



# **application commands**

## **ONTAP 9.3 commands**

NetApp  
September 27, 2022

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# application commands

## application create

(DEPRECATED)-Create an application

**Availability:** This command is available to *cluster* and *Vserver* administrators at the *advanced* privilege level.

### Description



This command is deprecated and may be removed in a future release of Data ONTAP.

This command creates an application from an application template. It provisions storage for the application and optionally performs additional configuration.

### Parameters

**-vserver <vserver name> - Vserver**

The Vserver in which the application is created.

**-application <text> - Application**

The name for the application to create.

**-application-template <text> - Application Template**

The application template upon which to base creation of the application.

**[-parameters <key-value-pair>,...] - Application Template Customization Parameters**

A comma separated list of parameter names and their values to customize the application template for the desired application. The specific parameters which may be used to customize an application vary depending on the specified application template.

For each template, there are both required and optional parameters. Attempting to execute the command without a required parameter will result in failure and a message identifying the missing parameter. Command line tab-completion provides lists of parameters and descriptions of the syntax required to specify the parameter values.

A parameter and its value is specified as: *parameter-name:parameter-value*. Multiple parameters are specified by separating them with a comma as: *parameter1-name:parameter1-value,parameter2-name:parameter2-value*. The correct syntax for specifying a parameter value depends on the type of the parameter.

Some parameters must be specified for multiple instances of the same type of object. These are specified using a zero-based array index to identify each unique object. These types of objects have sub-parameters that provide values for specific attributes of each object. A sub-parameter and its value for the Nth instance of an object is specified as: *object-type[n].sub-parameter-name:sub-parameter-value*.

**[-foreground {true|false}] - Execute in the Foreground**

A boolean value that determines if the application creation executes synchronously at the command prompt in the foreground or asynchronously in the background. If this parameter is not supplied, it defaults to true and the application creation is executed synchronously at the command prompt.

## Examples

The following command creates application *app1* in Vserver *vs1* based on the *SAN* application template with 5 LUNs totaling *200 GB* in size and maps the new application LUNs to initiator group *ig1*.

```
cluster1::> application create -vserver vs1 -application app1 -application
-template SAN -parameters os-type:linux,application-
components[0].name:data,application-components[0].total-
size:200GB,application-components[0].lun-count:5,application-
components[0].igroup-name:ig1
```

## application delete

Delete an application

**Availability:** This command is available to *cluster* and *Vserver* administrators at the *advanced* privilege level.

### Description

This command deletes an application.

### Parameters

**-vserver <vserver name> - Vserver**

The Vserver from which to delete the application.

**-application <text> - Application**

The name of the application to delete.

**[-foreground {true|false}] - Execute in the Foreground**

A boolean value that determines if the application deletion executes synchronously at the command prompt in the foreground or asynchronously in the background. If this parameter is not supplied, it defaults to true and the application deletion is executed synchronously at the command prompt.

## Examples

The following command deletes application *app1* from Vserver *vs1*.

```
cluster1::> application delete -vserver vs1 -application app1
```

## application modify

(DEPRECATED)-Modify properties of an application

**Availability:** This command is available to *cluster* and *Vserver* administrators at the *advanced* privilege level.

## Description

This command modifies properties of an application. The user must specify the names of one or more existing application components of an existing application and properties to apply to those application components. The command fails and the application remains in its initial state unless all of the application components can be modified at once.

## Parameters

### **-vserver <vserver name> - Vserver**

The Vserver hosting the application.

### **-application <text> - Application**

The name of the application to modify.

### **-application-components <Application Component>,... - Application Components**

A list of application component names to modify.

### **[-storage-service <text>] - Storage Service**

The new storage service to use for the listed application components. The [storage-service show](#) command displays the available storage services.

If the current aggregates hosting the application components can accommodate the requested storage service, the application components are modified to use the new storage service.

If the current aggregates hosting the application components cannot accommodate the requested storage service, the command fails and all the specified application components continue with their existing storage services.

Modifying the storage service of application components results in modifying the associated QoS policies to reflect the new storage service. The contents of the application components continue to remain on the same storage elements.

### **[-foreground {true|false}] - Execute in the Foreground**

A boolean value that determines if the application modification executes synchronously at the command prompt in the foreground or asynchronously in the background. If this parameter is not supplied, it defaults to true and the application modification is executed synchronously at the command prompt.

