vserver nfs commands

ONTAP commands

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vserver nfs commands

vserver nfs create

Create an NFS configuration for a Vserver

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

Description

The `vserver nfs create` command enables and configures a Vserver to serve NFS clients. The Vserver must already exist. An NFS-enabled Vserver is associated with an NIS domain.

Parameters

`-vserver <vserver name>` - Vserver

This parameter specifies the Vserver on which you want to create the NFS configuration.

`[-access {true|false}]` - General NFS Access

This optional parameter specifies whether to enable NFS access on the Vserver. The default setting is `true`.

`[-rpcsec-ctx-high <integer>]` - RPC GSS Context Cache High Water Mark (privilege: advanced)

This optional parameter specifies the maximum number of RPCSEC_GSS authentication contexts, which are used by Kerberos. The default setting is zero. See RFC 2203 for information about RPCSEC_GSS contexts.

`[-rpcsec-ctx-idle <integer>]` - RPC GSS Context Idle (privilege: advanced)

This optional parameter specifies, in seconds, the amount of time a RPCSEC_GSS context is permitted to remain unused before it is deleted. The default setting is zero seconds. See RFC 2203 for information about RPCSEC_GSS contexts.

`[-v3 {enabled|disabled}]` - NFS v3

This optional parameter specifies whether to enable access for NFSv3 clients. The default setting is `enabled`.

`[-v4.0 {enabled|disabled}]` - NFS v4.0

This optional parameter specifies whether to enable access for NFSv4.0 clients. The default setting is `enabled`.

`[-udp {enabled|disabled}]` - UDP Protocol

This optional parameter specifies whether to enable NFS access over UDP. The default setting is `enabled`.

Even if UDP is disabled, if TCP is enabled, the Vserver does not block NFSv3 traffic over UDP. By allowing this traffic, the storage system can process NFS_NULL ops that the Solaris automounter sends to determine if the storage system is alive. (Solaris sends these ops over UDP even if configured to use TCP.) To disallow access for certain clients, including over UDP, you can use export-policy rules. For more information, see the vserver export-policy rule create command.

[-tcp {enabled|disabled}] - TCP Protocol

This optional parameter specifies whether to enable NFS access over TCP. The default setting is `enabled` .

[-default-win-user <text>] - Default Windows User

This optional parameter specifies a list of default Windows users for the NFS server.

[-enable-ejukebox {true|false}] - Enable NFSv3 EJUKEBOX error (privilege: advanced)

This optional parameter specifies whether EJUKEBOX errors are enabled for NFSv3. The default setting is `true` .

[-v3-require-read-attributes {true|false}] - Require All NFSv3 Reads to Return Read Attributes (privilege: advanced)

This optional parameter specifies whether NFSv3 read operations are required to return read attributes. The default setting is `false` .

[-v3-fsid-change {enabled|disabled}] - Show Change in FSID as NFSv3 Clients Traverse Filesystems (privilege: advanced)

This optional parameter specifies whether Data ONTAP shows changes in file system identifiers (FSIDs) as NFSv3 clients traverse file systems. The default setting is `enabled` .

[-v3-connection-drop {enabled|disabled}] - Enable the Dropping of a Connection When an NFSv3 Request is Dropped (privilege: advanced)

This optional parameter specifies whether Data ONTAP allows to drop the connection when a NFSv3 request is dropped. The default setting is `enabled` .

[-ntfs-unix-security-ops {fail|ignore|use-export-policy}] - Vserver NTFS Unix Security Options (privilege: advanced)

This optional parameter specifies how NFSv3 security changes affect NTFS volumes. If you set this parameter to `ignore` , Data ONTAP ignores NFSv3 security changes. If you set this parameter to `fail` , this overrides the unix security options set in the relevant export rules. If you set this parameter to `use_export_policy` , Data ONTAP processes NFSv3 security changes in accordance with the relevant export rules. The default setting is `use_export_policy` at the time of creation.

[-chown-mode {restricted|unrestricted|use-export-policy}] - Vserver Change Ownership Mode (privilege: advanced)

This optional parameter specifies whether file ownership can be changed only by the superuser, or if a non-root user can also change file ownership. If you set this parameter to `restricted` , file ownership can be changed only by the superuser, even though the on-disk permissions allow a non-root user to change file ownership. If you set this parameter to `unrestricted` , file ownership can be changed by the superuser and by the non-root user, depending upon the access granted by on-disk permissions. If you set this parameter to `use-export-policy` , file ownership can be changed in accordance with the relevant export rules.

[-trace-enabled {true|false}] - NFS Response Trace Enabled (privilege: advanced)

This optional parameter specifies whether Data ONTAP logs NFS requests when they exceed the NFS response trigger time (see the `trigger` parameter). The default setting is `false` .

[-trigger <integer>] - NFS Response Trigger (in secs) (privilege: advanced)

This optional parameter specifies the amount of time, in seconds, after which Data ONTAP must log an NFS request if it has not completed (assuming the `-trace-enabled option` is `true`). The default setting is 60.

[-udp-max-xfer-size <integer>] - UDP Maximum Transfer Size (bytes) (privilege: advanced)

This optional parameter specifies the maximum transfer size (in bytes) that the NFS mount protocol will negotiate with the client for UDP transport. The range is 8192 to 57344. The default setting is 32768.

[-tcp-max-xfer-size <integer>] - TCP Maximum Transfer Size (bytes) (privilege: advanced)

This optional parameter specifies the maximum transfer size (in bytes) that the storage system negotiates with the client for TCP transport of data for NFSv3, and NFSv4.x protocols. The range is 8192 to 1048576. The default setting is 65536.

Setting the parameter value greater than 65536 may cause performance degradation for existing connections using smaller values. Contact technical support for guidance.

[-v4.0-acl {enabled|disabled}] - NFSv4.0 ACL Support

This optional parameter specifies whether Data ONTAP supports NFSv4.0 access control lists (ACLs). The default setting is `disabled` .

[-v4.0-read-delegation {enabled|disabled}] - NFSv4.0 Read Delegation Support

This optional parameter specifies whether Data ONTAP supports NFSv4.0 read delegations. The default setting is `disabled` .

[-v4.0-write-delegation {enabled|disabled}] - NFSv4.0 Write Delegation Support

This optional parameter specifies whether Data ONTAP supports NFSv4.0 write delegations. The default setting is `disabled` .

[-v4-fsid-change {enabled|disabled}] - Show Change in FSID as NFSv4 Clients Traverse Filesystems (privilege: advanced)

This optional parameter specifies whether Data ONTAP shows changes in file system identifiers (FSIDs) as NFSv4 clients traverse file systems. The default setting is `enabled` .

If users access the storage system using NFSv4 from Solaris 10 clients, you must set this option to `disabled` .

[-v4.0-referrals {enabled|disabled}] - NFSv4.0 Referral Support (privilege: advanced)

This optional parameter specifies whether Data ONTAP supports NFSv4.0 referrals. The default setting is `disabled` . You can set this parameter to enabled only if you also set the `-v4-fsid-change` to `enabled` . If clients accessing the node do not support NFSv4.0 referrals, set this option to `disabled` ; otherwise, those clients will not be able to access the file system.

[-v4-id-domain <nfs domain>] - NFSv4 ID Mapping Domain

This optional parameter specifies the domain portion of the string form of user and group names as defined

by the NFSv4 protocol. By default, the domain name is defaultv4iddomain.com. However, the value of this parameter overrides the default. The domain name must be agreed upon by both the NFS client and the storage controller before NFSv4 operations can be executed. It is recommended that the domain be specified in the fully qualified domain name format.

[-v4-validate-symlinkdata {enabled|disabled}] - NFSv4 Validate UTF-8 Encoding of Symbolic Link Data (privilege: advanced)

This optional parameter specifies whether Data ONTAP validates the UTF-8 encoding of symbolic link data. The default setting is `disabled` .

[-v4-lease-seconds <integer>] - NFSv4 Lease Timeout Value (in secs) (privilege: advanced)

This optional parameter specifies the time period in which Data ONTAP irrevocably grants a lock to a client. By default, the lease period is 30 seconds. The minimum value is 10. The maximum value is one less than the value of the ` -v4-grace-seconds` parameter.

[-v4-grace-seconds <integer>] - NFSv4 Grace Timeout Value (in secs)

This optional parameter specifies the time period in which clients attempt to reclaim their locking state from Data ONTAP during server recovery. By default, the grace period is 45 seconds. The minimum value is 1 more than the value of the `-v4-lease-seconds` parameter. The maximum value is 90.

[-v4-acl-preserve {enabled|disabled}] - Preserves and Modifies NFSv4 ACL (and NTFS File Permissions in Unified Security Style)

This optional parameter specifies if the NFSv4 ACL is preserved or dropped when chmod is performed. In unified security style, this parameter also specifies if NTFS file permissions are preserved or dropped when chmod, chgrp, or chown are performed. The default is `enabled` .

[-v4.1 {enabled|disabled}] - NFSv4.1 Minor Version Support

This optional parameter specifies whether to enable access for NFSv4.1 or later clients. The default setting is `enabled` .

[-rquota {enabled|disabled}] - Rquota Enable

This optional parameter specifies whether to enable rquota over NFS. The default setting is `disabled` .

[-v4.1-implementation-domain <nfs domain>] - NFSv4.1 Implementation ID Domain (privilege: advanced)

This optional parameter specifies the NFSv4.1 or later implementation domain.

[-v4.1-implementation-name <text>] - NFSv4.1 Implementation ID Name (privilege: advanced)

This optional parameter specifies the NFSv4.1 or later implementation name.

[-v4.1-implementation-date <Date>] - NFSv4.1 Implementation ID Date (privilege: advanced)

This optional parameter specifies the NFSv4.1 or later implementation date.

[-v4.1-pnfs {enabled|disabled}] - NFSv4.1 Parallel NFS Support

This optional parameter specifies whether Data ONTAP supports parallel NFS over NFSv4.1 or later. The default setting is `disabled` .

[-v4.1-referrals {enabled|disabled}] - NFSv4.1 Referral Support (privilege: advanced)

This optional parameter specifies whether Data ONTAP supports NFSv4.1 or later referrals. The default setting is `disabled` . You can set this parameter to enabled only if you also set the `-v4-fsid-change` to

`enabled` . If clients accessing the node do not support NFSv4.1 or later referrals, set this option to `disabled` ; otherwise, those clients will not be able to access the file system.

`[-v4.1-acl {enabled|disabled}]` - NFSv4.1 ACL Support

This optional parameter specifies whether Data ONTAP supports NFSv4.1 or later access control lists (ACLs). The default setting is `disabled` .

`[-vstorage {enabled|disabled}]` - NFS vStorage Support

This optional parameter specifies whether to enable vstorage over NFS. The default setting is `disabled` .

`[-v4-numeric-ids {enabled|disabled}]` - NFSv4 Support for Numeric Owner IDs

This optional parameter specifies whether the support for numeric string identifiers in NFSv4 owner attributes is enabled. The default setting is `enabled` .

`[-default-win-group <text>]` - Default Windows Group

This optional parameter specifies a list of default Windows groups for the NFS server.

`[-v4.1-read-delegation {enabled|disabled}]` - NFSv4.1 Read Delegation Support

This optional parameter specifies whether Data ONTAP supports NFSv4.1 or later read delegations. The default setting is `disabled` .

`[-v4.1-write-delegation {enabled|disabled}]` - NFSv4.1 Write Delegation Support

This optional parameter specifies whether Data ONTAP supports NFSv4.1 or later write delegations. The default setting is `disabled` .

`[-v4.x-session-num-slots <integer>]` - Number of Slots in the NFSv4.x Session slot tables (privilege: advanced)

This optional parameter specifies the number of entries in the NFSv4.x session slot table. By default, the number of slots is 180. The maximum value is 2000.

`[-v4.x-session-slot-reply-cache-size <integer>]` - Size of the Reply that will be Cached in Each NFSv4.x Session Slot (in bytes) (privilege: advanced)

This optional parameter specifies the number of bytes of the reply that will be cached in each NFSv4.x session slot. By default, the size of the cached reply is 640 bytes. The maximum value is 4096.

`[-v4-acl-max-aces <integer>]` - Maximum Number of ACEs per ACL (privilege: advanced)

This optional parameter specifies the maximum number of ACEs in an NFSv4 ACL. The range is 192 to 1024. The default value is 400. Setting it to a value more than the default could cause performance problems for clients accessing files with NFSv4 ACLs.

`[-mount-rootonly {enabled|disabled}]` - NFS Mount Root Only

This optional parameter specifies whether the Vserver allows MOUNT protocol calls only from privileged ports (port numbers less than 1024). The default setting is `enabled` .

`[-nfs-rootonly {enabled|disabled}]` - NFS Root Only

This optional parameter specifies whether the Vserver allows NFS protocol calls only from privileged ports (port numbers less than 1024). The default setting is `disabled` .

[-auth-sys-extended-groups {enabled|disabled}] - AUTH_SYS Extended Groups Enabled (privilege: advanced)

This optional parameter specifies whether Data ONTAP supports fetching auxillary groups from a name service rather than from the RPC header. The default setting is `disabled` .

