system services commands

ONTAP 9.9.1 commands

NetApp
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system services firewall modify

Modify firewall status

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

Description

The `system services firewall modify` command modifies a node's firewall configuration.

Parameters

`-node {<nodename>|local}` - Node

Use this parameter to specify the node on which to modify firewall configuration.

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

Use this parameter to specify whether firewall protection is enabled ("*`true`*") or disabled ("*`false`*") for the node's network ports. The default setting is `true` .

`[-logging {true|false}]` - (DEPRECATED)-Enable Logging

This parameter is deprecated and may be removed in a future version of Data ONTAP.

Use this parameter to specify whether logging is enabled ("*`true`*") or disabled ("*`false`*") for the firewall service. The default setting is `false` .

Examples

The following example enables firewall protection and logging for a node named node1:

```
cluster1::> system services firewall modify -node node1 -enabled true
-logging true
```

system services firewall show

Show firewall status

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

Description

The `system services firewall show` command displays firewall configuration and logging information. If the command is issued without any parameters, it displays information about all nodes in the cluster. You can also query specific nodes for their firewall information by running the command with the `-node` 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.

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

Selects information about the firewall settings on the node you specify.

[-enabled {true|false}] - Service Enabled

Selects information about the nodes with the firewall enabled ("*true* ") or disabled ("*false* ").

[-logging {true|false}] - (DEPRECATED)-Enable Logging

This parameter is deprecated and may be removed in a future version of Data ONTAP.

Selects information about the nodes with firewall logging enabled ("*true* ") or disabled ("*false* ").

Examples

The following example displays information about firewall configuration for all nodes in the cluster:

```
cluster1::> system services firewall show
Node            Enabled Logging
--------------- ------- -------
node0           true    false
node1           true    false
node2           true    false
node3           true    false
4 entries were displayed.
```

system services firewall policy clone

Clone an existing firewall policy

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

Description

The `system services firewall policy clone` command creates a new firewall policy that is an exact copy of an existing policy, but has a new name.

Parameters

-vserver <text> - Vserver owning the Policy

Use this parameter to specify the name of the Vserver owning the existing policy to copy.

-policy <text> - Firewall Policy to be Cloned

Use this parameter to specify the name of the existing policy to copy.

[-destination-vserver <text>] - Vserver owning the New Firewall Policy

Use this parameter to specify the name of the Vserver that will own the new policy to create.

-destination-policy <text> - Name of New Firewall Policy

Use this parameter to specify the name of the new policy to create.

Examples

This example creates a new firewall policy named "data2" on Vserver "vs0" from an existing firewall policy named "data" on Vserver "vs1".

```
cluster1::> system services firewall policy clone -vserver vs0 -policy
data -destination-vserver vs1 -destination-policy data2
```

system services firewall policy create

Create a firewall policy entry for a network service

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

Description

The `system services firewall policy create` command creates a firewall policy entry with the specified name and network service. This command is used both to create the first network service associated with a new firewall policy, and to add to an existing firewall policy by associating another network service with an existing policy. You can optionally specify one or more IP addresses with corresponding netmasks that are allowed to use the firewall policy entry.

You can use the network interface modify command with the `-firewall-policy` parameter to put a firewall policy into effect for a given logical interface by modifying that logical interface to use the specified firewall policy.

Parameters

-vserver <vserver> - Vserver Name

Use this parameter to specify the name of the Vserver on which the policy is to be created.

-policy <textpolicy_name> - Policy

Use this parameter to specify the name of the policy that is to be created.

-service <service> - Service

Use this parameter to specify the network service that is associated with the policy. Possible values include:

- dns - The DNS protocol server
- http - The HTTP protocol
- ndmp - The NDMP tape backup protocol
- ndmps - The NDMPS tape backup protocol
- none - No protocol (for creating an empty policy)
- ntp - The NTP protocol
- rsh - The RSH protocol
- snmp - The SNMP protocol
- telnet - The Telnet protocol

`-allow-list <IP Address/Mask>,…` - Allowed IPs

Use this parameter to specify one or more IP addresses with corresponding netmasks that are to be allowed by this firewall policy. The correct format for this parameter is address/netmask, similar to "192.0.2.128/25". Multiple address/netmask pairs should be separated with commas. Use the value `0.0.0.0/0` for "any".

Examples

The following example creates a firewall policy named data that uses the NDMP protocol and enables access from all IP addresses on the 192.0.2.128/25 subnet:

```
cluster1::> system services firewall policy create -policy data -service
ndmp -allow-list 192.0.2.128/25
```

The following example adds an entry to the firewall policy named data, associating the DNS protocol with that policy and enabling access from all IP addresses on the 192.0.2.128/25 subnet:

```
cluster1::> system services firewall policy create -policy data -service
dns -allow-list 192.0.2.128/25
```

Related Links

- network interface modify

system services firewall policy delete

Remove a service from a firewall policy

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

Description

The `system services firewall policy delete` command deletes a firewall policy. You cannot delete a policy that is being used by a logical interface. Use the network interface modify command with the `-firewall-policy` parameter to change a network interface's firewall policy.

Parameters

-vserver <vserver> - Vserver Name

Use this parameter to specify the Vserver of the policy to delete.

-policy <textpolicy_name> - Policy

Use this parameter to specify the name of the policy to delete.

-service <service> - Service

Use this parameter to specify the policy's network service to delete.

Examples

The following example deletes a firewall policy that uses the Telnet protocol on the policy named data:

```
cluster1::> system services firewall policy delete -policy data -service
telnet
```

Use wildcards to delete entire policies at once, or particular services from every policy. This example deletes the entire intercluster policy.

```
cluster1::> system services firewall policy delete -policy intercluster
-service *
```

This example deletes the telnet service from every policy.

```
cluster1::> system services firewall policy delete -policy * -service
telnet
```

Related Links

- network interface modify

system services firewall policy modify

Modify a firewall policy entry for a network service

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

Description

The system services firewall modify command enables you to modify the list of IP addresses and netmasks associated with a firewall policy.

Parameters

-vserver <vserver> - Vserver Name

Use this parameter to specify the Vserver of the policy to modify.

-policy <textpolicy_name> - Policy

Use this parameter to specify the name of the policy to modify.

-service <service> - Service

Use this parameter to specify the policy's network service to modify.