## Examples

The following command modifies application *app1* in Vserver *vs1* based on the *BasicModify* application template. Application components *component1* and *component2* are modified to use the *extreme* storage service.

```
cluster1::> application modify -vserver vs1 -application app1 -application
-components component1,component2 -storage-service extreme
```

## Related Links

- [storage-service show](#)

# application show-detail

Display application details

**Availability:** This command is available to *cluster* and *Vserver* administrators at the *admin* privilege level.

## Description

This command displays storage and protocol elements of applications.

## Parameters

**{ [-fields <fieldname>,...]**

Specifies fields that you want included in the output. You can use `-fields ?` to display the available fields.

**| [-instance ] }**

Specifies the display of all available fields for each selected application.

**[-vserver <vserver name>] - Vserver**

Selects elements of applications belonging to Vservers that match the parameter value.

**[-application <text>] - Application**

Selects elements of applications with an application name that matches the parameter value.

**[-element-type {lun|lun-clone|nas|igroup}] - Type of Object**

Selects application elements with type that matches the parameter value. Possible values are *lun* for application provisioned LUNs on SAN applications, *lun-clone* for auxiliary LUNs in SAN applications, *igroup* for protocol elements in SAN applications and *nas* for application provisioned storage and protocol information in NAS applications.

**[-application-component <text>] - Application Component**

Selects application elements which belong to the application component that matches the parameter value. Only application provisioned storage elements of type *lun*, *nas* can belong to application components.

**[-element-name <text>] - Name of Object**

Selects application elements with an element name that matches the parameter value.

**[-application-template <text>] - Application Template**

Selects application elements that belong to applications with templates that match the parameter value.

**[-application-template-version <integer>] - Application Template Version**

Selects application elements that belong to applications with template version that match the parameter value.

**[-application-uuid <UUID>] - Application UUID**

Selects application elements that belong to applications whose UUID matches the parameter value.

**[-application-component-uuid <UUID>] - Application Component UUID**

Selects application elements which belong to the application component whose UUID that matches the

parameter value.

**[-application-component-storage-service <text>] - Storage Service**

Selects application elements which belong to the application component with a storage service that matches the parameter value.

**[-nas-element-path <junction path>] - Volume Path**

Selects application elements with a NAS element path that matches the parameter value. This field is valid only for elements of type *nas*.

**[-nas-element-size {<integer>[KB|MB|GB|TB|PB]}] - Volume Size**

Selects application elements with NAS element size that matches the parameter value. This field is valid only for elements of type *nas*.

**[-cifs-share-name <Share>] - CIFS Share Name**

Selects application elements with a CIFS share that matches the parameter value. This field is valid only for elements of type *nas*.

**[-cifs-server-fqdn <text>] - CIFS Server Name**

Selects application elements with a CIFS Server that matches the parameter value. This field is valid for only elements of type *nas*.

**[-cifs-permissions <text>,...] - CIFS User Permissions**

Selects application elements with CIFS Permissions that matches the parameter value. This field is valid for only elements of type *nas*.

**[-cifs-access-ips <IP Address>,...] - Recommended LIFs for CIFS**

Selects application elements with CIFS LIFs that matches the parameter value. This field is valid for only elements of type *nas*. The CIFS access IPs are recommended LIFs for CIFS access. If LIFs local to the volume are available, then these are recommended. If not, two remote LIFs are returned. Data can be accessed over other available LIFs but that is not recommended.

**[-nfs-export-policy-name <export policy name>] - Export Policy Name**

Selects application elements with an export policy name that matches the parameter value. This field is valid for only elements of type *nas*.

**[-nfs-permissions <text>,...] - NFS Permissions**

Selects application elements with NFS permissions that matches the parameter value. This field is valid for only elements of type *nas*.

**[-nfs-access-ips <IP Address>,...] - Recommended LIFs for NFS**

Selects application elements with NFS LIFs that matches the parameter value. This field is valid for only elements of type *nas*. The NFS access IPs are recommended LIFs for NFS access. If LIFs local to the volume are available, then these are recommended. If not, two remote LIFs are returned. Data can be accessed over other available LIFs but that is not recommended.

**[-lun <text>] - LUN Name**

Selects application elements with a LUN name that matches the parameter value. This field is valid for only elements of type *lun* and *lun-clone*.

**[`-lun-path <path>`] - LUN Path**

Selects application elements with LUN path that matches the parameter value. This field is valid for only elements of type *lun* and *lun-clone*.