[-extended-groups-limit <integer>] - AUTH_SYS and RPCSEC_GSS Auxillary Groups Limit (privilege: advanced)

This optional parameter specifies the maximum number of auxillary groups supported over RPC security flavors AUTH_SYS and RPCSEC_GSS in Data ONTAP. The range is 32 to 1024. The default value is 32.

[-validate-qtree-export {enabled|disabled}] - Validation of Qtree IDs for Qtree File Operations (privilege: advanced)

This optional parameter specifies whether clustered Data ONTAP performs an additional validation on qtree IDs. The default setting is `enabled` . This parameter is ignored unless a non-inherited policy has been or is assigned to a qtree.

[-mountd-port <integer>] - NFS Mount Daemon Port (privilege: advanced)

This optional parameter specifies which port the NFS mount daemon (mountd) uses. The port numbers allowed are 635 (the default) and 1024 through 9999.

[-nlm-port <integer>] - Network Lock Manager Port (privilege: advanced)

This optional parameter specifies which port the network lock manager (NLM) uses. The port numbers allowed are 1024 through 9999. The default setting is `4045` .

[-nsm-port <integer>] - Network Status Monitor Port (privilege: advanced)

This optional parameter specifies which port the network status monitor (NSM) uses. The port numbers allowed are 1024 through 9999. The default setting is `4046` .

[-rquotad-port <integer>] - NFS Quota Daemon Port (privilege: advanced)

This optional parameter specifies which port the NFS quota daemon (rquotad) uses. The port numbers allowed are 1024 through 9999. The default setting is `4049` .

[-permitted-enc-types <NFS Kerberos Encryption Type>,…] - Permitted Kerberos Encryption Types

This optional parameter specifies the permitted encryption types for Kerberos over NFS. The default setting is `des` ,`des3` ,`aes-128` ,`aes-256` .

[-showmount {enabled|disabled}] - Showmount Enabled

This optional parameter specifies whether to allow or disallow clients to see the Vserver's NFS exports list. The default setting is *`enabled`* .

Showmount leverages the MOUNT protocol in NFSv3 to issue an EXPORT query to the NFS server. If the mount port is not listening or blocked by a firewall, or if NFSv3 is disabled on the NFS server, showmount queries fail.

[-name-service-lookup-protocol {TCP|UDP}] - Set the Protocol Used for Name Services Lookups for Exports

This optional parameter specifies the protocol to use for doing name service lookups. The allowed values are `TCP` and `UDP` . The default setting is `UDP` .

[-map-unknown-uid-to-default-windows-user {enable|disable}] - Map Unknown UID to Default Windows User (privilege: advanced)

If you enable this optional parameter, unknown UNIX users that do not have a name mapping to a Windows user are mapped to the configured default Windows user. This allows all unknown UNIX users access with the credentials of the default Windows user. If you disable it, all unknown UNIX users without name mapping are always denied access. By default, this parameter is enabled.

[-netgroup-dns-domain-search {enabled|disabled}] - DNS Domain Search Enabled During Netgroup Lookup (privilege: advanced)

If you enable this optional parameter, during client access check evaluation in a netgroup, Data ONTAP performs an additional verification to ensure that the domain returned from DNS for that client is listed in the DNS configuration of the Vserver. This enables you to validate the domain when clients have the same short name in multiple domains. The default setting is *enabled*.

[-netgroup-trust-any-ns-switch-no-match {enabled|disabled}] - Trust No-Match Result from Any Name Service Switch Source During Netgroup Lookup (privilege: advanced)

This optional parameter specifies if you can consider a no-match result from any netgroup ns-switch source to be authoritative. If this option is enabled, then a no-match response from any one of the netgroup ns-switch sources is deemed conclusive even if other sources could not be searched. The default setting is 'disabled', which causes all netgroup ns-switch sources to be consulted before a no-match result is deemed conclusive.

[-ntacl-display-permissive-perms {enabled|disabled}] - Display maximum NT ACL Permissions to NFS Client (privilege: advanced)

This optional parameter controls the permissions that are displayed to NFSv3 and NFSv4 clients on a file or directory that has an NT ACL set. When true, the displayed permissions are based on the maximum access granted by the NT ACL to any user. When false, the displayed permissions are based on the minimum access granted by the NT ACL to any user. The default setting is *false*.

[-v3-ms-dos-client {enabled|disabled}] - NFSv3 MS-DOS Client Support

This optional parameter specifies whether to enable access for NFSv3 MS-DOS clients. The default setting is *disabled*.

[-ignore-nt-acl-for-root {enabled|disabled}] - Ignore the NT ACL Check for NFS User 'root' (privilege: advanced)

This optional parameter specifies whether Windows ACLs affect root access from NFS. If this option is enabled, root access from NFS ignores the NT ACL set on the file or directory. If auditing is enabled for the Vserver and there is no name-mapping present, then a default SMB credential (Builtin\administrator) is used for auditing, and an EMS warning is generated. The default setting is 'disabled', which causes NFS 'root' to be mapped to a Windows account, like any other NFS user.

[-cached-cred-positive-ttl <integer>] - Time To Live Value (in msecs) of a Positive Cached Credential (privilege: advanced)

This optional parameter specifies the age of the positive cached credentials after which they will be cleared from the cache. The value specified must be between 60000 and 604800000. The default setting is 86400000.

[-cached-cred-negative-ttl <integer>] - Time To Live Value (in msecs) of a Negative Cached Credential (privilege: advanced)

This optional parameter specifies the age of the negative cached credentials after which they will be cleared from the cache. The value specified must be between 60000 and 604800000. The default setting is 7200000.

[-skip-root-owner-write-perm-check {enabled|disabled}] - Skip Permission Check for NFS Write Calls from Root/Owner (privilege: advanced)

This optional parameter specifies if permission checks are to be skipped for NFS WRITE calls from root/owner. For copying read-only files to a destination folder which has inheritable ACLs, this option must be *enabled*. Warning: When *enabled*, if an NFS client does not make use of an NFS ACCESS call to check for user-level permissions and then tries to write onto read-only files, the operation will succeed. The default setting is *disabled*.

[-v3-64bit-identifiers {enabled|disabled}] - Use 64 Bits for NFSv3 FSIDs and File IDs (privilege: advanced)

This optional parameter specifies whether Data ONTAP uses 64 bits (instead of 32 bits) for file system identifiers (FSIDs) and file identifiers (file IDs) that are returned to NFSv3 clients. The default setting is *disabled*. When `-v3-fsid-change` is disabled, enable this parameter to avoid file ID collisions.

[-v4-inherited-acl-preserve {enabled|disabled}] - Ignore Client Specified Mode Bits and Preserve Inherited NFSv4 ACL When Creating New Files or Directories (privilege: advanced)

This optional parameter specifies whether the client-specified mode bits should be ignored and the inherited NFSv4 ACL should be preserved when creating new files or directories. The default setting is *disabled*.

[-v3-search-unconverted-filename {enabled|disabled}] - Fallback to Unconverted Filename Search (privilege: advanced)

This optional parameter specifies whether to continue search without converting the filename to the Unicode character set while doing lookup in a directory.

[-file-session-io-grouping-count <integer>] - I/O Count to Be Grouped as a Session (privilege: advanced)

This optional parameter specifies the number of read or write operations on a file from a single client that are grouped and considered as one session for event generation applications, such as FPolicy. The event is generated on the first read or write of a file, and subsequently the event is generated only after the specified `-file-session-io-grouping-count`. The default value is *5000*.

[-file-session-io-grouping-duration <integer>] - Duration for I/O to Be Grouped as a Session (Secs) (privilege: advanced)

This optional parameter specifies the duration for which the read or write operationss on a file from a single client are grouped and considered as one session for event generation applications, such as FPolicy. The default value is *120* seconds.

[-checksum-for-replay-cache {enabled|disabled}] - Enable or disable Checksum for Replay-Cache (privilege: advanced)

This optional parameter specifies whether to enable replay cache checksum for NFS requests . The default value is *enabled*.

[-cached-cred-harvest-timeout <integer>] - Harvest timeout (in msecs) for a Cached Credential (privilege: advanced)

This optional parameter specifies the harvest timeout for cached credentials. The value specified must be between 60000 and 604800000. The default setting is `86400000`.

[-idle-connection-timeout <integer>] - Idle Connection Timeout Value (in seconds)

This optional parameter specifies the idle connection timeout value for NFS connections in seconds. The value specified must be between 120 and 86400.

[-allow-idle-connection {enabled|disabled}] - Are Idle NFS Connections Supported

This optional parameter specifies whether to enable idle NFS connections. The default setting is `enabled` .

[-v3-hide-snapshot {enabled|disabled}] - Hide Snapshot Directory under NFSv3 Mount Point

This optional parameter specifies whether to hide the .snapshot directory while listing under NFSv3 mount points. However an explicit access to the .snapshot directory will still be allowed even though the option is enabled. The default setting is `disabled` .

[-showmount-rootonly {enabled|disabled}] - Provide Root Path as Showmount State

This optional parameter specifies whether to provide root path as showmount state when `-showmount` parameter is disabled. The default value for `showmount-rootonly` is *`disabled`* .

[-v4-64bit-identifiers {enabled|disabled}] - Use 64 Bits for NFSv4.x FSIDs and File IDs (privilege: advanced)

This optional parameter specifies whether Data ONTAP uses 64 bits (instead of 32 bits) for file system identifiers (FSIDs) and file identifiers (file IDs) that are returned to NFSv4.x clients. The default setting is *`enabled`* . When `-v4-fsid-change` is disabled, enable this parameter to avoid file ID collisions.

[-v4.2-seclabel {enabled|disabled}] - NFSV4.2 Security Label Support (privilege: advanced)

This optional parameter specifies whether to enable security labels for NFSv4.2. The default setting for `-v4.2-seclabel` is *`disabled`* .

[-rdma {enabled|disabled}] - RDMA Protocol

This optional parameter specifies whether to enable NFS access over RDMA. The default setting for parameter `-rdma` is *`enabled`* .

Examples

The following example enables and configures NFS access on a Vserver named vs0. NFS access is enabled. The maximum number of RPCSEC_GSS authentication contexts is set to 5. The RPCSEC_GSS idle time is set to 360 seconds. Access is enabled for NFS v3 clients over both UDP and TCP.

```
cluster1::> vserver nfs create -vserver vs0 -access true -rpcsec-ctx-high
5 -rpcsec-ctx-idle 360 -v3 enabled -udp enabled -tcp enabled
```

Related Links

- vserver export-policy rule create

vserver nfs delete

Delete the NFS configuration of a Vserver

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

Description

The `vserver nfs delete` command deletes the NFS configuration of a specified Vserver. This command

does not delete the Vserver itself, just its ability to serve NFS clients.

> If you delete a Vserver, the Vserver's NFS configuration is automatically deleted. Any Windows-to-UNIX or UNIX-to-Windows name mappings defined for the Vserver are also deleted because they require both the CIFS and NFS servers.

Parameters

`-vserver <vserver name>` - Vserver

This specifies the Vserver whose NFS configuration you want to delete.

Examples

The following example deletes the NFS configuration of a Vserver named vs2:

```
cluster1::> vserver nfs delete -vserver vs2
```

vserver nfs modify

Modify the NFS configuration of a Vserver

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

Description

The `vserver nfs modify` command modifies the configuration of an NFS-enabled Vserver.

Parameters

`-vserver <vserver name>` - Vserver

This specifies the Vserver whose NFS configuration you want to modify.

`[-access {true|false}]` - General NFS Access

This optional parameter specifies whether NFS access is enabled on the Vserver.

`[-rpcsec-ctx-high <integer>]` - RPC GSS Context Cache High Water Mark (privilege: advanced)

This optional parameter specifies the maximum number of RPCSEC_GSS authentication contexts, which are used by Kerberos. The default setting is zero at the time of creation. See RFC 2203 for information about RPCSEC_GSS contexts.

`[-rpcsec-ctx-idle <integer>]` - RPC GSS Context Idle (privilege: advanced)

This optional parameter specifies, in seconds, the amount of time a RPCSEC_GSS context is permitted to remain unused before it is deleted. The default setting is zero seconds at the time of creation. See RFC 2203 for information about RPCSEC_GSS contexts.

`[-v3 {enabled|disabled}]` - NFS v3

This optional parameter specifies whether to enable access for NFS v3 clients.

[-v4.0 {enabled|disabled}] - NFS v4.0

This optional parameter specifies whether to enable access for NFSv4.0 clients. The default setting is `enabled` at the time of creation.

[-udp {enabled|disabled}] - UDP Protocol

This optional parameter specifies whether to enable NFS access over UDP.

> Even if UDP is disabled, if TCP is enabled, the Vserver does not block NFSv3 traffic over UDP. By allowing this traffic, the storage system can process NFS_NULL ops that the Solaris automounter sends to determine if the storage system is alive. (Solaris sends these ops over UDP even if configured to use TCP.) To disallow access for certain clients, including over UDP, you can use export-policy rules. For more information, see the vserver export-policy rule create command.