[-allow-list <IP Address/Mask>,…] - Allowed IPs

Use this parameter to specify one or more IP addresses with corresponding netmasks that are allowed by this firewall policy. The correct format for this parameter is address/netmask, similar to "192.0.2.128/25". Multiple address/netmask pairs should be separated with commas. Use the value `0.0.0.0/0` for "any".

Examples

The following example modifies the firewall policy named data that uses the NDMP protocol to enable access from all addresses on the 192.0.2.128 subnet:

```
cluster1::> system services firewall policy modify -policy data -service
ndmp -allow-list 192.0.2.128/25
```

Related Links

- system services firewall modify

system services firewall policy show

Show firewall policies

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

Description

The `system services firewall policy show` command displays information about firewall policies.

Parameters

{ [-fields <fieldname>,…]

If you specify the `-fields <fieldname>,…` parameter, the command displays only the fields that you specify.

| [-instance] }

Use this parameter to display all the fields for the specified policies.

[-vserver <vserver>] - Vserver Name

Use this parameter to display information only about the Vserver you specify.

[-policy <textpolicy_name>] - Policy

Use this parameter to display information about the policy you specify.

[-service <service>] - Service

Use this parameter to display information about the services you specify.

[-allow-list <IP Address/Mask>,…] - Allowed IPs

Use this parameter to display information about the firewall policies that match the list of allowed IP addresses and netmasks you specify. The correct format for this parameter is address/netmask, similar to "192.0.2.128/25". Multiple address/netmask pairs should be separated with commas.

[-ipspace <text>] - IPspace

Use this parameter to display information only about the IPspace you specify.

Examples

The following example displays information about all firewall policies:

```
cluster1::> system services firewall policy show
Vserver Policy       Service    Allowed
------- ------------ ---------- -------------------
cluster1
        data
                     dns        0.0.0.0/0, ::/0
                     ndmp       0.0.0.0/0, ::/0
                     ndmps      0.0.0.0/0, ::/0
cluster1
        intercluster
                     ndmp       0.0.0.0/0, ::/0
                     ndmps      0.0.0.0/0, ::/0
cluster1
        mgmt
                     dns        0.0.0.0/0, ::/0
                     http       0.0.0.0/0, ::/0
                     ndmp       0.0.0.0/0, ::/0
                     ndmps      0.0.0.0/0, ::/0
                     ntp        0.0.0.0/0, ::/0
                     snmp       0.0.0.0/0, ::/0
cluster1
        mgmt-nfs
                     dns        0.0.0.0/0, ::/0
                     http       0.0.0.0/0, ::/0
                     ndmp       0.0.0.0/0, ::/0
                     ndmps      0.0.0.0/0, ::/0
                     ntp        0.0.0.0/0, ::/0
                     snmp       0.0.0.0/0, ::/0
17 entries were displayed.

cluster1::>
```

system services manager install show

Display a list of installed services

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

Description

The `system services manager install show` command displays information about installed services.

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.

[-service <text>] - Service

Selects information about installed services that have the name you specify.

[-version <service version>] - Version

Selects information about installed services that have the version number you specify.

[-constituent <text>] - Constituent

Selects information about installed services that have the constituent process you specify.

[-nodes {<nodename>|local}] - Nodes

Selects information about services that are installed on the nodes you specify.

[-description <text>] - Description

Selects information about installed services that match the description you specify.

Examples

The following example shows typical output from a two-node cluster.

```
cluster1::> system services manager install show
Service           Version Constituent Nodes
----------------- ------- -----------
---------------------------------------
diagnosis
                  1.0     schmd       node1, node2
                  1.0     shmd        node1, node2
2 entries were displayed.
```

system services manager policy add

Add a new service policy

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

Description

The `system services manager policy add` command adds a new service policy to the services manager. Policies determine which versions of a service can run on the nodes of the cluster.

Parameters

-service <text> - Service

Use this parameter to specify the name of the service for which to add a policy.

-version <service version> - Version

Use this parameter to specify the minimum version number of the service to run.

Examples

This example adds a service manager policy for version 1.0 of the diagnosis service.

```
cluster1::> system services manager policy add -service diagnosis -version
1.0
```

system services manager policy remove

Remove a service policy

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

Description

The `system services manager policy remove` command removes a policy from the services manager. Policies determine which versions of a service can run on the nodes of the cluster.

Parameters

-service <text> - Service

Use this parameter to specify the name of the service from which to remove a policy.

-version <service version> - Version

Use this parameter to specify the version number that is configured by the policy to remove.

Examples

The following example shows the removal of the service policy for version 1.0 of the diagnosis service.

```
cluster1::> system services manager policy remove -service diagnosis
-version 1.0
```

system services manager policy setstate

Enable/disable a service policy

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

Description

The `system services manager policy setstate` command enables or disables services manager policies. Use the system services manager policy show command to display information about configured policies.

Parameters

`-service <text>` - Service

Use this parameter to set the state of the policy you specify.

`-version <service version>` - Version

Use this parameter to set the state of the policy with the version number you specify.

`-state {on|off}` - State

Use this parameter with the value "on" to enable the policy. Use this parameter with the value "off" to disable the policy.

Examples

The following example sets the policy for version 1.0 of the diagnosis service to off.

```
cluster1::> system services manager policy setstate -service diagnosis
-version 1.0 -state off
```

Related Links

- system services manager policy show

system services manager policy show

Display service policies

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

Description

The `system services manager policy show` command displays information about policies that determine which versions of a service can run on the nodes of the cluster.

Use the system services manager status show command to view information about services that are configured to run in the cluster.

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.

[-service <text>] - Service

Selects policies that apply to the service you specify.

[-version <service version>] - Version

Selects policies that have the version number you specify.

[-constituent <text>] - Constituent

Selects policies that have the constituent process you specify.

[-state {on|off}] - State

Use this parameter with the value "on" to select information about policies that are currently active. Use this parameter with the value "off" to select information about policies that are not currently active.

[-num-active <integer>] - Number Active

Selects policies that have the number of active (running) instances you specify.

[-target-nodes <service affinity>,…] - Target Nodes

Selects policies that are configured to run on the nodes you specify.

[-tag <UUID>] - Tag (privilege: advanced)

Selects policies that have the UUID you specify. Use this parameter with the `-fields` parameter to display a list of the UUIDs of configured services.