**[`-serial <text>`] - LUN Serial**

Selects application elements with a LUN serial number that matches the parameter value. This field is valid for only elements of type *lun* and *lun-clone*.

**[`-lun-ids <integer>,...`] - LUN IDs**

Selects application elements with LUN IDs that match the parameter value. This field is valid for only elements of type *lun* and *lun-clone*.

**[`-size {<integer>[KB|MB|GB|TB|PB]}`] - Element Size**

Selects application elements with a LUN size that matches the parameter value. This field is valid for only elements of type *lun* and *lun-clone*.

**[`-igroups <text>,...`] - Igroups**

Selects application elements mapped to igroups with names that match the parameter value. This field is valid for only elements of type *lun* and *lun-clone*.

**[`-initiator <text>,...`] - Initiators**

Selects application elements mapped to initiators that matches the parameter value. This field is valid for only elements of type *igroup*.

**[`-is-protection-supported {true|false}`] - Is Protection Supported**

Selects applications with is-protection-supported flag that matches the parameter value. The is-protection-supported flag indicates if any type of protection is supported for the application.

**[`-is-protected {true|false}`] - Is Application Protected**

Selects applications with is-protected flag that matches the parameter value. The is-protected flag indicates if any type of protection is enabled for the application.

**[`-local-RPO <text>`] - Local RPO**

Selects applications with local-RPO that matches the parameter value.

**[`-local-RPO-description <text>`] - Local RPO description**

Selects applications with local-RPO-descriptions that match the parameter value. The local RPO description provides details about the local RPO associated with the application.

**[`-remote-RPO <text>`] - Remote RPO**

Selects applications with remote-RPO that matches the parameter value.

**[`-remote-RPO-description <text>`] - Remote RPO description**

Selects applications with remote-RPO-descriptions that match the parameter value. The remote RPO description provides details about the remote RPO associated with the application.

## Examples

```
cluster1::> application show-detail -vserver vs0
```



```
rupancluster-1::*> application show-detail
```

```
=====
===
```

```
      Vserver: vs0
      Application: my_nas_app
      Application Template: NAS
```

```
=====
===
```

```
NAS Storage Element
```

```
-----
      Component: data
      Storage Service: value
      Element: my_nas_app_data_1
      Path: /my_nas_app_data_1
      Size: 30MB
      CIFS Share: my_nas_app_data_1
      CIFS Server: KTCIFS.
      CIFS User Permissions: Everyone / Read
      CIFS LIFs: 10.10.10.20
      Export Policy: my_nas_app
      NFS Permissions: 0.0.0.0/0 / ro
      NFS LIFs: 10.10.10.20
```

```
=====
===
```

```
      Vserver: vs0
      Application: my_san_app
      Application Template: SAN
```

```
=====
===
```

```
SAN Storage Element
```

```
-----
      Component: data_group1
      Storage Service: value
      Element: data_group1_1
      Path: /vol/my_san_app_data_group1_1/data_group1_1
      Serial Number: w89ST?JTeR7V
      Size: 60MB
      Igroups: igroup1
      LUN IDs: 0
```

```
SAN Storage Element
```

```
-----
      Component: data_group1
      Storage Service: value
      Element: data_group1_2
      Path: /vol/my_san_app_data_group1_1/data_group1_2
```

Serial Number: w89ST?JTeR7W

Size: 60MB

Igroups: igroup1

LUN IDs: 1

SAN Storage Element

-----

Component: data\_group1

Storage Service: value

Element: data\_group1\_3

Path: /vol/my\_san\_app\_data\_group1\_1/data\_group1\_3

Serial Number: w89ST?JTeR7X

Size: 60MB

Igroups: igroup1

LUN IDs: 2

SAN Storage Element

-----

Component: data\_group1

Storage Service: value

Element: data\_group1\_4

Path: /vol/my\_san\_app\_data\_group1\_1/data\_group1\_4

Serial Number: w89ST?JTeR7Y

Size: 60MB

Igroups: igroup1

LUN IDs: 3

SAN Storage Element

-----

Component: redolog\_group1

Storage Service: value

Element: redolog\_group1\_1

Path:

/vol/my\_san\_app\_redolog\_group1\_1/redolog\_group1\_1

Serial Number: w89ST?JTeR7Z

Size: 120MB

Igroups: igroup2

LUN IDs: 0

SAN Storage Element

-----

Component: redolog\_group1

Storage Service: value

Element: redolog\_group1\_2

Path:

/vol/my\_san\_app\_redolog\_group1\_1/redolog\_group1\_2

Serial Number: w89ST?JTeR7/

Size: 120MB

Igroups: igroup2

LUN IDs: 1

Auxiliary LUN

```
-----  
Element: redolog_group1_2_clone  
Path:  
/vol/my_san_app_redolog_group1_1/redolog_group1_2_clone  
Serial Number: w89ST?JTeR7a  
Size: 120MB  
SAN Protocol Info  
-----  
Igroup: igroup1  
Initiators: iqn.1995-08.com.example3, iqn.1995-  
08.com.example4  
SAN Protocol Info  
-----  
Igroup: igroup2  
Initiators: iqn.1995-08.com.example1, iqn.1995-  
08.com.example2  
10 entries were displayed.
```

The above example displays the details of all applications in Vserver vs0.

```
cluster1: : > application show-detail -vserver vs0 -application my_san_app  
Vserver: vs0  
Application: my_san_app  
Application Template: SAN  
SAN Storage Element  
-----  
Component: data_group1  
Storage Service: value  
Element: data_group1_1  
Path: /vol/my_san_app_data_group1_1/data_group1_1  
Serial Number: w89ST?JTeR7V  
Size: 60MB  
Igroups: igroup1, igroup2  
LUN IDs: 0, 0  
SAN Storage Element  
-----  
Component: data_group1  
Storage Service: value  
Element: data_group1_2  
Path: /vol/my_san_app_data_group1_1/data_group1_2  
Serial Number: w89ST?JTeR7W  
Size: 60MB  
Igroups: igroup1, igroup2  
LUN IDs: 1, 1
```

SAN Storage Element

```
-----  
Component: data_group1  
Storage Service: value  
Element: data_group1_3  
Path: /vol/my_san_app_data_group1_1/data_group1_3  
Serial Number: w89ST?JTeR7X  
Size: 60MB  
Igroups: igroup1, igroup2  
LUN IDs: 2, 2
```

SAN Storage Element

```
-----  
Component: data_group1  
Storage Service: value  
Element: data_group1_4  
Path: /vol/my_san_app_data_group1_1/data_group1_4  
Serial Number: w89ST?JTeR7Y  
Size: 60MB  
Igroups: igroup1, igroup2  
LUN IDs: 3, 3
```

SAN Storage Element

```
-----  
Component: redolog_group1  
Storage Service: value  
Element: redolog_group1_1  
Path:  
/vol/my_san_app_redolog_group1_1/redolog_group1_1  
Serial Number: w89ST?JTeR7Z  
Size: 120MB  
Igroups: igroup2  
LUN IDs: 0
```

SAN Storage Element

```
-----  
Component: redolog_group1  
Storage Service: value  
Element: redolog_group1_2  
Path:  
/vol/my_san_app_redolog_group1_1/redolog_group1_2  
Serial Number: w89ST?JTeR7  
Size: 120MB  
Igroups: igroup2  
LUN IDs: 1
```

Auxiliary LUN

```
-----  
Element: redolog_group1_2_clone  
Path:
```

```

/vol/my_san_app_redolog_group1_1/redolog_group1_2_clone
    Serial Number: w89ST?JTeR7a
        Size: 120MB
SAN Protocol Info
-----
    Igroup: igroup1
    Initiators: iqn.1995-08.com.example3, iqn.1995-
08.com.example4
SAN Protocol Info
-----
    Igroup: igroup2
    Initiators: iqn.1995-08.com.example1, iqn.1995-
08.com.example2
9 entries were displayed.

```

The above example displays the details of application my\_san\_app in Vserver vs0.

```

cluster1: : > application show-detail -vserver vs0 -application my_san_app
-application-component data_group1
    Vserver: vs0
    Application: my_san_app
    Application Template: SAN
SAN Storage Element
-----
    Component: data_group1
    Storage Service: value
    Element: data_group1_1
    Path: /vol/my_san_app_data_group1_1/data_group1_1
    Serial Number: w89ST?JTeR7V
    Size: 60MB
    Igroups: igroup1
    LUN IDs: 0
SAN Storage Element
-----
    Component: data_group1
    Storage Service: value
    Element: data_group1_2
    Path: /vol/my_san_app_data_group1_1/data_group1_2
    Serial Number: w89ST?JTeR7W
    Size: 60MB
    Igroups: igroup1
    LUN IDs: 1
SAN Storage Element
-----
    Component: data_group1

```

```

Storage Service: value
  Element: data_group1_3
    Path: /vol/my_san_app_data_group1_1/data_group1_3
  Serial Number: w89ST?JTeR7X
    Size: 60MB
  Igroups: igroup1
  LUN IDs: 2
SAN Storage Element
-----
  Component: data_group1
Storage Service: value
  Element: data_group1_4
    Path: /vol/my_san_app_data_group1_1/data_group1_4
  Serial Number: w89ST?JTeR7Y
    Size: 60MB
  Igroups: igroup1
  LUN IDs: 3

4 entries were displayed.