[-tcp {enabled|disabled}] - TCP Protocol

This optional parameter specifies whether to enable NFS access over TCP.

[-default-win-user <text>] - Default Windows User

This optional parameter specifies a list of default Windows users for the NFS server.

[-enable-ejukebox {true|false}] - Enable NFSv3 EJUKEBOX error (privilege: advanced)

This optional parameter specifies whether EJUKEBOX errors are enabled for NFSv3. The default setting is `true` at the time of creation.

[-v3-require-read-attributes {true|false}] - Require All NFSv3 Reads to Return Read Attributes (privilege: advanced)

This optional parameter specifies whether NFSv3 read operations are required to return read attributes. The default setting is `false` at the time of creation.

[-v3-fsid-change {enabled|disabled}] - Show Change in FSID as NFSv3 Clients Traverse Filesystems (privilege: advanced)

This optional parameter specifies whether Data ONTAP shows changes in file system identifiers (FSIDs) as NFSv3 clients traverse file systems. If you change the value of this parameter, clients must remount any paths over which they are using NFSv3.

[-v3-connection-drop {enabled|disabled}] - Enable the Dropping of a Connection When an NFSv3 Request is Dropped (privilege: advanced)

This optional parameter specifies whether NFS v3 connection drop is enabled. The default setting is `enabled` at the time of creation.

[-ntfs-unix-security-ops {fail|ignore|use-export-policy}] - Vserver NTFS Unix Security Options (privilege: advanced)

This optional parameter specifies how NFSv3 security changes affect NTFS volumes. If you set this parameter to `ignore` , Data ONTAP ignores NFSv3 security changes. If you set this parameter to `fail` , this overrides the unix security options set in the relevant export rules. If you set this parameter to `use_export_policy` , Data ONTAP processes NFSv3 security changes in accordance with the relevant export rules. The default setting is `use_export_policy` at the time of creation.

[-chown-mode {restricted|unrestricted|use-export-policy}] - Vserver Change Ownership Mode (privilege: advanced)

This optional parameter specifies whether file ownership can be changed only by the superuser, or if a non-root user can also change file ownership. If you set this parameter to `restricted` , file ownership can be changed only by the superuser, even though the on-disk permissions allow a non-root user to change file ownership. If you set this parameter to `unrestricted` , file ownership can be changed by the superuser and by the non-root user, depending upon the access granted by on-disk permissions. If you set this parameter to `use-export-policy` , file ownership can be changed in accordance with the relevant export rules.

[-trace-enabled {true|false}] - NFS Response Trace Enabled (privilege: advanced)

This optional parameter specifies whether Data ONTAP logs NFS requests when they exceed the NFS response trigger time (see the `trigger` parameter). The default setting is `false` at the time of creation.

[-trigger <integer>] - NFS Response Trigger (in secs) (privilege: advanced)

This optional parameter specifies the amount of time, in seconds, after which Data ONTAP must log an NFS request if it has not completed (assuming the `-trace-enabled option` is set to `true`). The default setting is 60 at the time of creation.

[-udp-max-xfer-size <integer>] - UDP Maximum Transfer Size (bytes) (privilege: advanced)

This optional parameter specifies the maximum transfer size (in bytes) that the NFS mount protocol negotiates with the client for UDP transport. The range is 8192 to 57344. The default setting is 32768 at the time of creation.

[-tcp-max-xfer-size <integer>] - TCP Maximum Transfer Size (bytes) (privilege: advanced)

This optional parameter specifies the maximum transfer size (in bytes) that the storage system negotiates with the client for TCP transport of data for NFSv3 and NFSv4.x protocols. The range is 8192 to 1048576. The default setting is 65536 when created. Warning: Increasing/decreasing the value of this parameter could affect the performance for existing connections.

[-v4.0-acl {enabled|disabled}] - NFSv4.0 ACL Support

This optional parameter specifies whether Data ONTAP supports NFSv4.0 access control lists (ACLs). The default setting is `disabled` when created.

[-v4.0-read-delegation {enabled|disabled}] - NFSv4.0 Read Delegation Support

This optional parameter specifies whether Data ONTAP supports NFSv4 read delegations. The default setting is `disabled` when created.

[-v4.0-write-delegation {enabled|disabled}] - NFSv4.0 Write Delegation Support

This optional parameter specifies whether Data ONTAP supports NFSv4 write delegations. The default setting is `disabled` when created.

[-v4-fsid-change {enabled|disabled}] - Show Change in FSID as NFSv4 Clients Traverse Filesystems (privilege: advanced)

This optional parameter specifies whether Data ONTAP shows changes in file system identifiers (FSIDs) as NFSv4 clients traverse file systems. The default setting is `enabled` when created. If you change the value of this parameter, clients must remount any paths over which they are using NFSv4.

If users access the storage system using NFSv4 from Solaris 10 clients, you must set this option to `disabled` .

[-v4.0-referrals {enabled|disabled}] - NFSv4.0 Referral Support (privilege: advanced)

This optional parameter specifies whether Data ONTAP supports NFSv4.0 referrals. The default setting is `disabled` when created. You can set this parameter to enabled only if the `-v4-fsid-change` option is also set to `enabled` . If clients accessing the node do not support NFSv4.0 referrals, set this option to `disabled` ; otherwise, those clients will not be able to access the file system.

[-v4-id-domain <nfs domain>] - NFSv4 ID Mapping Domain

This optional parameter specifies the domain portion of the string form of user and group names as defined by the NFSv4 protocol. By default, the domain name is defaultv4iddomain.com. However, the value of this parameter overrides the default. The domain name must be agreed upon by both the NFS client and the storage controller before NFSv4 operations can be executed. It is recommended that the domain be specified in the fully qualified domain name format.

[-v4-validate-symlinkdata {enabled|disabled}] - NFSv4 Validate UTF-8 Encoding of Symbolic Link Data (privilege: advanced)

This optional parameter specifies whether Data ONTAP validates the UTF-8 encoding of symbolic link data. The default setting is `disabled` when created.

[-v4-lease-seconds <integer>] - NFSv4 Lease Timeout Value (in secs) (privilege: advanced)

This optional parameters specifies the time period in which Data ONTAP irrevocably grants a lock to a client. By default, the lease period is 30 seconds. The minimum value is 10. The maximum value is one less than the value of the ` -v4-grace-seconds` parameter.

[-v4-grace-seconds <integer>] - NFSv4 Grace Timeout Value (in secs)

This optional parameter specifies the time period in which clients attempt to reclaim their locking state from Data ONTAP during server recovery. By default, the grace period is 45 seconds. The minimum value is 1 more than the value of the `-v4-lease-seconds` parameter. The maximum value is 90.

[-v4-acl-preserve {enabled|disabled}] - Preserves and Modifies NFSv4 ACL (and NTFS File Permissions in Unified Security Style)

This optional parameter specifies if the NFSv4 ACL is preserved or dropped when chmod is performed. In unified security style, this parameter also specifies if NTFS file permissions are preserved or dropped when chmod, chgrp, or chown are performed. The default is `enabled` .

[-v4.1 {enabled|disabled}] - NFSv4.1 Minor Version Support

This optional parameter specifies whether to enable access for NFSv4.1 or later clients. The default setting is `enabled` at the time of creation.

[-rquota {enabled|disabled}] - Rquota Enable

This optional parameter specifies whether to enable rquota over NFS. The default setting is `disabled` at the time of creation.

[-v4.1-implementation-domain <nfs domain>] - NFSv4.1 Implementation ID Domain (privilege: advanced)

This optional parameter specifies the NFSv4.1 or later implementation domain.

[-v4.1-implementation-name <text>] - NFSv4.1 Implementation ID Name (privilege: advanced)

This optional parameter specifies the NFSv4.1 or later implementation name.

[-v4.1-implementation-date <Date>] - NFSv4.1 Implementation ID Date (privilege: advanced)

This optional parameter specifies the NFSv4.1 or later implementation date.

[-v4.1-pnfs {enabled|disabled}] - NFSv4.1 Parallel NFS Support

This optional parameter specifies whether to enable access for pNFS for NFSv4.1 or later. The default setting is `disabled` at the time of creation.

[-v4.1-referrals {enabled|disabled}] - NFSv4.1 Referral Support (privilege: advanced)

This optional parameter specifies whether Data ONTAP supports NFSv4.1 or later referrals. The default setting is `disabled` when created. You can set this parameter to enabled only if the `-v4-fsid-change` option is also set to `enabled` . If clients accessing the node do not support NFSv4.1 or later referrals, set this option to `disabled` ; otherwise, those clients will not be able to access the file system.

[-v4.1-acl {enabled|disabled}] - NFSv4.1 ACL Support

This optional parameter specifies whether Data ONTAP supports NFSv4.1 or later access control lists (ACLs). The default setting is `disabled` when created.

[-vstorage {enabled|disabled}] - NFS vStorage Support

This optional parameter specifies whether to enable vstorage over NFS. The default setting is `disabled` at the time of creation.

[-v4-numeric-ids {enabled|disabled}] - NFSv4 Support for Numeric Owner IDs

This optional parameter specifies whether to enable the support for numeric string identifiers in NFSv4 owner attributes. The default setting is `enabled` at the time of creation.

[-default-win-group <text>] - Default Windows Group

This optional parameter specifies a list of default Windows groups for the NFS server.

[-v4.1-read-delegation {enabled|disabled}] - NFSv4.1 Read Delegation Support

This optional parameter specifies whether Data ONTAP supports NFSv4.1 or later read delegations. The default setting is `disabled` when created.

[-v4.1-write-delegation {enabled|disabled}] - NFSv4.1 Write Delegation Support

This optional parameter specifies whether Data ONTAP supports NFSv4.1 or later write delegations. The default setting is `disabled` when created.

[-v4.x-session-num-slots <integer>] - Number of Slots in the NFSv4.x Session slot tables (privilege: advanced)

This optional parameter specifies the number of entries in the NFSv4.x session slot table. By default, the number of slots is 180. The maximum value is 2000.

[-v4.x-session-slot-reply-cache-size <integer>] - Size of the Reply that will be Cached in Each NFSv4.x Session Slot (in bytes) (privilege: advanced)

This optional parameter specifies the number of bytes of the reply that will be cached in each NFSv4.x session slot. By default, the size of the cached reply is 640 bytes. The maximum value is 4096.

[-v4-acl-max-aces <integer>] - Maximum Number of ACEs per ACL (privilege: advanced)

This optional parameter specifies the maximum number of ACEs in a NFSv4 ACL. The range is 192 to 1024. The default value is 400. Setting it to a value more than the default could cause performance problems for clients accessing files with NFSv4 ACLs.

[-mount-rootonly {enabled|disabled}] - NFS Mount Root Only

This optional parameter specifies whether the Vserver allows MOUNT protocol calls only from privileged ports (port numbers less than 1024). The default setting is `enabled` .

[-nfs-rootonly {enabled|disabled}] - NFS Root Only

This optional parameter specifies whether the Vserver allows NFS protocol calls only from privileged ports (port numbers less than 1024). The default setting is `disabled` .

[-auth-sys-extended-groups {enabled|disabled}] - AUTH_SYS Extended Groups Enabled (privilege: advanced)

This optional parameter specifies whether Data ONTAP supports fetching auxillary groups from a name service rather than from the RPC header. The default setting is `disabled` .

[-extended-groups-limit <integer>] - AUTH_SYS and RPCSEC_GSS Auxillary Groups Limit (privilege: advanced)

This optional parameter specifies the maximum number of auxillary groups supported over RPC security flavors AUTH_SYS and RPCSEC_GSS in Data ONTAP. The range is 32 to 1024. The default value is 32.

[-validate-qtree-export {enabled|disabled}] - Validation of Qtree IDs for Qtree File Operations (privilege: advanced)

This optional parameter specifies whether clustered Data ONTAP performs an additional validation on qtree IDs. The default setting is `enabled` . This parameter is ignored unless a non-inherited policy has been or is assigned to a qtree.

[-mountd-port <integer>] - NFS Mount Daemon Port (privilege: advanced)

This optional parameter specifies which port the NFS mount daemon (mountd) uses. The port numbers allowed are 635 (the default) and 1024 through 9999.

[-nlm-port <integer>] - Network Lock Manager Port (privilege: advanced)

This optional parameter specifies which port the network lock manager (NLM) uses. The port numbers allowed are 1024 through 9999. The default setting is `4045` .

[-nsm-port <integer>] - Network Status Monitor Port (privilege: advanced)

This optional parameter specifies which port the network status monitor (NSM) uses. The port numbers allowed are 1024 through 9999. The default setting is `4046` .

[-rquotad-port <integer>] - NFS Quota Daemon Port (privilege: advanced)

This optional parameter specifies which port the NFS quota daemon (rquotad) uses. The port numbers allowed are 1024 through 9999. The default setting is `4049` .