Examples

The following example shows typical output for this command.

```
cluster1::> system services manager policy show
Service           Version State Constituent Number Target
                                            Active Nodes
----------------- ------- ----- ----------- ------
--------------------------
diagnosis
                  1.0     on    schmd       1      any
                  1.0     on    shmd        1      any
2 entries were displayed.
```

Related Links

- system services manager status show

system services manager status show

Display the status of a service

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

Description

The `system services manager status show` command displays the status of system services that are configured to run in the cluster.

System services run on the nodes of the cluster based on policies. Policies determine which versions of a service can run on the nodes of the cluster. Use the system services manager policy show command to view existing policies.

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.

[-service <text>] - Service

Selects information about services that match the service name you specify.

[-version <service version>] - Version

Selects information about services that are configured to run the version number you specify. The configured version is the minimum version that is allowed to run in the cluster according to a policy. Use the system services manager policy show command to view information about service policies.

[-constituent <text>] - Constituent

Selects information about services that have the constituent process you specify.

[-actual-version <service version>] - Actual Version

Selects information about services that are running the version number you specify. This number can be higher than the configured version if a more recent version is installed on the node that is running the service.

[-node <nodename>] - Node

Selects information about services that the services manager has assigned to run on the nodes you specify. If the service state is "running", the service is running on these nodes.

[-state <svc_state>] - State

Selects information about services that are in the state you specify.

[-is-running {true|false}] - Is Running

Use this parameter with the value "true" to select information about services that are currently running. Use this parameter with the value "false" to select information about services that are not currently running.

Examples

The example below shows typical output for a simple cluster.

```
cluster1::> system services manager status show
Service           Version Constituent Actual  Node              State
                                      Version
----------------- ------- ----------- ------- ----------------
--------------
diagnosis
                  1.0     schmd       1.0     cluster1-01       running
                  1.0     shmd        1.0     cluster1-01       running
2 entries were displayed.
```

Related Links

- system services manager policy show

system services ndmp kill-all

Kill all NDMP sessions

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

Description

The `system services ndmp kill-all` command is used to terminate all NDMP sessions on a particular node in the cluster.

Parameters

`-node {<nodename>|local}` - Node

Node on which all NDMP sessions needs to be terminated.

Examples

The following example shows how all NDMP sessions on the node named node1 can be terminated:

```
cluster1::> system services ndmp kill-all -node node1
```

system services ndmp kill

Kill the specified NDMP session

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

Description

The `system services ndmp kill` command is used to terminate a specific NDMP session on a particular node in the cluster.

Parameters

<integer> - Session Identifier

Session ID of the NDMP session.

Examples

The following example shows how a specific NDMP session on the node named node1 can be terminated:

```
cluster1::> system services ndmp kill 4323 -node node1
```

system services ndmp modify

(DEPRECATED)-Modify NDMP service configuration

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

Description

This node-scoped NDMP command is deprecated. Node-scoped NDMP functionality may be removed in a future release of Data ONTAP. Use the Vserver-aware "vserver services ndmp modify " command.

The `system services ndmp modify` command allows you to modify the NDMP configurations for a node in the cluster. One or more of the following configurations can be modified:

- Enable/disable NDMP service
- Enable/disable sending the NDMP password in clear text. Note that MD5 authentication mode is always enabled.
- NDMP user ID

Parameters

-node {<nodename>|local} - Node

This specifies the node whose NDMP configuration is to be modified.

[-enable {true|false}] - NDMP Service Enabled

This optionally specifies whether NDMP is enabled on the node. The default setting is `true` .

[-clear-text {true|false}] - Allow Clear Text Password

This optionally specifies whether the NDMP password can be sent in clear text. The default setting is `true` .

[-user-id <text>] - NDMP User ID

This optionally specifies the ID of the NDMP user.

Examples

The following example modifies the NDMP configuration on a node named node1. The configuration enables NDMP, disables sending the password in clear text, and specifies an NDMP user named ndmp:

```
cluster1::> system services ndmp modify -node node1 -enable true
     -clear-text false -user-id ndmp
```

Related Links

- vserver services ndmp modify

system services ndmp off

(DEPRECATED)-Disable NDMP service

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

Description

This node-scoped NDMP command is deprecated. Node-scoped NDMP functionality may be removed in a future release of Data ONTAP. Use the Vserver-aware "vserver services ndmp off " command.

The `system services ndmp off` command is used to disable the NDMP service on any node in the cluster.

Parameters

`-node {<nodename>|local}` - Node

The specific node on which NDMP service is to be disabled.

Examples

The following example is used to turn off the NDMP service on node named node1:

```
cluster1::> system services ndmp off -node node1
```

Related Links

- vserver services ndmp off

system services ndmp on

(DEPRECATED)-Enable NDMP service

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

Description

This node-scoped NDMP command is deprecated. Node-scoped NDMP functionality may be removed in a future release of Data ONTAP. Use the Vserver-aware "vserver services ndmp on " command.

The `system services ndmp on` command is used to enable the NDMP service across any node in the cluster.

Parameters

`-node {<nodename>|local}` - Node

The specific node on which the NDMP service is to be enabled.

Examples

The following example is used to turn on the NDMP service on node named node1:

```
cluster1::> system services ndmp on -node node1
```

Related Links

- vserver services ndmp on

system services ndmp password

(DEPRECATED)-Change the NDMP password for the node

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

Description

This node-scoped NDMP command is deprecated. Node-scoped NDMP functionality may be removed in a future release of Data ONTAP. Use the Vserver-aware "vserver services ndmp generate-password " command.

The `system services ndmp password` command is used to change the NDMP password for a node in the cluster.

Parameters

`-node {<nodename>|local}` - Node

The specific node for which the password is to be changed.

Examples

The following example is used to change the NDMP password for the node named node1:

```
cluster1::> system services ndmp password -node node1

Please enter password:
Confirm password:
```

Related Links

- vserver services ndmp generate-password

system services ndmp probe

Display list of NDMP sessions

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

Description

The `system services ndmp probe` command displays diagnostic information about all the NDMP sessions in the cluster. The following fields are displayed for each of the sessions:

- Node
- Session identifier
- NDMP version
- Session authorized
- Data state
- Data operation
- Data server halt reason
- Data server connect type
- Data server connect address
- Data server connect port
- Data bytes processed
- Mover state
- Mover mode
- Mover pause reason
- Mover halt reason
- Mover record size
- Mover record number
- Mover bytes moved
- Mover seek position
- Mover bytes left to read
- Mover window offset

- Mover window length
- Mover position
- Mover SetRecordSize flag
- Mover SetWindow flag
- Mover connect type
- Mover connect address
- Mover connect port
- Effective host
- NDMP client address
- NDMP client port
- SCSI device ID
- SCSI hostadapter
- SCSI target ID
- SCSI LUN ID
- Tape device
- Tape mode
- Is Secure Control Connection
- Data Backup Mode
- Data Path
- NDMP Source Address

Parameters

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

If this parameter is specified, the command displays information about the sessions running on the specified node only. Node should be a valid node name.