```

The above example displays the details elements belonging to application-component `data_group1` in application `my_san_app` in Vserver `vs0`.

## application show-statistics

Display application statistics

**Availability:** This command is available to *cluster* and *Vserver* administrators at the *admin* privilege level.

### Description

This command displays dynamic application statistics.

### Parameters

**{ [-fields <fieldname>,...]**

Specifies fields that you want included in the output. You can use `-fields ?` to display the available fields.

**| [-instance ] }**

Specifies the display of all available fields for each selected application.

**[-vserver <vserver name>] - Vserver**

Selects applications belonging to Vservers that match the parameter value.

**[-application <text>] - Application**

Selects applications with names that match the parameter value.

**[-application-component <text>] - Application Component**

Selects application components with names that match the parameter value.

**[-application-uuid <UUID>] - Application UUID**

Selects applications with the unique identifier that match the parameter value.

**[-application-component-uuid <UUID>] - Application Component UUID**

Selects application components with the unique identifier that match the parameter value.

**[-storage-service <text>] - Storage Service**

Selects application components with storage services that match the parameter value.

This is the storage service chosen for the application component.

**[-space-provisioned {<integer>[KB|MB|GB|TB|PB]}] - Provisioned Space**

Selects applications with space provisioned that matches the parameter value.

This is the maximum space that can be consumed. In some cases, the provisioned space can be capped by the space available in the aggregate.

**[-space-used {<integer>[KB|MB|GB|TB|PB]}] - Used Space**

Selects applications with space used that matches the parameter value.

This is the space that would be actively used by the application or application component.

**[-space-used-excluding-reserves {<integer>[KB|MB|GB|TB|PB]}] - Used Space Excluding Reserves**

Selects applications with space used excluding reserves that matches the parameter value.

This is the space actively used excluding any space used from reserves.

**[-space-logical-used {<integer>[KB|MB|GB|TB|PB]}] - Logical Used Space**

Selects applications with logical space used that matches the parameter value.

This is the space actively used if there were no space efficiency technologies being employed.

**[-space-reserved-unused {<integer>[KB|MB|GB|TB|PB]}] - Unused Reserved Space**

Selects applications with unused reserved space that matches the parameter value.

This is the space that has been reserved but not used yet. It is not available to the user.

**[-space-available {<integer>[KB|MB|GB|TB|PB]}] - Available Space**

Selects applications with available space that matches the parameter value.

This is the space available to the user for any new writes. It does not include space already reserved for use earlier.

**[-space-savings {<integer>[KB|MB|GB|TB|PB]}] - Saved Space**

Selects applications with space savings that match the parameter value.

This is the space saved by using space efficiency technologies.

### **[-iops-per-tb <integer>] - IOPs Per TB**

Selects applications with the number of total operations per TB that match the parameter value.

This is the cumulative total of input and output operations divided by the *space-logical-used*.

### **[-iops <integer>] - Total IOPs**

Selects applications with the number of total operations that match the parameter value.

This is the cumulative total of input and output operations for the application.

### **[-snapshot-reserve {<integer>[KB|MB|GB|TB|PB]}] - Snapshot Reserve**

Selects applications with the Snapshot reserve that matches the parameter value.

This is the space reserved exclusively for Snapshot usage. If Snapshot copies use more space than reserved, they will start to use *space-available*.

### **[-snapshot-used {<integer>[KB|MB|GB|TB|PB]}] - Snapshot Space Used**

Selects applications with the space used for Snapshot copies that match the parameter value.

This is the total space used by Snapshot copies.