[-permitted-enc-types <NFS Kerberos Encryption Type>,…] - Permitted Kerberos Encryption Types

This optional parameter specifies the permitted encryption types for Kerberos over NFS. The default setting is `des` ,`des3` ,`aes-128` ,`aes-256` .

[-showmount {enabled|disabled}] - Showmount Enabled

This optional parameter specifies whether to allow or disallow clients to see the Vserver's NFS exports list. The default setting is *`enabled`* .

Showmount leverages the MOUNT protocol in NFSv3 to issue an EXPORT query to the NFS server. If the mount port is not listening or blocked by a firewall, or if NFSv3 is disabled on the NFS server, showmount queries fail.

[-name-service-lookup-protocol {TCP|UDP}] - Set the Protocol Used for Name Services Lookups for Exports

This optional parameter specifies the protocol to use for doing name service lookups. The allowed values are `TCP` and `UDP` . The default setting is `UDP` .

[-map-unknown-uid-to-default-windows-user {enable|disable}] - Map Unknown UID to Default Windows User (privilege: advanced)

If you enable this optional parameter, unknown UNIX users that do not have a name mapping to a Windows user are mapped to the configured default Windows user. This allows all unknown UNIX users access with the credentials of the default Windows user. If you disable it, all unknown UNIX users without name mapping are always denied access. By default, this parameter is enabled.

[-netgroup-dns-domain-search {enabled|disabled}] - DNS Domain Search Enabled During Netgroup Lookup (privilege: advanced)

If you enable this optional parameter, during client access check evaluation in a netgroup, Data ONTAP performs an additional verification to ensure that the domain returned from DNS for that client is listed in the DNS configuration of the Vserver. This enables you to validate the domain when clients have the same short name in multiple domains. The default setting is *`enabled`* .

[-netgroup-trust-any-ns-switch-no-match {enabled|disabled}] - Trust No-Match Result from Any Name Service Switch Source During Netgroup Lookup (privilege: advanced)

This optional parameter specifies if you can consider a no-match result from any of the netgroup ns-switch sources to be authoritative. If this option is enabled, then a no-match response from any of the netgroup ns-switch sources is deemed conclusive even if other sources could not be searched. The default setting is 'disabled', which causes all netgroup ns-switch sources to be consulted before a no-match result is deemed conclusive.

[-ntacl-display-permissive-perms {enabled|disabled}] - Display maximum NT ACL Permissions to NFS Client (privilege: advanced)

This optional parameter controls the permissions that are displayed to NFSv3 and NFSv4 clients on a file or directory that has an NT ACL set. When true, the displayed permissions are based on the maximum access granted by the NT ACL to any user. When false, the displayed permissions are based on the minimum access granted by the NT ACL to any user. The default setting is *`false`* .

[-v3-ms-dos-client {enabled|disabled}] - NFSv3 MS-DOS Client Support

This optional parameter specifies whether to enable access for NFSv3 MS-DOS clients. The default setting is *`disabled`* at the time of creation.

[-ignore-nt-acl-for-root {enabled|disabled}] - Ignore the NT ACL Check for NFS User 'root' (privilege: advanced)

This optional parameter specifies whether Windows ACLs affect root access from NFS. If this option is enabled, root access from NFS ignores the NT ACL set on the file or directory. If auditing is enabled for the Vserver and there is no name-mapping present, then a default SMB credential (Builtin\administrator) is used for auditing, and an EMS warning is generated. The default setting is 'disabled', which causes NFS 'root' to be mapped to a Windows account, like any other NFS user.

[-cached-cred-positive-ttl <integer>] - Time To Live Value (in msecs) of a Positive Cached Credential (privilege: advanced)

This optional parameter specifies the age of the positive cached credentials after which they will be cleared from the cache. The value specified must be between 60000 and 604800000. The default setting is `86400000`.

[-cached-cred-negative-ttl <integer>] - Time To Live Value (in msecs) of a Negative Cached Credential (privilege: advanced)

This optional parameter specifies the age of the negative cached credentials after which they will be cleared from the cache. The value specified must be between 60000 and 604800000. The default setting is `7200000`.

[-skip-root-owner-write-perm-check {enabled|disabled}] - Skip Permission Check for NFS Write Calls from Root/Owner (privilege: advanced)

This optional parameter specifies if permission checks are to be skipped for NFS WRITE calls from root/owner. For copying read-only files to a destination folder which has inheritable ACLs, this option must be *enabled*. Warning: When *enabled*, if an NFS client does not make use of an NFS ACCESS call to check for user-level permissions and then tries to write onto read-only files, the operation will succeed. The default setting is *disabled*.

[-v3-64bit-identifiers {enabled|disabled}] - Use 64 Bits for NFSv3 FSIDs and File IDs (privilege: advanced)

This optional parameter specifies whether Data ONTAP uses 64 bits (instead of 32 bits) for file system identifiers (FSIDs) and file identifiers (file IDs) that are returned to NFSv3 clients. If you change the value of this parameter, clients must remount any paths over which they are using NFSv3. When `-v3-fsid -change` is disabled, enable this parameter to avoid file ID collisions.

[-v4-inherited-acl-preserve {enabled|disabled}] - Ignore Client Specified Mode Bits and Preserve Inherited NFSv4 ACL When Creating New Files or Directories (privilege: advanced)

This optional parameter specifies whether the client-specified mode bits should be ignored and the inherited NFSv4 ACL should be preserved when creating new files or directories. The default setting is *disabled*.

[-v3-search-unconverted-filename {enabled|disabled}] - Fallback to Unconverted Filename Search (privilege: advanced)

This optional parameter specifies whether to continue search without converting the filename to the Unicode character set while doing lookup in a directory.

[-file-session-io-grouping-count <integer>] - I/O Count to Be Grouped as a Session (privilege: advanced)

This optional parameter specifies the number of read or write operations on a file from a single client that are grouped and considered as one session for event generation applications, such as FPolicy. The event is generated on the first read or write of a file, and subsequently the event is generated only after the specified `-file-session-io-grouping-count`. The default value is *5000*.

[-file-session-io-grouping-duration <integer>] - Duration for I/O to Be Grouped as a Session (Secs) (privilege: advanced)

This optional parameter specifies the duration for which the read or write operationss on a file from a single client are grouped and considered as one session for event generation applications, such as FPolicy. The default value is *120* seconds.

[-checksum-for-replay-cache {enabled|disabled}] - Enable or disable Checksum for Replay-Cache (privilege: advanced)

This optional parameter specifies whether to enable replay cache checksum for NFS requests. The default value is *enabled*.

[-cached-cred-harvest-timeout <integer>] - Harvest timeout (in msecs) for a Cached Credential (privilege: advanced)

This optional parameter specifies the harvest timeout for cached credentials. The value specified must be between 60000 and 604800000. The default setting is `86400000`.

[-idle-connection-timeout <integer>] - Idle Connection Timeout Value (in seconds)

This optional parameter specifies the idle connection timeout for NFS connections. The value specified must be between 120 and 86400.

[-allow-idle-connection {enabled|disabled}] - Are Idle NFS Connections Supported

This optional parameter specifies whether to enable idle NFS connections. The default setting is `enabled`.

[-v3-hide-snapshot {enabled|disabled}] - Hide Snapshot Directory under NFSv3 Mount Point

This optional parameter specifies whether to hide the .snapshot directory while listing under NFSv3 mount points. However an explicit access to the .snapshot directory will still be allowed even though the option is enabled. The default setting is `disabled` at the time of creation.

[-showmount-rootonly {enabled|disabled}] - Provide Root Path as Showmount State

This optional parameter specifies whether to provide root path as showmount state when `-showmount` parameter is disabled. The default value for `showmount-rootonly` is *disabled*.

[-v4-64bit-identifiers {enabled|disabled}] - Use 64 Bits for NFSv4.x FSIDs and File IDs (privilege: advanced)

This optional parameter specifies whether Data ONTAP uses 64 bits (instead of 32 bits) for file system identifiers (FSIDs) and file identifiers (file IDs) that are returned to NFSv4.x clients. If you change the value of this parameter, clients must remount any paths over which they are using NFSv4.x. When `-v4-fsid -change` is disabled, enable this parameter to avoid file ID collisions.

[-v4.2-seclabel {enabled|disabled}] - NFSV4.2 Security Label Support (privilege: advanced)

This optional parameter specifies whether to enable security labels for NFSv4.2. The default setting for `-v4.2-seclabel` is *disabled*.

[-rdma {enabled|disabled}] - RDMA Protocol

This optional parameter specifies whether to enable NFS access over RDMA. The default setting for parameter `-rdma` is *enabled*.

Examples

The following example enables NFS access on a Vserver named vs0 for NFS clients that use NFS v3 over TCP:

```
cluster1::> vserver nfs modify -vserver vs0 -access true -v3 enabled -udp
disabled -tcp enabled
```

Related Links

- vserver export-policy rule create

vserver nfs off

Disable the NFS service of a Vserver

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

Description

The `vserver nfs off` command disables NFS access on a Vserver. The Vserver must already exist.

Parameters

`-vserver <vserver name>` - Vserver
This parameter specifies the Vserver on which you want to disable NFS access.

Examples

The following example disables NFS access on a Vserver named vs0.

```
cluster1::> vserver nfs off -vserver vs0
```

vserver nfs on

Enable the NFS service of a Vserver

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

Description

The `vserver nfs on` command enables NFS access on a Vserver. The Vserver must already exist.

Parameters

`-vserver <vserver name>` - Vserver
This parameter specifies the Vserver on which you want to enable NFS access.

Examples

The following example enables NFS access on a Vserver named vs0.

```
cluster1::> vserver nfs on -vserver vs0
```

vserver nfs prepare-for-v3-ms-dos-client-downgrade

(DEPRECATED)-Disable NFSv3 MS-DOS Client Support

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

Description

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

The `vserver nfs prepare-for-v3-ms-dos-client-downgrade` command verifies that the NFSv3 MS-DOS client setting is disabled on all Vservers and disables the NFSv3 MS-DOS client support capability on the cluster when downgrading Data ONTAP to a version that does not support NFSv3 MS-DOS clients.

Examples

The following example disables NFSv3 MS-DOS client support on the Vservers.

```
cluster::1> vserver nfs prepare-for-v3-ms-dos-client-downgrade
```

vserver nfs prepare-to-downgrade

Remove NFS configurations that are not compatible with earlier versions of Data ONTAP

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

Description

The `vserver nfs prepare-to-downgrade` command removes NFS configurations incompatible with the earlier release of Data ONTAP.

Parameters

`-disable-feature-set <downgrade version>` - Data ONTAP Version (privilege: advanced)

This parameter specifies the Data ONTAP version that introduced the new NFS configurations and needs to be removed before downgrade. The value can be one of the following:

- 9.2.0 - Remove the NFS configurations introduced in Data ONTAP release 9.2.0. The configurations include the following:
- `-file-session-io-grouping-count` .
- `-file-session-io-grouping duration` .

Examples

```
cluster1::*> vserver nfs prepare-to-downgrade -disable-feature-set 9.2.0
```

vserver nfs show

Display the NFS configurations of Vservers

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

Description

The `vserver nfs show` command displays information about NFS-enabled Vservers. The command output depends on the parameter or parameters specified with the command. If no parameters are specified, the command displays the following information about all NFS-enabled Vservers:

- Vserver name
- Whether general NFS access is enabled
- Whether access to NFSv3 clients is enabled
- Whether access to NFSv4 clients is enabled
- Whether NFS access over UDP is enabled
- Whether NFS access over TCP is enabled
- List of default Windows users (detailed view only)

You can specify additional parameters to display only information that matches those parameters. For instance, to display information only about Vservers that enable access over TCP, enter the command with the `-tcp -enable true` parameter. + + All NFSv4.1 options apply to NFSv4.1 or later versions.

Parameters

{ [-fields <fieldname>,…]

If you specify the `-fields` parameter, the command only displays the fields that you specify.

| [-krb-opts] (privilege: advanced)

If you specify the parameter for `-instance` , the command shows detailed information about all NFS-enabled Vservers. Otherwise, if the `-krb-opts` parameter is specified, the command shows the following Kerberos-related information:

- Vserver name
- Maximum number of RPCSEC_GSS authentication contexts
- Time, in seconds, an RPCSEC_GSS context can remain idle before being deleted

Otherwise, if the `-fields` parameter is specified, the command shows information about all of the NFS-enabled Vservers that you specify as a comma-delimited list.

| [-instance] }

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

[-vserver <vserver name>] - Vserver

If you specify this parameter, the command displays information only about the specified NFS-enabled Vserver.

[-access {true|false}] - General NFS Access

If you specify this parameter, the command displays information only about the NFS-enabled Vservers that have the specified general-access setting.

[-rpcsec-ctx-high <integer>] - RPC GSS Context Cache High Water Mark (privilege: advanced)

If you specify this parameter, the command displays information only about NFS-enabled Vservers that have the specified maximum number of RPCSEC_GSS authentication contexts.

[-rpcsec-ctx-idle <integer>] - RPC GSS Context Idle (privilege: advanced)

If you specify this parameter, the command displays information only about the NFS-enabled Vservers that have the specified timeout value for idle RPCSEC_GSS contexts.