[-session-id <integer>] - Session Identifier

If this parameter is specified, the command displays information only about the specified session.

[-ndmp-version <integer>] - NDMP Version

This parameter refers to the NDMP protocol version being used in the session.

[-session-authorized {true|false}] - Session Authorized

This parameter indicates whether an NDMP session is authenticated or not.

[-data-state <component state>] - Data State

This parameter identifies the current state of the data server’s state machine.

[-data-operation <data operation>] - Data Operation

This parameter identifies the data server’s current operation.

[-data-halt-reason <halt reason>] - Data Server Halt Reason

This parameter identifies the event that caused the data server state machine to enter the HALTED state.

[-data-con-addr-type <address type>] - Data Server Connect Type

This parameter specifies the type of data connection established by the data server. The data connection can be established locally within a given system or between remote networked systems.

[-data-con-addr <text>] - Data Server Connect Address

This parameter specifies the connection endpoint information for the data server's data connection.

[-data-con-port <integer>] - Data Server Connect Port

This parameter specifies the TCP/IP port that the data server will use when establishing a data connection.

[-data-bytes-processed <integer>] - Data Bytes Processed

This parameter represents the cumulative number of data stream bytes transferred between the backup or recovery method and the data connection during the current data operation.

[-mover-state <component state>] - Mover State

This parameter identifies the current state of the NDMP tape server's mover state machine.

[-mover-mode <mover mode>] - Mover Mode

This parameter identifies the direction of the mover data transfer.

[-mover-pause-reason <pause reason>] - Mover Pause Reason

This parameter identifies the event that caused the mover state machine to enter the PAUSED state.

[-mover-halt-reason <halt reason>] - Mover Halt Reason

This parameter identifies the event that caused the mover state machine to enter the HALTED state.

[-mover-record-size <integer>] - Mover Record Size

This parameter represents the current mover record size in bytes.

[-mover-record-num <integer>] - Mover Record Number

This parameter represents the last tape record processed by the mover.

[-mover-bytes-moved <integer>] - Mover Bytes Moved

This parameter represents the cumulative number of data stream bytes written to the data connection or the number of data stream bytes read from the data connection and written to the tape subsystem, depending on the mode of mover operation.

[-mover-seek-position <integer>] - Mover Seek Position

This parameter represents the data stream offset of the first byte the DMA requested the mover to transfer to the data connection during a mover read operation.

[-mover-bytes-left-to-read <integer>] - Mover Bytes Left to Read

This parameter represents the number of data bytes remaining to be transferred to the data connection to satisfy the current NDMP_MOVER_READ request.

[-mover-window-offset <integer>] - Mover Window Offset

This parameter represents the absolute offset of the first byte of the mover window within the overall data stream.

[-mover-window-length <integer>] - Mover Window Length

This parameter represents the length of the current mover window in bytes.

[-mover-position <integer>] - Mover Position

This parameter can be used to list only those sessions, whose mover position matches a specific value. Mover-position should be an integer.

[-mover-setrecordsize-flag {true|false}] - Mover SetRecordSize Flag

This parameter is used by the DMA to establish the record size used for mover-initiated tape read and write operations.

[-mover-setwindow-flag {true|false}] - Mover SetWindow Flag

This parameter represents whether a mover window has been set or not. A mover window represents the portion of the overall backup stream that is accessible to the mover without intervening DMA tape manipulation.

[-mover-con-addr-type <address type>] - Mover Connect Type

This parameter specifies the type of data connection established by the mover. The data connection can be established locally within a given system or between remote networked systems.

[-mover-con-addr <text>] - Mover Connect Address

This parameter specifies the endpoint address or addresses that the mover will use when establishing a data connection.

[-mover-con-port <integer>] - Mover Connect Port

This parameter specifies the TCP/IP port that the mover will use when establishing a data connection.

[-eff-host <host type>] - Effective Host

This parameter indicates the host context in which the NDMP session runs. The valid values are: PRIMARY or PARTNER.

[-client-addr <text>] - NDMP Client Address

This parameter specifies the client's IP address.

[-client-port <integer>] - NDMP Client Port

This parameter specifies the client's port number.

[-spt-device-id <text>] - SCSI Device ID

This parameter specifies the SCSI device ID.

[-spt-ha <integer>] - SCSI Host Adapter

This parameter specifies the SCSI host adapter.

[-spt-scsi-id <integer>] - SCSI Target ID

This parameter specifies the SCSI target.

[-spt-scsi-lun <integer>] - SCSI LUN ID

This parameter specifies the SCSI LUN ID.

[-tape-device <text>] - Tape Device

This parameter specifies the name to identify the tape device.

[-tape-mode <mover mode>] - Tape Mode

This parameter specifies the mode in which tapes are opened.

[-is-secure-control-connection {true|false}] - Is Secure Control Connection

This parameter specifies whether the control connection is secure or not.

[-data-backup-mode <text>] - Data Backup Mode

This parameter specifies whether the mode of data backup is Dump or SMTape.

[-data-path <text>] - Data Path

This parameter specifies the path of data being backed up.

[-source-addr <text>] - NDMP Source Address

This parameter specifies the control connection IP address of the NDMP session.

Examples

The following example displays diagnostic information about all the sessions in the cluster:

```
cluster1::> system services ndmp probe
Node: cluster1-01
       Session identifier: 4952
             NDMP version: 4
       Session authorized: true
               Data state: IDLE
           Data operation: NOACTION
  Data server halt reason: NA
 Data server connect type: LOCAL
  ....
   ...

                     Node: cluster1-02
       Session identifier: 5289
             NDMP version: 4
       Session authorized: true
               Data state: IDLE
           Data operation: NOACTION
  Data server halt reason: NA
 Data server connect type: LOCAL
  ....
   ...
```

The following example displays diagnostic information of sessions running on the node cluster1-01 only:

```
cluster1::> system services ndmp probe -node cluster1-01
Node: cluster1-01
       Session identifier: 4952
             NDMP version: 4
       Session authorized: true
               Data state: IDLE
           Data operation: NOACTION
  Data server halt reason: NA
 Data server connect type: LOCAL
  ....
   ...
```

system services ndmp show

(DEPRECATED)-Display NDMP service configuration

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

Description

This node-scoped NDMP command is deprecated. Node-scoped NDMP functionality may be removed in a future release of Data ONTAP. Use the Vserver-aware "vserver services ndmp show " command.