## **Examples**

```
cluster1::> application show-statistics
      Application  Storage  Provisioned  Used
Vserver Application Component  Service  Space      Space
IOPS
-----
vs1      app1
      -          -          213.8GB     2.39GB
353
      sg1        value*    166.2GB     1.81GB
75
      sg2        performance 47.50GB     59.2MB
278
      app2
      -          -          95GB        48.07GB
2872
      sg3        extreme   95GB        48.07GB
2872
5 entries were displayed.
```

The above example displays all applications in the cluster. The storage service "value" is appended with an asterisk (\*) to indicate some volumes are inaccessible to the application component, resulting in inaccurate statistics. The volumes might be offline. When this occurs, the hidden *stats-incomplete* flag is also set.



# application show-template

Show the available application templates

**Availability:** This command is available to *cluster* administrators at the *advanced* privilege level.

## Description

This command displays information about the application templates that can be used to provision applications.

## Parameters

**{ [-fields <fieldname>,...]**

If you specify the `-fields <fieldname>, ...` parameter, the command output also includes the specified field or fields. You can use `'-fields ?'` to display the fields to specify.

**| [-instance ] }**

If you specify the `-instance` parameter, the command displays detailed information about all fields.

**[-name <text>] - Template Name**

Selects application templates that match the parameter value.

**[-purpose {create|modify}] - Purpose**

Selects application templates with a purpose that match the parameter value. The purpose of an application template indicates with application commands with which it can be used.

**[-protocol {SAN|NAS}] - Access Protocol**

Selects application templates with a protocol that match the parameter value. An application provides resources that are accessed through the protocol.

**[-description <text>] - Description**

Selects application templates with a description that match the parameter value.

**[-missing-prerequisites <text>] - Missing Prerequisites**

Selects application templates with missing prerequisites that match the parameter value. Missing prerequisites need to be met before the application template can be used to provision an application.

## Examples

```

cluster1::*> application show-template
                Access
Template Name   Protocol Purpose Description
-----
BasicModify    -          modify  Modify an application.
NAS            NAS        create  A generic NAS application.
OracleOnNFS    NAS        create  Oracle using NFS.
OracleOnSAN    SAN        create  Oracle using SAN.
OracleRACOnNFS NAS        create  Oracle RAC using NFS.
OracleRACOnSAN SAN        create  Oracle RAC using SAN.
SAN            SAN        create  A generic SAN application.
VSIOnNAS       NAS        create  A VSI application using NAS.
VSIOnSAN       SAN        create  A VSI application using SAN.
9 entries were displayed.

```

## application show

Display applications

**Availability:** This command is available to *cluster* and *Vserver* administrators at the *admin* privilege level.

### Description

This command displays applications. An application groups storage objects to perform application-granular operations.

### Parameters

**{ [-fields <fieldname>,...]**

Specifies fields that you want included in the output. You can use `-fields ?` to display the available fields.

**| [-instance ] }**

Specifies the display of all available fields for each selected application.

**[-vserver <vserver name>] - Vserver**

Selects applications belonging to Vservers that match the parameter value.

**[-application <text>] - Application**

Selects applications with names that match the parameter value.

### Examples

```
cluster1::> application show
Vserver   Application
-----
vs1       app1
          app2
          app3
          app4
4 entries were displayed.
```

The example above displays all applications in the cluster.

## application provisioning commands

### application provisioning revert-volume-qos

Convert the adaptive QoS policy to a traditional QoS policy

**Availability:** This command is available to *cluster* administrators at the *advanced* privilege level.

#### Description

This command prepares application volumes for a revert to the previous version of Data ONTAP. It converts adaptive QoS policies associated with application volumes to traditional QoS policies.

#### Parameters

**-vserver <vserver name> - Vserver Name**

The Vserver of the volume whose QoS policy is to be converted.

**-volume <volume name> - Volume Name**

The volume whose QoS policy is to be converted.

#### Examples

The following command reverts the adaptive QoS policy on volume *app1\_group1\_1* in Vserver *vs1* to a traditional QoS policy:

```
cluster1::*> application provisioning revert-volume-qos -vserver vs1
-volume app1_group1_1
```

### application provisioning config modify

Modify options for application provisioning

**Availability:** This command is available to *cluster* administrators at the *advanced* privilege level.

## Description

This command modifies the options for application provisioning operations.

## Parameters

### **[`-is-mixed-storage-services-allowed` {`true`|`false`}] - Is Mixed Storage Services Allowed**

Specifies whether mixed cost storage services are allowed for provisioning placement. If the value of this parameter is *false*, only the aggregates closest to the performance requirements of the storage service are used. If the value of this parameter is *true*, all aggregates with sufficient performance are considered. The initial value for option is *false*.