[-v3 {enabled|disabled}] - NFS v3

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which the `v3` option matches the specified input.

[-v4.0 {enabled|disabled}] - NFS v4.0

If you specify this parameter, the command displays information only about NFS-enabled Vservers for which the `v4.0` option matches the specified input.

[-udp {enabled|disabled}] - UDP Protocol

If you specify this parameter, the command displays information only about the NFS-enabled Vservers that have the specified NFS-over-UDP access setting.

[-tcp {enabled|disabled}] - TCP Protocol

If you specify this parameter, the command displays information only about the NFS-enabled Vservers that have the specified NFS-over-TCP setting.

[-default-win-user <text>] - Default Windows User

If you specify this parameter, the command displays information only about the NFS-enabled Vservers that have the specified list of default Windows users.

[-enable-ejukebox {true|false}] - Enable NFSv3 EJUKEBOX error (privilege: advanced)

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which the `enable-ejukebox` option matches the specified input.

[-v3-require-read-attributes {true|false}] - Require All NFSv3 Reads to Return Read Attributes (privilege: advanced)

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which NFSv3 read operations are required or not required to return read attributes.

[-v3-fsid-change {enabled|disabled}] - Show Change in FSID as NFSv3 Clients Traverse Filesystems (privilege: advanced)

If you specify this parameter, the command displays information about changes in file system identifiers (FSIDs) as NFSv3 clients traverse file systems.

[-v3-connection-drop {enabled|disabled}] - Enable the Dropping of a Connection When an NFSv3 Request is Dropped (privilege: advanced)

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which the `v3-connection-drop` option matches the specified input.

[-ntfs-unix-security-ops {fail|ignore|use-export-policy}] - Vserver NTFS Unix Security Options (privilege: advanced)

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which the NTFS-UNIX security setting matches the specified input.

[-chown-mode {restricted|unrestricted|use-export-policy}] - Vserver Change Ownership Mode (privilege: advanced)

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which the chown-mode setting matches the specified input.

[-trace-enabled {true|false}] - NFS Response Trace Enabled (privilege: advanced)

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which the `trace-enabled` option matches the specified input.

[-trigger <integer>] - NFS Response Trigger (in secs) (privilege: advanced)

If you specify this parameter, the command displays information only about the NFS-enabled Vservers with the specified NFS response trigger time.

[-udp-max-xfer-size <integer>] - UDP Maximum Transfer Size (bytes) (privilege: advanced)

If you specify this parameter, the command displays information only about the NFS-enabled Vservers with the specified UDP maximum transfer size. The range is 8192 to 57344.

[-tcp-max-xfer-size <integer>] - TCP Maximum Transfer Size (bytes) (privilege: advanced)

If you specify this parameter, the command displays information only about the NFS-enabled Vservers with the specified TCP maximum transfer size. The range is 8192 to 1048576.

[-v4.0-acl {enabled|disabled}] - NFSv4.0 ACL Support

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which the `v4.0-acl` option matches the specified input.

[-v4.0-read-delegation {enabled|disabled}] - NFSv4.0 Read Delegation Support

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which the `v4.0-read-delegation` option matches the specified input.

[-v4.0-write-delegation {enabled|disabled}] - NFSv4.0 Write Delegation Support

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which the `v4.0-write-delegation` option matches the specified input.

[-v4-fsid-change {enabled|disabled}] - Show Change in FSID as NFSv4 Clients Traverse Filesystems (privilege: advanced)

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which the showing of NFSv4 file system identifier (FSID) changes has been enabled or disabled.

[-v4.0-referrals {enabled|disabled}] - NFSv4.0 Referral Support (privilege: advanced)

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which the `v4.0-referrals` option matches the specified input.

[-v4-id-domain <nfs domain>] - NFSv4 ID Mapping Domain

If you specify this parameter, the command displays information only about the NFS-enabled Vservers having the specified domain name.

[-v4-validate-symlinkdata {enabled|disabled}] - NFSv4 Validate UTF-8 Encoding of Symbolic Link Data (privilege: advanced)

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which validation of UTF-8 encoding of symbolic link data has been enabled or disabled.

[-v4-lease-seconds <integer>] - NFSv4 Lease Timeout Value (in secs) (privilege: advanced)

If you specify this parameter, it displays the locking lease period. It is expressed in seconds. Clients that have been inactive for a period equal or longer to the lease period may lose all their locking state on a node.

[-v4-grace-seconds <integer>] - NFSv4 Grace Timeout Value (in secs)

If you specify this parameter, it displays the grace period for clients to reclaim file locks after a server failure. The grace period is expressed in seconds.

[-v4-acl-preserve {enabled|disabled}] - Preserves and Modifies NFSv4 ACL (and NTFS File Permissions in Unified Security Style)

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which the `v4-acl-preserve` option matches the specified input.

[-v4.1 {enabled|disabled}] - NFSv4.1 Minor Version Support

If you specify this parameter, the command displays information only about NFS-enabled Vservers for which the `v4.1` option matches the specified input.

[-rquota {enabled|disabled}] - Rquota Enable

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which the `rquota` option matches the specified input.

[-v4.1-implementation-domain <nfs domain>] - NFSv4.1 Implementation ID Domain (privilege: advanced)

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which the `v4.1-implementation-domain` option matches the specified input.

[-v4.1-implementation-name <text>] - NFSv4.1 Implementation ID Name (privilege: advanced)

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which the `v4.1-implementation-name` option matches the specified input.

[-v4.1-implementation-date <Date>] - NFSv4.1 Implementation ID Date (privilege: advanced)

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which the `v4.1-implementation-date` option matches the specified input.

[-v4.1-pnfs {enabled|disabled}] - NFSv4.1 Parallel NFS Support

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which the `v4.1-pnfs` option matches the specified input.

[-v4.1-referrals {enabled|disabled}] - NFSv4.1 Referral Support (privilege: advanced)

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which the `v4.1-referrals` option matches the specified input.

[-v4.1-acl {enabled|disabled}] - NFSv4.1 ACL Support

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which the `v4.1-acl` option matches the specified input.

[-vstorage {enabled|disabled}] - NFS vStorage Support

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which the `vstorage` option matches the specified input.

[-v4-numeric-ids {enabled|disabled}] - NFSv4 Support for Numeric Owner IDs

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which the `v4-numeric-ids` option matches the specified input.

[-default-win-group <text>] - Default Windows Group

If you specify this parameter, the command displays information only about the NFS-enabled Vservers that have the specified list of default Windows groups.

[-v4.1-read-delegation {enabled|disabled}] - NFSv4.1 Read Delegation Support

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which the `v4.1-read-delegation` option matches the specified input.

[-v4.1-write-delegation {enabled|disabled}] - NFSv4.1 Write Delegation Support

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which the `v4.1-write-delegation` option matches the specified input.

[-v4.x-session-num-slots <integer>] - Number of Slots in the NFSv4.x Session slot tables (privilege: advanced)

If you specify this parameter, this command displays information only about the NFS-enabled Vservers for which the `v4.x-session-num-slots` option matches the specified input. The range is 1 to 2000.

[-v4.x-session-slot-reply-cache-size <integer>] - Size of the Reply that will be Cached in Each NFSv4.x Session Slot (in bytes) (privilege: advanced)

If you specify this parameter, this command displays information only about the NFS-enabled Vservers for which the `v4.x-session-slot-reply-cache-size` option matches the specified input. The cache size is expressed in bytes. The range is 512 to 4096.

[-v4-acl-max-aces <integer>] - Maximum Number of ACEs per ACL (privilege: advanced)

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which the `v4-acl-max-aces` option matches the specified input.

[-mount-rootonly {enabled|disabled}] - NFS Mount Root Only

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which the `mount-rootonly` option matches the specified input.

[-nfs-rootonly {enabled|disabled}] - NFS Root Only

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which the `nfs-rootonly` option matches the specified input.

[-auth-sys-extended-groups {enabled|disabled}] - AUTH_SYS Extended Groups Enabled (privilege: advanced)

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for

which the `auth-sys-extended-groups` option matches the specified input.

[-extended-groups-limit <integer>] - AUTH_SYS and RPCSEC_GSS Auxillary Groups Limit (privilege: advanced)

If you specify this parameter, the command displays information about the NFS-enabled Vservers for which the `extended-groups-limit` option matches the specified input. The range is 32 to 1024.

[-validate-qtree-export {enabled|disabled}] - Validation of Qtree IDs for Qtree File Operations (privilege: advanced)

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which `validate-qtree-export` option matches the specified input.

[-mountd-port <integer>] - NFS Mount Daemon Port (privilege: advanced)

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which the `mountd-port` option matches the specified input.

[-nlm-port <integer>] - Network Lock Manager Port (privilege: advanced)

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which the `nlm-port` option matches the specified input.

[-nsm-port <integer>] - Network Status Monitor Port (privilege: advanced)

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which the `nsm-port` option matches the specified input.

[-rquotad-port <integer>] - NFS Quota Daemon Port (privilege: advanced)

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which the `rquotad-port` option matches the specified input.

[-permitted-enc-types <NFS Kerberos Encryption Type>,…] - Permitted Kerberos Encryption Types

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which `permitted-enc-types` option matches any of the following : des, des3, aes-128, aes-256.

[-showmount {enabled|disabled}] - Showmount Enabled

If you specify this parameter, the command displays information only about the NFS-enabled Vserver's for which the `showmount` option matches the specified input.

[-name-service-lookup-protocol {TCP|UDP}] - Set the Protocol Used for Name Services Lookups for Exports

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which `-name-service-lookup-protocol` matches the parameter.

[-map-unknown-uid-to-default-windows-user {enable|disable}] - Map Unknown UID to Default Windows User (privilege: advanced)

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which `-map-unknown-uid-to-default-windows-user` is enabled or disabled.

[-netgroup-dns-domain-search {enabled|disabled}] - DNS Domain Search Enabled During Netgroup Lookup (privilege: advanced)

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for

which `-netgroup-dns-domain-search` is enabled or disabled.

[-netgroup-trust-any-ns-switch-no-match {enabled|disabled}] - Trust No-Match Result from Any Name Service Switch Source During Netgroup Lookup (privilege: advanced)

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which `-netgroup-trust-any-ns-switch-no-match` is enabled or disabled.

[-ntacl-display-permissive-perms {enabled|disabled}] - Display maximum NT ACL Permissions to NFS Client (privilege: advanced)

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which `-ntacl-display-permissive-perms` matches the parameter.

[-v3-ms-dos-client {enabled|disabled}] - NFSv3 MS-DOS Client Support

If you specify this parameter, the command displays information only about NFS-enabled Vservers for which NFSv3 MS-DOS client support is enabled or disabled.

[-ignore-nt-acl-for-root {enabled|disabled}] - Ignore the NT ACL Check for NFS User 'root' (privilege: advanced)

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which `-ignore-nt-acl-for-root` is enabled or disabled.

[-cached-cred-positive-ttl <integer>] - Time To Live Value (in msecs) of a Positive Cached Credential (privilege: advanced)

If you specify this parameter, the command displays information about the NFS-enabled Vservers time to live value of the positive cached credentials.

[-cached-cred-negative-ttl <integer>] - Time To Live Value (in msecs) of a Negative Cached Credential (privilege: advanced)

If you specify this parameter, the command displays information about the NFS-enabled Vservers time to live value of the negative cached credentials.

[-skip-root-owner-write-perm-check {enabled|disabled}] - Skip Permission Check for NFS Write Calls from Root/Owner (privilege: advanced)

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which `-skip-root-owner-write-perm-check` is enabled or disabled.

[-v3-64bit-identifiers {enabled|disabled}] - Use 64 Bits for NFSv3 FSIDs and File IDs (privilege: advanced)

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which `-v3-64bit-identifiers` is enabled or disabled.

[-v4-inherited-acl-preserve {enabled|disabled}] - Ignore Client Specified Mode Bits and Preserve Inherited NFSv4 ACL When Creating New Files or Directories (privilege: advanced)

If you specify this parameter, the command displays information about the NFS-enabled Vservers for which `-v4-inherited-acl-preserve` matches the specified input.

[-v3-search-unconverted-filename {enabled|disabled}] - Fallback to Unconverted Filename Search (privilege: advanced)

If you specify this parameter, the command displays information about the NFS-enabled Vservers for which `-v3-search-unconverted-filename` matches the specified input.

[-file-session-io-grouping-count <integer>] - I/O Count to Be Grouped as a Session (privilege: advanced)

If you specify this parameter, the command displays information about the NFS-enabled SVMs for which the `-file-session-io-grouping-count` matches the specified input.

[-file-session-io-grouping-duration <integer>] - Duration for I/O to Be Grouped as a Session (Secs) (privilege: advanced)

If you specify this parameter, the command displays information about the NFS-enabled SVMs for which the `-file-session-io-grouping-duration` matches the specified input.