The `system services ndmp show` command displays the following information about the NDMP configuration across all the nodes in the cluster:

- Node name
- Whether NDMP is enabled on the node
- Whether sending the NDMP password in clear text is enabled on the node
- NDMP user ID

A combination of parameters can be optionally supplied to filter the results based on specific criteria.

Parameters

{ [-fields <fieldname>,…]

If this parameter is specified, the command displays only the fields that you specify.

| [-instance] }

If this parameter is specified, the command displays detailed information about all entries.

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

Selects information about the specified node.

[-enable {true|false}] - NDMP Service Enabled

Selects information about the nodes where NDMP is enabled/disabled.

[-clear-text {true|false}] - Allow Clear Text Password

Selects information about the nodes whose clear-text setting matches the specified value.

[-user-id <text>] - NDMP User ID

Selects information about the nodes that have the specified NDMP user ID.

Examples

The following example displays information about the NDMP configuration of all nodes in the cluster:

```
cluster1::> system services ndmp show
Node        Enabled   Clear Text  User ID
----------- --------- ----------- -------
node0       true      true        ndmp
node1       true      true        ndmp
node2       true      true        ndmp
node3       true      true        ndmp
4 entries were displayed.
```

Related Links

- vserver services ndmp show

system services ndmp status

Display list of NDMP sessions

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

Description

The `system services ndmp status` command lists all the NDMP sessions in the cluster. By default it lists the following details about the active sessions:

- Node
- Session ID

A combination of parameters can be optionally supplied so as to list only those sessions which match specific conditions. A short description of each of the parameter is provided in the parameters section.

Parameters

{ [-fields <fieldname>,…]

This optional parameter specifies which all additional fields to display. Any combination of the following fields are valid:

- ndmp-version
- session-authorized
- data-state
- data-operation
- data-halt-reason
- data-con-addr-type
- data-con-addr
- data-con-port
- data-bytes-processed

- mover-state
- mover-mode
- mover-pause-reason
- mover-halt-reason
- mover-record-size
- mover-record-num
- mover-bytes-moved
- mover-seek-position
- mover-bytes-left-to-read
- mover-window-offset
- mover-window-length
- mover-position
- mover-setrecordsize-flag
- mover-setwindow-flag
- mover-con-addr-type
- mover-con-addr
- mover-con-port
- eff-host
- client-addr
- client-port
- spt-device-id
- spt-ha
- spt-scsi-id
- spt-scsi-lun
- tape-device
- tape-modes
- is-secure-control-connection
- data-backup-mode
- data-path
- source-addr

| [-instance] }

If this parameter is specified, the command displays detailed information about all the active sessions.

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

If this parameter is specified, the command displays information about the sessions running on the specified node only. Node should be a valid node name.

[-session-id <integer>] - Session Identifier

If this parameter is specified, the command displays information about specific NDMP session. A session-id is a number used to identify a particular NDMP session.

[-ndmp-version <integer>] - NDMP Version

This parameter refers to the NDMP protocol version being used in the session.

[-session-authorized {true|false}] - Session Authorized

This field indicates whether an NDMP session is authenticated or not.

[-data-state <component state>] - Data State

This field identifies the current state of the data server's state machine.

[-data-operation <data operation>] - Data Operation

This field identifies the data server's current operation.

[-data-halt-reason <halt reason>] - Data Server Halt Reason

This field identifies the event that caused the data server state machine to enter the HALTED state.

[-data-con-addr-type <address type>] - Data Server Connect Type

This field specifies the type of data connection established by the data server. The data connection can be established locally within a given system or between remote networked systems.

[-data-con-addr <text>] - Data Server Connect Address

This specifies the connection endpoint information for the data server's data connection.

[-data-con-port <integer>] - Data Server Connect Port

This specifies the TCP/IP port that the data server will use when establishing a data connection.

[-data-bytes-processed <integer>] - Data Bytes Processed

This field represents the cumulative number of data stream bytes transferred between the backup or recovery method and the data connection during the current data operation.

[-mover-state <component state>] - Mover State

This parameter identifies the current state of the NDMP tape server's mover state machine.

[-mover-mode <mover mode>] - Mover Mode

This parameter identifies the direction of the mover data transfer.

[-mover-pause-reason <pause reason>] - Mover Pause Reason

This parameter identifies the event that caused the mover state machine to enter the PAUSED state.

[-mover-halt-reason <halt reason>] - Mover Halt Reason

This integer field identifies the event that caused the mover state machine to enter the HALTED state.

[-mover-record-size <integer>] - Mover Record Size

This field represents the current mover record size in bytes.

[-mover-record-num <integer>] - Mover Record Number

This field represents the last tape record processed by the mover.

[-mover-bytes-moved <integer>] - Mover Bytes Moved

This field represents the cumulative number of data stream bytes written to the data connection or the number of data stream bytes read from the data connection and written to the tape subsystem, depending on the mode of mover operation.

[-mover-seek-position <integer>] - Mover Seek Position

This field represents the data stream offset of the first byte the DMA requested the mover to transfer to the data connection during a mover read operation.

[-mover-bytes-left-to-read <integer>] - Mover Bytes Left to Read

This field represents the number of data bytes remaining to be transferred to the data connection to satisfy the current NDMP_MOVER_READ request.

[-mover-window-offset <integer>] - Mover Window Offset

This field represents the absolute offset of the first byte of the mover window within the overall data stream.

[-mover-window-length <integer>] - Mover Window Length

This field represents the length of the current mover window in bytes.

[-mover-position <integer>] - Mover Position

This parameter can be used to list only those sessions, whose mover position matches a specific value. Mover-position should be an integer.

[-mover-setrecordsize-flag {true|false}] - Mover SetRecordSize Flag

This field is used by the DMA to establish the record size used for mover-initiated tape read and write operations.

