Java Drive, Sunnyvale, CA 94089 U.S.
- Telephone: +1 (408) 822-6000
- Fax: +1 (408) 822-4501
- Support telephone: +1 (888) 463-8277

Index

C

comments

how to send feedback about documentation [67](#)

D

Data ONTAP

Backup and Restore role privileges [42](#)

Backup and Restore role privileges for direct SVMs [45](#)

Create Clone role privileges [33](#)

Create Clone role privileges for direct SVMs [35](#)

Create Storage role privileges [36](#)

Create Storage role privileges for direct SVMs [38](#)

Destroy Storage role privileges [41](#)

Destroy Storage role privileges for direct SVMs [42](#)

Discovery role privileges [30](#)

Discovery role privileges for direct SVMs [32](#)

Modify Storage role privileges [41](#)

Modify Storage role privileges for direct SVMs [41](#)

privileges for RBAC roles when using 7-Mode [54](#)

recommended RBAC roles [30](#)

using security login commands to create RBAC roles [28](#)

using System Manager commands to create RBAC roles [52](#)

VASA Provider PBM role privileges [49](#)

documentation

how to receive automatic notification of changes to [67](#)

how to send feedback about [67](#)

recent updates [5](#)

F

feedback

how to send comments about documentation [67](#)

I

information

how to send feedback about improving documentation [67](#)

O

OnCommand System Manager

See System Manager

R

RBAC

clustered Data ONTAP Backup and Restore role privileges for direct SVMs [45](#)

clustered Data ONTAP Create Clone role privileges [33](#)

clustered Data ONTAP Create Clone role privileges with direct SVMs [35](#)

clustered Data ONTAP Create Storage role

privileges for direct SVMs [38](#)

clustered Data ONTAP with direct SVMs Discovery role privileges [32](#)

creating a Data ONTAP RBAC role [28](#)

creating a vCenter Server role [9](#)

creating an RBAC role for Data ONTAP operating in 7-Mode [52](#)

Data ONTAP [8, 26](#)

Data ONTAP Backup and Restore role privileges [42](#)

Data ONTAP Create Storage role privileges [36](#)

Data ONTAP Destroy Storage role privileges [41](#)

Data ONTAP Destroy Storage role privileges for direct SVMs [42](#)

Data ONTAP Discovery role privileges [30](#)

Data ONTAP Modify Storage role privileges [41](#)

Data ONTAP Modify Storage role privileges for direct SVMs [41](#)

Data ONTAP roles [30](#)

Data ONTAP VASA Provider PBM role privileges [49](#)

example of subroles [26](#)

privileges for Data ONTAP using 7-Mode roles [54](#)

updates to clustered Data ONTAP Backup and Restore role privileges for direct SVMs [5](#)

vCenter Server [8, 9](#)

VSC Administrator role privileges [12](#)

VSC Backup role privileges [23](#)

VSC Clone role privileges [19](#)

VSC Provision role privileges [18](#)

VSC Read-only role privileges [17](#)

VSC Restore role privileges [23](#)

VSC roles [12](#)

VSC Scan/Migrate role privileges [22](#)

working with VSC standard roles [9](#)

RBAC User Creator for Data ONTAP

configuring RBAC roles [26](#)

role-based access control

See RBAC

roles

clustered Data ONTAP Backup and Restore role privileges for direct SVMs [45](#)

clustered Data ONTAP Create Clone role privileges [33](#)

clustered Data ONTAP Create Storage role

privileges for direct SVMs [38](#)

clustered Data ONTAP with direct SVMs Create

Clone role privileges [35](#)

clustered Data ONTAP with direct SVMs Discovery role privileges [32](#)

Data ONTAP Backup and Restore role privileges [42](#)

Data ONTAP Create Storage role privileges [36](#)

Data ONTAP Destroy Storage role privileges [41](#)

Data ONTAP Destroy Storage role privileges for direct SVMs [42](#)

Data ONTAP Discovery role privileges [30](#)

Data ONTAP Modify Storage role privileges [41](#)

- Data ONTAP Modify Storage role privileges for direct SVMs [41](#)
- Data ONTAP PBM role privileges [49](#)
- Data ONTAP roles [30](#)
- example of subroles [26](#)
- privileges for Data ONTAP using 7-Mode roles [54](#)
- VSC Administrator role privileges [12](#)
- VSC Backup role privileges [23](#)
- VSC Clone role privileges [19](#)
- VSC Provision role privileges [18](#)
- VSC Read-only role privileges [17](#)
- VSC Restore role privileges [23](#)
- VSC Scan/Migrate role privileges [22](#)
- VSC standard roles [12](#)

S

- Storage Distributed Resource Scheduler
 - See* SDRS
- suggestions
 - how to send feedback about documentation [67](#)

T

- twitter
 - how to receive automatic notification of documentation changes [67](#)

V

- VASA Provider
 - Data ONTAP PBM role privileges [49](#)
- vCenter Server
 - creating a VSC role [9](#)
- VSC
 - clustered Data ONTAP Backup and Restore role privileges for direct SVMs [45](#)

- clustered Data ONTAP Create Clone role privileges [33](#)
- clustered Data ONTAP Create Clone role privileges with direct SVMs [35](#)
- clustered Data ONTAP Create Storage role privileges for direct SVMs [38](#)
- clustered Data ONTAP with direct SVMs Discovery role privileges [32](#)
- creating a vCenter Server role [9](#)
- Data ONTAP Backup and Restore role privileges [42](#)
- Data ONTAP Create Storage role privileges [36](#)
- Data ONTAP Destroy Storage role privileges [41](#)
- Data ONTAP Destroy Storage role privileges for direct SVMs [42](#)
- Data ONTAP Discovery role privileges [30](#)
- Data ONTAP Modify Storage role privileges [41](#)
- Data ONTAP Modify Storage role privileges for direct SVMs [41](#)
- Data ONTAP PBM role privileges [49](#)
- Data ONTAP RBAC [26](#)
- Data ONTAP roles [30](#)
- example of subroles [26](#)
- privileges for Data ONTAP using 7-Mode roles [54](#)
- standard roles [9](#), [12](#)
- support for Data ONTAP RBAC [8](#)
- support for vCenter Server RBAC [8](#)
- vCenter Server RBAC roles [9](#)
- VSC Administrator role privileges [12](#)
- VSC Backup role privileges [23](#)
- VSC Clone role privileges [19](#)
- VSC Provision role privileges [18](#)
- VSC Read-only role privileges [17](#)
- VSC Restore role privileges [23](#)
- VSC Scan/Migrate role privileges [22](#)

- Vservers
 - See* SVMs