[-checksum-for-replay-cache {enabled|disabled}] - Enable or disable Checksum for Replay-Cache (privilege: advanced)

If you specify this parameter, the command displays information about the NFS-enabled SVMs for which the `-checksum-for-replay-cache` matches the specified input.

[-cached-cred-harvest-timeout <integer>] - Harvest timeout (in msecs) for a Cached Credential (privilege: advanced)

If you specify this parameter, the command displays information about the NFS-enabled Vservers harvest timeout for cached credentials.

[-idle-connection-timeout <integer>] - Idle Connection Timeout Value (in seconds)

If you specify this parameter, the command displays information about the NFS-enabled Vservers idle connections timeout

[-allow-idle-connection {enabled|disabled}] - Are Idle NFS Connections Supported

If you specify this parameter, the command displays information only about NFS-enabled Vservers for which the `-allow-idle-connection` option matches the specified input.

[-v3-hide-snapshot {enabled|disabled}] - Hide Snapshot Directory under NFSv3 Mount Point

If you specify this parameter, the command displays information about the NFS-enabled Vservers for which `-v3-hide-snapshot` matches the specified input.

[-showmount-rootonly {enabled|disabled}] - Provide Root Path as Showmount State

If you specify this parameter, the command displays information about the NFS-enabled Vservers for which `-showmount-rootonly` matches the specified input.

[-v4-64bit-identifiers {enabled|disabled}] - Use 64 Bits for NFSv4.x FSIDs and File IDs (privilege: advanced)

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which `-v4-64bit-identifiers` is enabled or disabled.

[-v4.2-seclabel {enabled|disabled}] - NFSV4.2 Security Label Support (privilege: advanced)

If you specify this parameter, the command displays information only about the NFS-enabled Vservers for which the `v4.2-seclabel` option matches the specified input.

[-rdma {enabled|disabled}] - RDMA Protocol

If you specify this parameter, the command displays information only about the NFS-enabled Vservers that have the specified NFS-over-RDMA setting.

Examples

The following example displays information about all NFS-enabled Vservers:

```
cluster1::> vserver nfs show
       General                                                 Default
Vserver      Access  v3       v4       v4.1     UDP      TCP      Windows
User
------------ ------- -------- -------- -------- -------- --------
------------
vs0          true    enabled  disabled disabled enabled  enabled  -
vs1          true    enabled  disabled disabled enabled  enabled  -
2 entries were displayed.
```

The following example displays Kerberos-related information about all NFS-enabled Vservers:

```
cluster1::*> vserver nfs show -krb-opts
Vserver Context High Context Idle
-------------- ------------ ------------
vs0            30           30
vs1            30           30
2 entries were displayed.
```

vserver nfs start

Start the NFS service of a Vserver

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

Description

The `vserver nfs start` command starts the NFS service on a Vserver to serve NFS clients. The Vserver must already exist.

Parameters

`-vserver <vserver name>` - Vserver

This parameter specifies the Vserver on which you want to start the NFS service.

Examples

The following example starts the NFS service on a Vserver named vs0.

```
cluster1::> vserver nfs start -vserver vs0
```

vserver nfs status

Display the status of the NFS service of a Vserver

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

Description

The `vserver nfs status` command shows the status of NFS on a Vserver. The Vserver must already exist.

Parameters

`-vserver <vserver name>` - Vserver

This parameter specifies the Vserver for which you want to see the NFS status.

`[-is-enabled {true|false}]` - NFS Service Enabled

If you specify this optional parameter, the command displays whether NFS is enabled or not. This parameter is true if the NFS server is running.

Examples

The following example shows the status of NFS on a Vserver named vs0 for which NFS is enabled.

```
cluster1::> vserver nfs status -vserver vs0.
The NFS server is running.
```

vserver nfs stop

Stop the NFS service of a Vserver

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

Description

The `vserver nfs stop` command stops the NFS service on a Vserver to serve NFS clients. The Vserver must already exist.

Parameters

`-vserver <vserver name>` - Vserver

This parameter specifies the Vserver on which you want to stop the NFS service.

Examples

The following example stops the NFS service on a Vserver named vs0.

```
cluster1::> vserver nfs stop -vserver vs0
```

vserver nfs connected-clients show

Display List of recent NFS clients information

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

Description

The `nfs connected-clients show ` command displays information about currently connected NFS clients, other NFS clients that are are currently idle but can be connected, and a list of recently unmounted clients.

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.

[-node {<nodename>|local}] - Node Name

Use this parameter to display information only about the specified node.

[-vserver <vserver>] - Vserver

Use this parameter to display information only about the specified vserver.

[-data-lif-ip <IP Address>] - Data LIF IP Address

Use this parameter to display information only about the specified data LIF IP.

[-client-ip <IP Address>] - Client IP Address

Use this parameter to display information only about the specified client IP.

[-volume <volume name>] - Volume Accessed

Use this parameter to display information only about the specified volume.

[-protocol <Client Access Protocol>] - Protocol Version

Use this parameter to display information only about the specified protocol.

[-idle-time <[<integer>d][<integer>h][<integer>m][<integer>s]>] - Idle Time (Sec)

Use this parameter to display the time elapsed since the client sent the last request for this volume.

[-local-reqs <integer>] - Number of Local Reqs

Use this parameter to display a counter tracking requests that are sent to the volume with fast-path.

[-remote-reqs <integer>] - Number of Remote Reqs

Use this parameter to display a counter tracking requests that are sent to the volume with slow-path to remote Dblade using a CSM session.

[-policy-name <text>] - Export Policy Name

Use this parameter to display the Policy Name for this volume.

Examples

The following example displays the connected clients information.

```
cluster-1::*> nfs connected-clients show
Node: vsim1
  Vserver: vs1
  Data-Ip: 10.140.72.214
Client-Ip      Protocol Volume    Policy   Idle-Time    Local-Reqs Remote-
Reqs
-------------- -------- --------- -------- ------------ ----------
----------
10.140.137.57  nfs4     rvol1     pol1     5s           9          0
10.140.137.57  nfs3     vol1      pol1     6m 51s       14         0
10.140.137.57  nfs4     vol1      pol1     5s           16         0

3 entries were displayed.
```

vserver nfs credentials count

Count credentials cached by NFS

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

Description

The `vserver nfs credentials count` command displays the number of credentials stored in NFS credentials cache on a specific node. This command has no effect if the specified node has no active data.

Parameters

-node <nodename> - Node (privilege: advanced)

The name of the node on which the command is executed.

Examples

Lists the number of credentials stored by NFS on node node1

```
cluster1::*> vserver nfs credentials count -node node1

Number of credentials cached by NFS on node "node1": "2"
```

vserver nfs credentials flush

Flush credentials cached by NFS

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

Description

The `vserver nfs credentials flush` command deletes credentials from the NFS credentials cache on a specific node for a given Vserver or a given UNIX user. This command has no effect if the vserver that is specified has no active data interfaces on the node where the command is run.

Parameters

`-node <nodename>` - Node (privilege: advanced)
The name of the node on which the command is executed.

`-vserver <vserver name>` - Vserver (privilege: advanced)
Use this parameter to clear the credential cache for the Vserver you specify.

{ `[-unix-user-id <integer>]` - UNIX User ID (privilege: advanced)
Use this parameter to clear the credential cache for the UNIX user id you specify.

`[-client-ip <IP Address>]` - Client IP Address (privilege: advanced)
Use this parameter to clear the credential cache for the client IP address you specify.

| `[-unix-user-name <text>]` - UNIX User Name (privilege: advanced)
Use this parameter to clear the credential cache for the UNIX user name you specify.

| `[-unix-group-id <integer>]` - UNIX Group ID (privilege: advanced)
Use this parameter to clear the credential cache for the UNIX group id you specify.

| `[-unix-group-name <text>]` - UNIX Group Name (privilege: advanced) }
Use this parameter to clear the credential cache for the UNIX group name you specify.

Examples

Clear the credential cache for user user1 on node node1 in Vserver vs1.

```
cluster1::*> vserver nfs credentials flush -node node1 -vserver vs1 -unix
-user-name user1

Number of matching credentials flushed: 1
```

vserver nfs credentials show

Show credentials cached by NFS

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

Description

The `vserver nfs credentials show` command displays the user account credentials stored on a specific node for a given UNIX user. This command has no effect if the vserver specified has no active data interfaces on the node where the command is run.

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.

-node <nodename> - Node (privilege: advanced)

The name of the node on which the command is executed.

-vserver <vserver name> - Vserver (privilege: advanced)

Use this parameter to search for user credentials in the Vserver you specify.

{ -unix-user-id <integer> - UNIX User ID (privilege: advanced)

Use this parameter to search for user credentials for the UNIX user id you specify.

[-client-ip <IP Address>] - Client IP Address (privilege: advanced)

Use this parameter to search for user credentials for the client ip you specify.

| -unix-user-name <text> - UNIX User Name (privilege: advanced)

Use this parameter to search for user credentials for the UNIX user name you specify.

| -unix-group-id <integer> - UNIX Group ID (privilege: advanced)

Use this parameter to search for user credentials for the UNIX group id you specify.

| -unix-group-name <text> - UNIX Group Name (privilege: advanced) }

Use this parameter to search for user credentials for the UNIX group name you specify.

[-flags {ip-qualifier-configured|ip-qualifier-not-configured|unix-extended-creds-present|no-unix-extended-creds|unix-extended-creds-requested|unix-creds-transient-failure|cifs-creds-present|no-cifs-creds|cifs-creds-requested|cifs-cifs-transient-failure|place-holder|transient-failure|transient-error-on-last-refresh|id-name-mapping-present|no-id-name-mapping|id-name-mapping-requested|id-name-mapping-transient-failure|unix-cred-is-partial}] - Credential Entry Flags (privilege: advanced)

The credential entry flags.

[-last-refresh-time <[<integer>h][<integer>m][<integer>s]>] - Time since Last Refresh (privilege: advanced)

Time since last refreshed.

[-last-access-time <[<integer>h][<integer>m][<integer>s]>] - Time since Last Access (privilege: advanced)

Time since last access.

[-hit-count <integer>] - Number of Hits (privilege: advanced)

Number of times the cached credential is fetched successfully.

[-unix-cred-flags <integer>] - UNIX Credential Flags (privilege: advanced)

UNIX credentials flags.

[-unix-cred-domain-id <integer>] - UNIX Credential Domain ID (privilege: advanced)

UNIX credentials domain ID.

[-unix-cred-uid <integer>] - UNIX Credential UID (privilege: advanced)

User ID of the UNIX user.

[-unix-cred-primary-gid <integer>] - UNIX Credential Primay GID (privilege: advanced)

Primary GID of the UNIX user.

[-unix-cred-additional-gids <integer>,…] - UNIX Credential Additional GIDs (privilege: advanced)

Additional GIDs of the UNIX user.

[-win-cred-flags <integer>] - Windows Credential Flags (privilege: advanced)

Windows credentials flags.

[-win-cred-user-sid <text>] - Windows Credential User SID (privilege: advanced)

SID of the windows user.

[-win-cred-primary-group-sid <text>] - Windows Credential Primary Group SID (privilege: advanced)

SID of the windows user’s primary group.

[-win-cred-domain-sids <text>,…] - Windows Credential Domain SIDs (privilege: advanced)

Domain SIDs of the windows user.

Examples

Show the credentials cached by NFS Cred Store for the UNIX user node1 on node node1.

```
gnk1cluster1::*> vserver nfs credentials show -node gnk1cluster1-01
-vserver coke -unix-user-name root

Credentials
 -----------
                     Node: gnk1cluster1-01
                  Vserver: coke
                Client IP: -
                    Flags: ip-qualifier-not-configured, unix-extended-
creds-present, cifs-creds-present, id-name-mapping-present
  Time since Last Refresh: 10s
   Time since Last Access: 5s
                Hit Count: 24
Unix Credentials:
                    Flags: 0
                Domain ID: 0
                      UID: 0
              Primary GID: 1
          Additional GIDs: 1
Windows Credentials:
                    Flags: 8759
                 User SID: S-1-5-21-2552784647-1202982559-4146209732-500
        Primary Group SID: S-1-5-21-2552784647-1202982559-4146209732-513
              Domain SIDs: S-1-5-21-2552784647-1202982559-4146209732
                           S-1-1
                           S-1-5
                           S-1-5-32
ID-Name Information:
                    Type: user
                      ID: 0
                    Name: root
```

vserver nfs kerberos interface disable

Disable NFS Kerberos on a LIF

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

Description

The `vserver nfs kerberos interface disable` command disables NFS Kerberos on a logical interface.

Parameters

-vserver <vserver name> - Vserver

This parameter specifies the Vserver in which the logical interface exists.

-lif <lif-name> - Logical Interface

This parameter specifies the name of the logical interface on which you want to disable NFS Kerberos.

[-admin-username <text>] - Account Creation Username

This optional parameter specifies the administrator user name.

[-admin-password <text>] - Account Creation Password

This optional parameter specifies the administrator password.