[-mover-setwindow-flag {true|false}] - Mover SetWindow Flag

This flag represents whether a mover window has been set or not. A mover window represents the portion of the overall backup stream that is accessible to the mover without intervening DMA tape manipulation.

[-mover-con-addr-type <address type>] - Mover Connect Type

This field specifies the type of data connection established by the mover. The data connection can be established locally within a given system or between remote networked systems.

[-mover-con-addr <text>] - Mover Connect Address

This specifies the endpoint address or addresses that the mover will use when establishing a data connection.

[-mover-con-port <integer>] - Mover Connect Port

This specifies the TCP/IP port that the mover will use when establishing a data connection.

[-eff-host <host type>] - Effective Host

This field indicates the host context in which the NDMP session runs. The valid values are: PRIMARY or PARTNER.

[-client-addr <text>] - NDMP Client Address

This parameter specifies the client's IP address.

[-client-port <integer>] - NDMP Client Port

This parameter specifies the client's port number.

[-spt-device-id <text>] - SCSI Device ID

This parameter specifies the SCSI device ID.

[-spt-ha <integer>] - SCSI Host Adapter

This parameter specifies the SCSI host adapter.

[-spt-scsi-id <integer>] - SCSI Target ID

This parameter specifies the SCSI target.

[-spt-scsi-lun <integer>] - SCSI LUN ID

This parameter specifies the SCSI LUN ID.

[-tape-device <text>] - Tape Device

This parameter specifies the name to identify the tape device.

[-tape-mode <mover mode>] - Tape Mode

This parameter specifies the mode in which tapes are opened.

[-is-secure-control-connection {true|false}] - Is Secure Control Connection

This parameter specifies whether the control connection is secure or not.

[-data-backup-mode <text>] - Data Backup Mode

This parameter specifies whether the mode of data backup is Dump or SMTape.

[-data-path <text>] - Data Path

This parameter specifies the path of data being backed up.

[-source-addr <text>] - NDMP Source Address

This parameter specifies the control connection IP address of the NDMP session.

Examples

The following example displays all the NDMP sessions on the cluster:

```
cluster1::> system services ndmp status
                      Session
Node              Id
--------------    --------
      node-01    17479
      node-01    19769
      node-02    21118
3 entries were displayed.
```

The following example shows how to display only the sessions running on node-01:

```
cluster1::> system services ndmp status -node node-01
                      Session
Node              Id
--------------    --------
      node-01    17479
      node-01    19769
2 entries were displayed.
```

system services ndmp log start

(DEPRECATED)-Start logging for the specified NDMP session

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

Description

This node-scoped NDMP command is deprecated. Node-scoped NDMP functionality may be removed in a future release of Data ONTAP. Use the Vserver-aware "vserver services ndmp log start " command.

This command is used to start logging on an active NDMP session on a node. You can start logging two different kinds of sessions. The NDMP *server* session manages all NDMP tasks on the node. If you want to log information regarding the NDMP server, use *server* with the `-session-id` parameter to enable logging. If you want to log information about a particular NDMP session, for example a restore operation, then determine the session ID for the session using the "system services ndmp status" command and use that ID with the `-session-id` parameter to enable logging.

Parameters

`-node {<nodename>|local}` - Node (privilege: advanced)

This parameter specifies the node.

`-session-id {<integer>|server}` - Session Identifier (privilege: advanced)

This parameter specifies the NDMP session-id on which logging needs to be started. The session-id is associated with a unique NDMP session. Specify *server* to start logging on the NDMP server session.

-filter <text> - Level Filter (privilege: advanced)

Use this parameter to specify the filter for a particular session ID. This parameter controls the NDMP modules for which logging is to be enabled. This parameter can take five values. They are as follow : *all* , *none* , *normal* , *backend* or *"filter-expression"* . The default value for this is *none* .

- *all* turns on logging for all modules.
- *none* disables logging for all modules.
- *normal* is a short cut parameter that enables logging for all modules except *verbose* and *io_loop* . The equivalent filter string is *all-verbose-io_loop*
- *backend* is a short cut parameter that enables logging for all modules except *verbose* , *io_loop* , *ndmps* and *ndmpd* . The equivalent filter string is *all-verbose-io_loop-ndmps-ndmpp*
- *(filter-expression)* is a combination of one or more modules for which logs needs to be enabled. Multiple module names can be combined using following operators :
- - to remove the given module from the list of specified modules in the filter string. For example the filter *all-ndmpp* will enable logging for all modules but not *ndmpp* .
- ^ to add the given module or modules to the list of modules specified in the filter string. For example the filter *ndmpp^mover^data* will enable logging for *ndmpp* , *mover* and *data* .

The possible module names and a brief description is given below:

```
                +-----------------------------------------------------+
                | Modules     |     Description                       |
                +-----------------------------------------------------+
                | verbose     | verbose message                       |
                | io          | I/O process loop                      |
                | io_loop     | I/O process loop verbose messages     |
                | ndmps       | NDMP service                          |
                | ndmpp       | NDMP Protocol                         |
                | rpc         | General RPC service                   |
                | fdc_rpc     | RPC to FC driver service              |
                | auth        | Authentication                        |
                | mover       | NDMP MOVER (tape I/O)                 |
                | data        | NDMP DATA (backup/restore)            |
                | scsi        | NDMP SCSI (robot/tape ops)            |
                | bkup_rpc    | RPC to Backup service client          |
                | bkup_rpc_s  | RPC to Backup service server          |
                | cleaner     | Backup/Mover session cleaner          |
                | conf        | Debug configure/reconfigure           |
                | dblade      | Dblade specific messages              |
                | timer       | NDMP server timeout messages          |
                | vldb        | VLDB service                          |
                | smf         | SMF Gateway messages                  |
                | vol         | VOL OPS service                       |
                | sv          | SnapVault NDMP extension              |
                | common      | NDMP common state                     |
                | ext         | NDMP extensions messages              |
                | sm          | SnapMirror NDMP extension             |
                | ndmprpc     | NDMP Mhost RPC server                 |
                +-----------------------------------------------------+
```

Examples

The following example shows how to start logging on a specific NDMP session 33522, running on the node cluster1-01 with filter normal.

```
cluster1::*> system services ndmp log start -node cluster1-01 -session-id
33522 -filter normal
```

The following example shows how to start logging on the NDMP server session, on the node cluster1-01 with filter all.

```
cluster1::*> system services ndmp log start -session-id server -filter all
-node cluster1-01
```

Related Links

- vserver services ndmp log start

system services ndmp log stop

(DEPRECATED)-Stop logging for the specified NDMP session

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

Description

This node-scoped NDMP command is deprecated. Node-scoped NDMP functionality may be removed in a future release of Data ONTAP. Use the Vserver-aware "vserver services ndmp log stop " command.