## Examples

```
cluster1::*> application provisioning config modify -is-mixed-storage
-services-allowed true
```

Enables the use of mixed storage services for provisioning placement.

## application provisioning config show

Display options for application provisioning

**Availability:** This command is available to *cluster* administrators at the *advanced* privilege level.

## Description

This command displays options for application provisioning.

## Examples

```
cluster1::*> application provisioning config show
Is Mixed Storage Services Allowed: false
```

## application snapshot commands

### application snapshot create

Create a snapshot for an application or protection group.

**Availability:** This command is available to *cluster* and *Vserver* administrators at the *admin* privilege level.

## Description

This command creates a Snapshot copy of a specified protection-group in a given application. Every application instance also acts as a protection-group and can be treated as one.

## Parameters

### **-vserver <vserver name> - Vserver**

This specifies the Vserver that contains the application on which the snapshot is to be created.

### **-application <text> - Application**

This specifies the name of the application where a Snapshot is to be created.

### **[-protection-group <text>] - Protection Group**

This specifies the name of the protection-group where a Snapshot is to be created. This field is optional, and if not specified, the application itself will be treated as the protection-group.

### **-snapshot <snapshot name> - Snapshot**

This specifies the name of the Snapshot that is to be created.

### **[-snapshot-consistency-type {crash|application}] - Snapshot Consistency Type**

This specifies whether the snapshot being created is application consistent or crash consistent.

### **[-comment <text>] - Comment**

This specifies a comment to be added to a Snapshot copy at the time of creation.

## Examples

The following example creates a Snapshot named snap1 on a application named myapp1 on a vserver named vs of a protection-group called myapp1.

```
cluster1::> application snapshot create -vserver vs -application myapp1
-protection-group myapp1 -snapshot snap1
```

## application snapshot delete

Delete a snapshot belonging to an application or protection group.

**Availability:** This command is available to *cluster* and *Vserver* administrators at the *admin* privilege level.

### Description

This command deletes a Snapshot that belongs to a specified protection-group in a given application. Every application instance also acts as a protection-group and can be treated as one.

## Parameters

### **-vserver <vserver name> - Vserver**

This specifies the Vserver that contains the application on which the snapshot is to be deleted.

### **-application <text> - Application**

This specifies the name of the application from which a Snapshot is to be deleted.

### **[-protection-group <text>] - Protection Group**

This specifies the name of the protection-group where a Snapshot is to be deleted. This field is optional, and if not specified, the application itself will be treated as the protection-group.

### **-snapshot <snapshot name> - Snapshot**

This specifies the name of the Snapshot that is to be deleted.

### **[-force <>true>] - Force Delete**

If this parameter is specified, the Snapshot copy is immediately deleted without generating any confirmation messages. Otherwise the operation generates confirmation messages.

## **Examples**

The following example deletes a Snapshot named snap1 on a application named myapp1 on a vserver named vs of a protection-group called myapp1.

```
cluster1::> application snapshot delete -vserver vs -application myapp1
-protection-group myapp1 -snapshot snap1
```

## **application snapshot restore**

Restore an application or protection group to a snapshot.

**Availability:** This command is available to *cluster* and *Vserver* administrators at the *admin* privilege level.

### **Description**

This command restores a Snapshot that belongs to a specified protection-group in a given application. Every application instance also acts as a protection-group and can be treated as one.

### **Parameters**

#### **-vserver <vserver name> - Vserver**

This specifies the Vserver that contains the application on which the Snapshot is to be restored.

#### **-application <text> - Application**

This specifies the name of the application that we want to restore from a Snapshot.

### **[-protection-group <text>] - Protection Group**

This specifies the name of the protection-group where a Snapshot is to be restored. This field is optional, and if not specified, the application itself will be treated as the protection-group.

### **-snapshot <snapshot name> - Snapshot**

This specifies the name of the Snapshot that is to be restored.

## **Examples**

The following example restores a Snapshot named snap1 on a application named myapp1 on a vserver named vs of a protection-group called myapp1.

```
cluster1::> application snapshot restore -vserver vs -application myappl
-protection-group myappl -snapshot snap1
```

## application snapshot show

Display a list of snapshots in an application or protection group.

**Availability:** This command is available to *cluster* and *Vserver* administrators at the *admin* privilege level.

### Description

This command displays snapshots in a given application or protection-group.

### Parameters

**{ [-fields <fieldname>,...]**

Specifies fields that you want included in the output. You can use `-fields ?` to display the available fields.