Examples

The following example disables NFS Kerberos on a Vserver named vs0 and a logical interface named datalif1.

```
vs1::> vserver nfs kerberos interface disable -vserver vs0 -lif datalif1
```

vserver nfs kerberos interface enable

Enable NFS Kerberos on a LIF

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

Description

The `vserver nfs kerberos interface enable` command enables NFS Kerberos on a logical interface.

Parameters

-vserver <vserver name> - Vserver

This parameter specifies the Vserver in which the logical interface exists.

-lif <lif-name> - Logical Interface

This parameter specifies the name of the logical interface on which you want to enable NFS Kerberos.

[-spn <text>] - Service Principal Name

This optional parameter specifies the service principal name (SPN) for the logical interface you want to enable. This value must be in the form nfs/*host_name* @*REALM* , where *host_name* is the fully qualified host name of the Kerberos server, nfs is the service, and *REALM* is the name of the Kerberos realm (for instance, EXAMPLE.COM). Specify Kerberos realm name in uppercase.

[-admin-username <text>] - Account Creation Username

This optional parameter specifies the administrator user name.

[-admin-password <text>] - Account Creation Password

This optional parameter specifies the administrator password.

[-keytab-uri {(ftp|http)://(hostname|IPv4 Address|'['IPv6 Address']')…}] - Load Keytab from URI

This optional parameter specifies loading a keytab file from the specified URI.

[-ou <text>] - Organizational Unit

This optional parameter specifies the organizational unit (OU) under which the Microsoft Active Directory server account will be created when you enable Kerberos using a realm for Microsoft KDC. If this parameter is not specified, the default OU is "CN=Computers".

[-machine-account <text>] - Machine Account Name

This optional parameter specifies the machine account to create in Active Directory

Examples

The following example enables NFS Kerberos on a Vserver named vs0 and a logical interface named datalif1. The SPN is nfs/sec.example.com@AUTH.SEC.EXAMPLE.COM and the keytab file is loaded from ftp://ftp.example.com/keytab.

```
vs1::> vserver nfs kerberos interface enable -vserver vs0 -lif datalif1
-spn nfs/sec.example.com@AUTH.SEC.EXAMPLE.COM -keytab-uri
 ftp://ftp.example.com/keytab
```

vserver nfs kerberos interface modify

Modify the Kerberos configuration of an NFS server

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

Description

The `vserver nfs kerberos interface modify` command modifies a Kerberos configuration for NFS. An NFS Kerberos configuration is associated with both a Vserver and a logical interface.

Parameters

-vserver <vserver name> - Vserver

This parameter specifies the Vserver associated with the NFS Kerberos configuration you want to modify.

-lif <text> - Logical Interface

This parameter specifies the name of the logical interface associated with the NFS Kerberos configuration you want to modify.

[-kerberos {enabled|disabled}] - Kerberos Enabled

This optional parameter specifies whether to enable or disable Kerberos for NFS on the specified Vserver and logical interface. If you specify a value of `enable` , you must also specify the -spn parameter. The

command prompts you for a user name and password for a Kerberos principal in the same realm as the principal specified by the `-spn` parameter; this principal must have permission to create or modify the principal specified by the `-spn` parameter.

`[-spn <text>]` - Service Principal Name

This optional parameter specifies the service principal name (SPN) of the Kerberos configuration you want to modify. If you specify a value of `enable` for the `-kerberos` parameter, you must also specify this parameter. This value must be in the form nfs/*`host_name`*@*`REALM`*, where *`host_name`* is the fully qualified host name of the Kerberos server, nfs is the service, and *`REALM`* is the name of the Kerberos realm (for instance, EXAMPLE.COM). Specify Kerberos realm names in uppercase.

`[-admin-username <text>]` - Account Creation Username

This optional parameter specifies the administrator user name.

`[-keytab-uri {(ftp|http)://(hostname|IPv4 Address|'['IPv6 Address']')…}]` - Load Keytab from URI

This optional parameter specifies loading a keytab file from the specified URI.

`[-ou <text>]` - Organizational Unit

This optional parameter specifies the organizational unit (OU) under which the Microsoft Active Directory server account will be created when you enable Kerberos using a realm for Microsoft KDC. If this parameter is not specified, the default OU is "CN=Computers".

`[-machine-account <text>]` - Machine Account Name

This optional parameter specifies the machine account to create in Active Directory

Examples

The following example enables an NFS Kerberos configuration on a Vserver named vs0 and a logical interface named datalif1. The SPN is nfs/sec.example.com@AUTH.SEC.EXAMPLE.COM and the keytab file is loaded from ftp://ftp.example.com/keytab.

```
vs1::> vserver nfs kerberos interface modify -vserver vs0 -lif datalif1
-kerberos enabled -spn nfs/sec.example.com@AUTH.SEC.EXAMPLE.COM -keytab
-uri
 ftp://ftp.example.com/keytab
```

vserver nfs kerberos interface show

Display the Kerberos configurations of NFS servers

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

Description

The `vserver nfs kerberos interface show` command displays information about Kerberos configurations for NFS. The command output depends on the parameters specified with the command. If you do not specify any parameters, the command displays the following information about all Kerberos configurations for NFS:

- Vserver name
- Logical interface name
- Logical interface IP address
- Whether Kerberos is enabled or disabled
- The Kerberos service principal name (SPN)
- The permitted encryption types

You can specify additional parameters to display only information that matches those parameters. For instance, to display information only about Kerberos configurations for NFS that are enabled, run the command with the `-kerberos enabled` parameter.

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.

[-vserver <vserver name>] - Vserver

If you specify this parameter and the `-lif` parameter, the command displays information only about the Kerberos configuration or configurations for NFS that are associated with the specified Vserver and logical interface.

[-lif <text>] - Logical Interface

If you specify this parameter and the `-vserver` parameter, the command displays information only about the Kerberos configuration or configurations for NFS that are associated with the specified logical interface and Vserver.

[-address <IP Address>] - IP Address

If you specify this parameter, the command displays information only about the Kerberos configurations for NFS that are associated with the specified logical-interface IP address.

[-kerberos {enabled|disabled}] - Kerberos Enabled

If you specify this parameter, the command displays information only about the Kerberos configurations for NFS that match the specified value.

[-spn <text>] - Service Principal Name

If you specify this parameter, the command displays information only about the Kerberos configuration or configurations for NFS that match the specified SPN.

[-permitted-enc-types <NFS Kerberos Encryption Type>,…] - Permitted Encryption Types

If you specify this parameter, the command displays information only about the Kerberos configuration for NFS that matches the specified encryption types.

[-machine-account <text>] - Machine Account Name

If you specify this parameter, the command displays information only about the Kerberos configuration for

NFS that matches the specified machine account.

Examples

The following example displays information about the Kerberos configuration for NFS associated with the Vserver vs0 and the logical interface datalif1:

```
vs1::> vserver nfs kerberos interface show -vserver vs0 -lif datalif1
                    Vserver: vs1
          Logical Interface: datalif1
                 IP Address: 192.0.2.130
           Kerberos Enabled: enabled
    Service Principal Name: nfs/sec.example.com@AUTH.SEC.EXAMPLE.COM
Permitted Encryption Types: des,des3,aes-128,aes-256
```

vserver nfs kerberos realm create

Create a Kerberos realm configuration

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

Description

The `vserver nfs kerberos realm create` command creates a Kerberos realm configuration.

Parameters

`-vserver <vserver name>` - Vserver

This parameter specifies the Vserver associated with the Kerberos realm configuration that you want to create.

`-realm <text>` - Kerberos Realm

This parameter specifies the name of the Kerberos realm for the configuration.

`-kdc-vendor <Kerberos Key Distribution Center (KDC) Vendor>` - KDC Vendor

This optional parameter specifies the KDC vendor. Specify Microsoft if you are using a Microsoft Active Directory server; specify Other if you are using a UNIX server.

`-kdc-ip <IP Address>` - KDC IP Address

This optional parameter specifies the IP address of the Kerberos Distribution Center (KDC) server.

`[-kdc-port <integer>]` - KDC Port

This optional parameter specifies the port number of the KDC server. The default setting is 88.

`[-clock-skew <integer>]` - Clock Skew

This optional parameter specifies how many seconds of clock skew between the clients and the server are permitted. The default setting is 300 seconds.

[-adserver-name <text>] - Active Directory Server Name

This optional parameter specifies the name of an Active Directory server for the configuration. Use this parameter only if you specified the value of `-kdc-vendor` parameter as Microsoft.

[-adserver-ip <IP Address>] - Active Directory Server IP Address

This optional parameter specifies the IP address of an Active Directory server for the configuration. Use this parameter only if you specified the value of the `-kdc-vendor` parameter as Microsoft.

[-comment <text>] - Comment

This optional parameter specifies a comment for the Kerberos realm configuration.

[-adminserver-ip <IP Address>] - Admin Server IP Address

This optional parameter specifies the IP address of the administrative server. Use this parameter only if you specified the value of `-kdc-vendor` parameter as Other. The default setting for this parameter is the KDC server's IP address as specified by the `-kdc-ip` parameter.

[-adminserver-port <integer>] - Admin Server Port

This optional parameter specifies the port number of the administrative server. The default setting is 749. Use this parameter only if you specified the value of `-kdc-vendor` parameter as Other.

[-passwordserver-ip <IP Address>] - Password Server IP Address

This optional parameter specifies the IP address of the password server. Use this parameter only if you specified the value of `-kdc-vendor` parameter as Other. The default setting for this parameter is the KDC server's IP address as specified by the `-kdc-ip` parameter.

[-passwordserver-port <integer>] - Password Server Port

This optional parameter specifies the port number of the password server. The default setting is 464. Use this parameter only if you specified the value of `-kdc-vendor` parameter as Other.

Examples

The following example creates a Kerberos realm named SEC.EXAMPLE.COM for the Vserver named AUTH. The permitted clock skew is 15 seconds. The KDC's IP address is 192.0.2.170 and its port is 88. The KDC vendor is Other (for a UNIX KDC). The administrative server's IP address is 192.0.2.170 and its port is 749. The password server's IP address is 192.0.2.170 and its port is 464.

```
cluster1::> vserver nfs kerberos realm create -vserver AUTH -realm
SEC.EXAMPLE.COM -clock-skew 15 -kdc-ip 192.0.2.170 -kdc-port 88 -kdc
-vendor Other -adminserver-ip 192.0.2.170 -adminserver-port 749
-passwordserver-ip 192.0.2.170 -passwordserver-port 464
```

vserver nfs kerberos realm delete

Delete a Kerberos realm configuration

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

Description

The `vserver nfs kerberos realm delete` command deletes a Kerberos realm configuration from the system.

Parameters

`-vserver <vserver name>` - Vserver

This parameter specifies the name of the Vserver for the Kerberos realm configuration that you want to delete.

`-realm <text>` - Kerberos Realm

This parameter specifies the name of the Kerberos realm for the configuration.

Examples

The following example deletes the Kerberos realm SEC.EXAMPLE.COM from the Vserver named AUTH:

```
cluster1::> vserver nfs kerberos realm delete -vserver AUTH -realm
SEC.EXAMPLE.COM
```

vserver nfs kerberos realm modify

Modify a Kerberos realm configuration

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

Description

The `vserver nfs kerberos realm modify` command modifies one or more attributes of a Kerberos realm configuration.

Parameters

`-vserver <vserver name>` - Vserver

This parameter specifies the name of the Vserver for the Kerberos realm configuration that you want to modify.

`-realm <text>` - Kerberos Realm

This optional parameter specifies the name of a Kerberos realm for the configuration.

`[-kdc-vendor <Kerberos Key Distribution Center (KDC) Vendor>]` - KDC Vendor

This optional parameter specifies the KDC vendor. Specify Microsoft if you are using a Microsoft Active Directory server; specify Other if you are using a UNIX server.

`[-kdc-ip <IP Address>]` - KDC IP Address

This optional parameter specifies the IP address of the Kerberos Distribution Center (KDC) server.

[-kdc-port <integer>] - KDC Port

This optional parameter specifies the port number of the KDC server. The default setting at the time of creation is 88.

[-clock-skew <integer>] - Clock Skew

This optional parameter specifies how many seconds of clock-skew between server and the clients are permitted. The default setting at the time of creation is 300 seconds.

[-adserver-name <text>] - Active Directory Server Name

This optional parameter specifies the name of an Active Directory server for the configuration. Use this parameter if you specified the value of `-kdc-vendor` parameter as Microsoft.

[-adserver-ip <IP Address>] - Active Directory Server IP Address

This optional parameter specifies the IP address of an Active Directory server for the configuration. Use this parameter if you specified the value of the `-kdc-vendor` parameter as Microsoft.

[-comment <text>] - Comment

This optional parameter specifies a comment for the Kerberos realm configuration.

[-adminserver-ip <IP Address>] - Admin Server IP Address

This optional parameter specifies the IP address of the administrative server. Use this parameter if you specified the value of `-kdc-vendor` parameter as Other.

[-adminserver-port <integer>] - Admin Server Port

This optional parameter specifies the port number of the administrative server. The default setting at the time of creation is 749. Use this parameter if you specified the value of the `-kdc-vendor` parameter as Other.