This command is used to stop logging on an active NDMP session on a node. The NDMP *server* session manages all NDMP tasks on the node. If you want to stop logging information regarding the NDMP server, use *server* with the `-session-id` parameter to disable logging. If you want to stop logging information about a particular NDMP session, for example a restore operation, then determine the session ID for the session using the "system services ndmp status" command and use that ID with the `-session-id` parameter to disable logging.

Parameters

`-node {<nodename>|local}` - Node (privilege: advanced)

This parameter specifies the node.

`-session-id {<integer>|server}` - Session Identifier (privilege: advanced)

This parameter specifies the NDMP session-id on which logging needs to be stopped. The session-id is associated with a unique NDMP session. Specify *server* to stop logging on the NDMP server session.

Examples

The following example shows how to stop logging on a specific NDMP session 35512, running on node cluster1-01.

```
cluster1::*> system services ndmp log stop -session-id 35512 -node
cluster1-01
```

The following example shows how to stop logging on the NDMP server session, running on node cluster1-01.

```
cluster1::*> system services ndmp log stop -session-id server -node
cluster1-01
```

Related Links

- vserver services ndmp log stop

system services ndmp node-scope-mode off

(DEPRECATED)-Disable NDMP node-scope-mode

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

Description

This node-scoped NDMP command is deprecated. Node-scoped NDMP functionality may be removed in a future release of Data ONTAP. Use the Vserver-aware "`vserver services ndmp` " command.

This command puts NDMP server in Vserver-aware mode. The Vserver-aware commands are available under `vserver services ndmp`.

Examples

The following example shows how to disable the node-scope-mode of NDMP server.

```
cluster1::> system services ndmp node-scope-mode off
NDMP node-scope-mode is disabled.
```

system services ndmp node-scope-mode on

(DEPRECATED)-Enable NDMP node-scope-mode

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

Description

This node-scoped NDMP command is deprecated. Node-scoped NDMP functionality may be removed in a future release of Data ONTAP. Use the Vserver-aware "`vserver services ndmp` " command.

This command puts the NDMP server in the node-scope-mode. In the node-scope-mode, NDMP server has the following behavior:

- All NDMP operations are restricted to resources on the node
- Vserver-aware NDMP commands are disabled
- NDMP authentication falls back to DATA ONTAP 8.1 NDMP authentication scheme

Examples

The following example enables node-scope-mode of operation :

```
cluster1::> system services ndmp node-scope-mode on
NDMP node-scope-mode is enabled.
```

system services ndmp node-scope-mode status

(DEPRECATED)-Status of NDMP node-scope-mode

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

Description

This node-scoped NDMP command is deprecated. Node-scoped NDMP functionality may be removed in a future release of Data ONTAP. Use the Vserver-aware "`vserver services ndmp` " command.

This command displays whether the NDMP server is operating in node-scope-mode or not.

- NDMP node-scope-mode is disabled - NDMP server is Vserver-aware
- NDMP node-scope-mode is enabled - NDMP server is node scoped

Parameters

Examples

The following example shows how to check the status of NDMP server in a cluster

```
cluster1::> system services ndmp node-scope-mode status
NDMP node-scope-mode is disabled.
```

system services ndmp service modify

Modify NDMP service configuration

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

Description

The `system services ndmp service modify` command allows you to modify the NDMP service configurations for a node in the cluster. The following configuration can be modified:

- NDMP Common Sessions

Parameters

-node {<nodename>|local} - Node (privilege: advanced)

This specifies the node whose NDMP configuration is to be modified.

[-common-sessions <integer>] - NDMP Common Sessions (privilege: advanced)

This optional parameter specifies the number of extra common NDMP sessions supported, in addition to the number of backup and restore sessions supported for a platform. The default value is 4 for all platforms. The number of backup and restore sessions are platform dependent.

Increasing this parameter can make the storage system unresponsive.

Examples

The following example modifies the NDMP configuration on a node named node1. The configuration sets the NDMP Common Sessions to 16:

```
cluster1::> system services ndmp modify -node node1
     -common-sessions 16
```

system services ndmp service show

Display NDMP service configuration

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

Description

The `system services ndmp service show` command displays the following information about the NDMP service configuration across all the nodes in the cluster:

- Node name
- NDMP Common Sessions

A combination of parameters can be optionally supplied to filter the results based on specific criteria.

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 (privilege: advanced)

Selects information about the specified node.

[-common-sessions <integer>] - NDMP Common Sessions (privilege: advanced)

Selects information about the nodes that have the specified number of NDMP common sessions.

Examples

The following example displays information about the NDMP configuration of all nodes in the cluster:

```
cluster1::> system services ndmp service show
Node        Common Sessions
----------- ---------------
node0                    16
node1                    16
node2                    16
node3                    16
4 entries were displayed.
```

system services ndmp service start

Start the NDMP service

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

Description

The `system services ndmp service start` command starts the NDMP service daemon for a node. This is different from the system services ndmp on command. The system services ndmp on command enables the daemon to accept NDMP requests. The NDMP service daemon starts automatically on a node when it boots up. Use this command to start the NDMP service daemon that has been stopped by the system services ndmp service stop command.

Parameters

-node {<nodename>|local} - Node (privilege: advanced)

The node on which the NDMP service needs to be started.

Examples

```
cluster1::*> system services ndmp service start -node node0
```

Starts the NDMP service on node0.

Related Links

- system services ndmp on
- system services ndmp service stop

system services ndmp service stop

Stop the NDMP service

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

Description

The `system services ndmp service stop` command stops the NDMP service daemon on a node. This is a disruptive command and should not be used in normal scenarios. Processing of active sessions continues but the ability to view or kill sessions is lost. This is different from the system services ndmp off command. The system services ndmp off command disables new NDMP connections on the node but does not stop the NDMP service daemon.

Parameters

`-node {<nodename>|local}` - Node (privilege: advanced)

The node on which the NDMP service needs to be stopped.

Examples

```
cluster1::*> system services ndmp service stop -node node0
```

Stops the NDMP service on node0.