**| [-instance ] }**

Specifies the display of all available fields for each selected application.

**[-vserver <vserver name>] - Vserver**

Selects snapshots belonging to vservers that match the parameter value.

**[-application <text>] - Application**

Selects snapshots with application names that match the parameter value.

**[-protection-group <text>] - Protection Group**

Selects snapshots with protection-groups that match the parameter value.

**[-snapshot <snapshot name>] - Snapshot**

Selects snapshots with names that match the parameter value.

**[-create-time <Date>] - Creation Time**

Selects snapshots with creation times that match the parameter value.

**[-protection-group-uuid <UUID>] - Protection Group UUID**

Selects applications with protection-group unique identifiers that match the parameter value.

**[-application-uuid <UUID>] - Application UUID**

Selects snapshots with application unique identifiers that match the parameter value.

**[-snapshot-consistency-type {crash|application}] - Snapshot Consistency Type**

Selects snapshots with snapshot types that match the parameter value. The type field is used to differentiate between application consistent and crash consistent snapshots.

**[-comment <text>] - Comment**

Selects snapshots with comments that match the parameter value.

## **[*-is-partial* {true|false}] - Partial Snapshot**

Selects snapshots with partial attributes that match the parameter value. The *is-partial* field is used to identify if a snapshot does not exist on all application components. A partial snapshot is still a valid snapshot. It does not exist on all application components because application components were added after the snapshot was created.

### **Examples**

```
cluster1::> application snapshot show
Vserver: vs
Application: myappl
Protection Group: myappl
Snapshot                Create Time                Type
-----
myappl_snapshot_1      Wed Dec 31 16:16:40 2017 application
```

The example above displays all snapshots in an application protection-group in the cluster.

## **application volume commands**

### **application volume remove**

Remove a volume from an application

**Availability:** This command is available to *cluster* and *Vserver* administrators at the *advanced* privilege level.

### **Description**

This command removes a volume from an application. If the volume is the only member volume of an application component, the application component is deleted. If there are no more application components in the application, the application is deleted.



This command is provided to support downgrade and revert of Data ONTAP to versions prior to the support of applications. It should not be used for any other purpose.

### **Parameters**

**-vserver <vserver name> - Vserver**

The Vserver of the volume to remove from the application.

**-application <text> - Application**

The name of the application from which to remove the volume.

**-volume <volume name> - Volume**

The volume to remove from the application.



## Examples

```
cluster1::*> application volume remove -vserver vs1 -application app1
-volume vol1
```

The example above removes volume vol1 in Vserver vs1 from application app1. If this is the only volume in the application, the application is deleted.

## application volume show

Display application volumes

**Availability:** This command is available to *cluster* and *Vserver* administrators at the *advanced* privilege level.

### Description

This command displays the volumes that are part of an application.

### Parameters

**{ [-fields <fieldname>,...]**

Specifies fields that you want included in the output. You can use `-fields ?` to display the available fields.

**| [-instance ] }**

Specifies the display of all available fields for each selected volume.

**[-vserver <vserver name>] - Vserver**

Selects application volumes belonging to Vservers that match the parameter value.

**[-application <text>] - Application**

Selects application volumes that belong to an application that matches the parameter value.

**[-volume <volume name>] - Volume**

Selects application volumes whose name matches the parameter value.

**[-size {<integer>[KB|MB|GB|TB|PB] } ] - Volume Size**

Selects application volumes whose size matches the parameter value.

**[-state {online|restricted|offline|force-online|force-offline|mixed} ] - Volume State**

Selects application volumes whose state matches the parameter value.

**[-application-component <text>] - Application Component**

Selects application volumes that belong to application component that matches the parameter value.

## Examples

```

cluster1::> application volume show
Vserver   Application  Volume      State
-----
vs1       app1
          vol1        online
          vol2        online
          vol3        online
          app2
          vol4        online
          vol5        online
          vol6        online
vs2       app3
          vol7        online
          vol8        online
          vol9        online
          app4
          vol10       online
          vol11       online
          vol12       online
12 entries were displayed.

```

The example above displays the volumes of all applications in the cluster.

```

cluster1::> application volume show -vserver vs1 -application app1
Vserver   Application  Volume      State
-----
vs1       app1
          vol1        online
          vol2        online
          vol3        online
3 entries were displayed.

```

The example above displays the volumes of application app1 in Vserver vs1.

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