[-passwordserver-ip <IP Address>] - Password Server IP Address

This optional parameter specifies the IP address of the password server. Use this parameter if you specified the value of `-kdc-vendor` parameter as Other.

[-passwordserver-port <integer>] - Password Server Port

This optional parameter specifies the port number of the password server. The default setting at the time of creation is 464. Use this parameter only if you specified the value of `-kdc-vendor` parameter as Other.

Examples

The following example modifies the Kerberos realm SEC.EXAMPLE.COM for the Vserver named AUTH to use a Microsoft KDC server with the IP address 192.0.2.170 and an Active Directory server named AUTH.SEC.EXAMPLE.COM with the IP address 192.0.2.170:

```
cluster1::> vserver nfs kerberos realm modify -vserver AUTH -realm
SEC.EXAMPLE.COM -adserver-name AUTH.SEC.EXAMPLE.COM -adserver-ip
192.0.2.170 -kdc-ip 192.0.2.170 -kdc-vendor Microsoft
```

vserver nfs kerberos realm show

Display Kerberos realm configurations

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

Description

The `vserver nfs kerberos realm show` command displays information about Kerberos realm configurations. The command output depends on the parameters specified with the command. If you do not specify any parameters, the command displays the following information about all Kerberos realm configurations:

- Vserver
- Kerberos realm name
- Active Directory server name
- Kerberos Distribution Center (KDC) vendor
- KDC IP address
- The permitted encryption types

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.

[-vserver <vserver name>] - Vserver

If you specify this parameter, the command displays information only about the Kerberos realm configurations for the specified Vserver.

[-realm <text>] - Kerberos Realm

If you specify this parameter, the command displays information only about the Kerberos realm configurations that use the specified Kerberos realm.

[-kdc-vendor <Kerberos Key Distribution Center (KDC) Vendor>] - KDC Vendor

If you specify this parameter, the command displays information only about the Kerberos realm configurations that use the specified KDC vendor.

[-kdc-ip <IP Address>] - KDC IP Address

If you specify this parameter, the command displays information only about the Kerberos realm configurations that use the specified KDC IP address.

[-kdc-port <integer>] - KDC Port

If you specify this parameter, the command displays information only about the Kerberos realm configurations that use the specified KDC port number.

[-clock-skew <integer>] - Clock Skew

If you specify this parameter, the command displays information only about the Kerberos realm configurations that use the specified clock skew.

[-adserver-name <text>] - Active Directory Server Name

If you specify this parameter, the command displays information only about the Kerberos realm configurations that use the Active Directory server that has the specified name.

[-adserver-ip <IP Address>] - Active Directory Server IP Address

If you specify this parameter, the command displays information only about the Kerberos realm configurations that use the Active Directory server that has the specified IP address.

[-comment <text>] - Comment

If you specify this parameter, the command displays information only about the Kerberos realm configurations that match the specified comment text.

[-adminserver-ip <IP Address>] - Admin Server IP Address

If you specify this parameter, the command displays information only about the Kerberos realm configurations that use the specified administrative-server IP address.

[-adminserver-port <integer>] - Admin Server Port

If you specify this parameter, the command displays information only about the Kerberos realm configurations that use the specified administrative-server port number.

[-passwordserver-ip <IP Address>] - Password Server IP Address

If you specify this parameter, the command displays information only about the Kerberos realm configurations that use the specified password-server IP address.

[-passwordserver-port <integer>] - Password Server Port

If you specify this parameter, the command displays information only about the Kerberos realm configurations that use the specified password-server port number.

[-permitted-enc-types <NFS Kerberos Encryption Type>,…] - Permitted Encryption Types

If you specify this parameter, the command displays information only about the Kerberos realm configuration that match the specified encryption types.

Examples

The following example displays information about all Kerberos realm configurations:

```
cluster1::> vserver nfs kerberos realm show
Kerberos                 Active Directory KDC        KDC
Vserver  Realm                    Server           Vendor     IP Address
-------- ---------------------- ---------------- ----------
-----------------
AUTH     SEC.EXAMPLE.COM          AUTH.SEC.EXAMPLE.COM
                                                   Microsoft  192.0.2.170
```

vserver nfs pnfs devices create

Create a new pNFS device and its mapping

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

Description

```
The `vserver nfs pnfs devices create` command creates a pNFS device for a
given instance of a volume. The actual creation of pNFS devices is
automatically done by the pNFS implementation in Data ONTAP kernel. The
usage of this command might interfere with the functionality of the pNFS
server. Thus, it is advised that this command not be used without
supervision by technical support.
```

Parameters

`[-global-device-table-id <integer>]` - Global Device Mapping Table ID (privilege: advanced)

This optional parameter specifies the unique identifier that the pNFS devices subsystem assigns to the device that corresponds to the MSID described below. The pNFS devices implementations keeps track of the global unique identifier that needs to be assigned to this device. It is expected that users need not specifically input the device identifier while creation.

`-vserver <vserver name>` - Vserver Name (privilege: advanced)

This parameter specifies the Vserver to which the volumes belong.

`-msid <integer>` - Volume MSID (privilege: advanced)

This parameter uniquely identifies the volume for which you are creating a pNFS device.

`-striping-epoch <integer>` - Striping Epoch (privilege: advanced)

This optional parameter specifies the striping epoch identifier for a volume for which you are creating a pNFS device. For flexible volumes, the value is always 1.

`-device-access <integer>` - Device Access Flags (privilege: advanced)

This optional parameter specifies the type of access that is given to the pNFS device that you are creating. If the value is 1, it means write access. If the value if 0, it means read access. By default, the device is created with write access.

`-version <integer>` - Device Version (privilege: advanced)

This optional parameter specifies the version associated with the pNFS device identifier. By default, the version is set to 1.

`[-generation-count <integer>]` - Device Generation (privilege: advanced)

This optional parameter specifies the generation count associated with the pNFS device identifier. If a device already exists, the existing device is invalidated and the generation number for the device is bumped. If a device does not already exist, a new device is created with generation number 1.

[-create-time <MM/DD/YYYY HH:MM:SS>] - Device Creation Time (privilege: advanced)

This optional parameter specifies the time at which the device is created. If the parameter is not specified, the time at which the device is created is stored along with the device.

[-mapping-status {available|notavailable}] - Device Mapping Status (privilege: advanced)

This optional parameter specifies if the mapping exists for a device. If the value is set to "available", the mappings will be created in the device mappings table. If the value is set to "notavailable", the mappings will not be created in the device mappings table.

Examples

vserver nfs pnfs devices delete

Delete a pNFS device

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

Description

The `vserver nfs pnfs devices delete` command deletes a unique pNFS device. The pNFS device to be deleted is identified by the unique device mapping identifier (mid) parameter passed to this operation. When this operation is successful, the device mappings corresponding to the device and the information corresponding to the device itself are removed. You can obtain the global mapping identifier from the list of devices using the command vserver nfs pnfs devices show .

Parameters

-global-device-table-id <integer> - Global Device Mapping Table ID (privilege: advanced)

This parameter specifies the pNFS global device mapping identifier that uniquely identifies a pNFS device

Examples

The following example deletes the device information of a device with global mapping identifier value 2.

```
cluster1::> vserver nfs pnfs delete -mid 2
```

Related Links

- vserver nfs pnfs devices show

vserver nfs pnfs devices show

Display pNFS device information

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

Description

The `vserver nfs pnfs devices show` command displays a pNFS device for a given instance of a volume. The command output depends on the parameter or parameters specified with the command. If you do not specify any parameters, the command displays the following information about all pNFS devices:

- Vserver name
- The global device mapping identifier of the device
- The master data set ID (MSID) of the volume that leads to this device
- The mapping status of the device
- The generation number of the device

You can specify additional parameters to display only information that matches those parameters. For instance, to display information only about devices that are exported as write-only devices, enter the command with the `-access-flags 1` parameter.

Parameters

{ [-fields <fieldname>,…]

If you specify the `-fields` parameter, the command only displays the fields that you specify.

| [-instance] }

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

[-global-device-table-id <integer>] - Global Device Mapping Table ID (privilege: advanced)

If you specify this parameter, the command displays information only about the unique identifier that the pNFS devices subsystem assigns to the device that is being output.

[-vserver <vserver name>] - Vserver Name (privilege: advanced)

If you specify this parameter, the command displays information only about the Vserver that owns the volume represented by MSID.

[-msid <integer>] - Volume MSID (privilege: advanced)

If you specify this parameter, the command displays information only about the volume or volumes that match the specified MSID.

[-striping-epoch <integer>] - Striping Epoch (privilege: advanced)

If you specify this parameter, the command displays information only about the striping epoch identifier for a volume that serves as the basis for the pNFS device.

[-device-access <integer>] - Device Access Flags (privilege: advanced)

If you specify this parameter, the command displays information only about access flags which specify the type of access that is given to the pNFS device. If the value is 1, it means write access. If the value is 0, it means read access.

[-version <integer>] - Device Version (privilege: advanced)

If you specify this parameter, the command displays information only about pNFS devices that match the specified version number.

[-generation-count <integer>] - Device Generation (privilege: advanced)

If you specify this parameter, the command displays information only about generation count associated with the pNFS device identifier.

[-create-time <MM/DD/YYYY HH:MM:SS>] - Device Creation Time (privilege: advanced)

If you specify this parameter, the command displays information only about pNFS devices that were created at the specified time.

[-mapping-status {available|notavailable}] - Device Mapping Status (privilege: advanced)

If you specify this parameter, the command displays information only about if the mapping exists for a device. If the value is set to "available", the mappings can be seen in the device mappings table. If the value is set to "notavailable", the mappings will not be seen in the device mappings table.

Examples

The following example displays the information of a device with global mapping identifier 6. The device corresponds to a volume with MSID 2147484673 on Vserver vs1. The device mappings corresponding to this device follow in the mappings table.

```
cluster1::*> vserver nfs pnfs devices show
Vserver Name     Mapping ID      Msid            Mapping Status
Generation
---------------  --------------- --------------- ---------------
-------------
vs1              1               2147484673      available       6

cluster1::*> vserver nfs pnfs devices mappings show
Vserver Name    Mapping ID      Dsid            LIF IP
--------------  --------------- --------------- --------------------
vs1             1               1025            10.53.4.14
```

vserver nfs pnfs devices cache show

Display the device cache

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

Description

```
The `vserver nfs pnfs devices cache show` command displays the device
cache.
```

Parameters

{ [-fields <fieldname>,…]

If you specify the `-fields` parameter, the command only displays the fields that you specify.

| [-instance] }

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

[-node {<nodename>|local}] - Node (privilege: advanced)

If you specify this parameter, the command displays information only about the pNFS devices cache present on the node.

[-vserver <vserver name>] - Vserver Name (privilege: advanced)

If you specify this parameter, the command displays information only about the Vserver that has the pNFS devices cache.

Examples

vserver nfs pnfs devices mappings show

Display the list of pNFS device mappings

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

Description

```
The xref:{relative_path}vserver-nfs-pnfs-devices-show.html[vserver nfs
pnfs devices show] command displays a pNFS device for a given instance of
a volume. The command output depends on the parameter or parameters
specified with the command. If you do not specify parameters, the command
displays the following information about all pNFS devices:
```

- Vserver name
- The global device mapping identifier of the device
- The Data Set ID (DSID) of the constituent volume
- The LIF IP address that serves the constituent on the same controller.

You can specify additional parameters to display only information that matches those parameters. For instance, to display information only about devices that are exported as write-only devices, enter the command with the `-access-flags 1` parameter.

Parameters

{ [-fields <fieldname>,…]

If you specify the `-fields` parameter, the command only displays the fields that you specify.

| [-instance] }

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

[-global-device-table-id <integer>] - Global Device Mapping Table ID (privilege: advanced)

This specifies the unique identifier that the pNFS devices subsystem assigns to the device whose mappings are being output.

[-vserver <vserver name>] - Vserver Name (privilege: advanced)

If your specify this parameter, the command displays information only about the Vserver that the mapping identifier and DSID belong to.

[-dsid <integer>] - Constituent Volume DSID (privilege: advanced)

If you specify this parameter, the command displays information only about the volume or volumes that match the specified DSID.

[-lifip <IP Address>] - LIF IP Address (privilege: advanced)

If you specify this parameter, the command displays information only about the pNFS devices that match the specified LIF IP address.

Examples

The following example displays the device information of a device with global mapping identifier 6. The device corresponds to a volume with MSID 2147484673 on Vserver vs1. The device has one constituent with DSID 1025 and is served by the LIF with the IP address 10.53.4.14.

```
cluster1::*> vserver nfs pnfs devices* show
Vserver Name     Mapping ID      Msid            Mapping Status
Generation
---------------  --------------- --------------- ---------------
-------------
vs1              1               2147484673      available       6

cluster1::*> vserver nfs pnfs devices mappings show
Vserver Name    Mapping ID      Dsid            Lif IP
--------------  --------------- --------------- --------------------
vs1             1               1025            10.53.4.14
```

Related Links

- vserver nfs pnfs devices show

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