Related Links

- system services ndmp off

system services ndmp service terminate

Terminate all NDMP sessions

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

Description

The `system services ndmp service terminate` command terminates all active sessions on the node. This command forcefully terminates all NDMP sessions without an opportunity for a graceful shutdown. Use system services ndmp kill-all for a clean termination of all active sessions on a node.

Parameters

`-node {<nodename>|local}` - Node (privilege: advanced)

The node on which the NDMP sessions need to be terminated

Examples

```
cluster1::*> system services ndmp service terminate -node node0
```

Terminates all active NDMP sessions on node0.

Related Links

- system services ndmp kill-all

system services web modify

Modify the cluster-level configuration of web protocols

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

Description

This command modifies the overall availability of web services in the cluster, including the core protocol configurations for those services. In a pre-root or unclustered scenario, its scope applies to the local node.

Parameters

`[-external {true|false}]` - External Web Services

Defines whether remote clients can access HTTP or HTTPS service content. Along with the `system services firewall` configuration, this parameter controls the visibility for client connections. The default value for this parameter after installation is 'true', which exports web protocols for remote access. If no value is provided during modification, its behavior does not change.

`[-per-address-limit <integer>]` - Per Address Limit (privilege: advanced)

Limits the number of connections that can be processed concurrently from the same remote address. If more connections are accepted, those in excess of the limit are delayed and processed after the number of connections being processed drops below the limit. The default value is 96.

`[-http-enabled {true|false}]` - HTTP Enabled (privilege: advanced)

Defines whether HTTP is enabled. The default value for this parameter is *`false`* .

`[-csrf-protection-enabled {true|false}]` - CSRF Protection Enabled (privilege: advanced)

Defines whether CSRF protection is enabled. The default value is *`true`* .

`[-csrf-token-concurrent-limit <integer>]` - Maximum Number of Concurrent CSRF Tokens (privilege: advanced)

Defines how many concurrent CSRF tokens can exist at any given time. The default value is *`500`* .

`[-csrf-token-idle-timeout <integer>]` - CSRF Token Idle Timeout (Seconds) (privilege: advanced)

Defines how long (in seconds) an unused CSRF token will exist until it expires. The default value is *`900`* seconds (15 minutes).

[-csrf-token-absolute-timeout <integer>] - CSRF Token Absolute Timeout (Seconds) (privilege: advanced)

Defines how long (in seconds) a CSRF token can exist regardless of usage. The default value is *0/undefined*, which means that it will never time out.

Examples

The following command changes the maximum size of the wait queue:

```
cluster1::> system services web modify -wait-queue-capacity 256
```

system services web show

Display the cluster-level configuration of web protocols

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

Description

This command displays the overall availability of web services in the cluster, including the core protocol configurations for those services. In a pre-root or unclustered scenario, its output applies to the local node. The following information explains the `External Web Services` and `Status` attributes, two features of web services' availability.

The `External Web Services` field indicates whether remote clients are allowed to access the HTTP or HTTPS service content. Along with the `system services firewall` configuration, the `External Web Services` field indicates the visibility for client connections.

The `Status` field describes the aggregated operational state of cluster-level web services as retrieved from the `system services web node` command. The `Status` field does not reflect whether the protocols are externally visible, but whether the server processes are running correctly. For detailed information about individual servers, use the system services web node show command. The following are the possible values for the `Status` in node configuration or availability:

- online, all web services are consistently configured and working correctly.
- partial, one or more nodes' web services are unavailable due to an error condition.
- mixed, the nodes in the cluster do not share the same web services configuration. This situation might occur if individual nodes were reconfigured with the `system services web node` command.
- offline, all of the nodes' web services are unavailable due to an error condition.
- unclustered, the current node is not part of an active cluster.

The `HTTP Enabled` field indicates whether HTTP is enabled.

The `per-address-limit` field is the limit of the number of connections that can be processed concurrently from the same remote address. If more connections are accepted, those in excess of the limit are delayed and processed after the number of connections being processed drops below the limit.

Examples

The following example displays the availability of web services for the cluster.

```
cluster1::> system services web show
 External Web Services: true
               Status: online
    HTTP Protocol Port: 80
   HTTPS Protocol Port: 443
          HTTP Enabled: true
```

Related Links

- system services web node show

system services web node show

Display the status of the web servers at the node level

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

Description

This command displays operational configuration for the web server processes on the nodes in the cluster. This output is aggregated to produce the content for the system services web show command.

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

Selects the nodes that match this parameter value. Identifies the node where the web server process is being executed.

[-external {true|false}] - External Web Services

Selects the nodes that match this parameter value. Defines whether remote clients can access the HTTP or HTTPS service content. Along with the `system services firewall` command configuration, this parameter controls the visibility for client connections. The default value for this parameter after installation is *`true`* , which exports web protocols for remote access.

[-http-port <integer>] - HTTP Port

Selects the nodes that match this parameter value. Defines the HTTP port for the node-level web services.

[-https-port <integer>] - HTTPS Port

Selects the nodes that match this parameter value. Defines the encrypted HTTP (HTTPS) port for the node-level web services.

[-http-enabled {true|false}] - HTTP Enabled

Selects the nodes that match this parameter value. Defines whether HTTP is enabled.

[-per-address-limit <integer>] - Per Address Limit (privilege: advanced)

Selects the nodes that match this parameter value. Limits the number of connections that can be processed concurrently from the same remote address. If more connections are accepted, those in excess of the limit are delayed and processed after the number of connections being processed drops below the limit.

[-status {offline|partial|mixed|online|unclustered}] - Protocol Status

Selects the nodes that match this parameter value. Describes the operational state of node-level web services. This parameter does not reflect whether protocols are externally visible, but whether the server processes are running correctly. The following are the possible values that describe the service availability:

- online, indicates that web services are working correctly.
- offline, indicates that web services are unavailable due to an error condition.
- unclustered, indicates that the current node is not part of an active cluster.

[-total-hits <integer>] - Total HTTP Requests

Selects the nodes that match this parameter value. Indicates the total number of requests serviced by the web server.

[-total-bytes <integer>] - Total Bytes Served

Selects the nodes that match this parameter value. Indicates the total number of bytes returned by the web server.

Examples

The following example displays the status of web servers for nodes in the cluster.

```
cluster1::system services web node> show
                        HTTP    HTTP  HTTPS          Total         Total
Node          External enabled Port  Port  Status   HTTP Requests Bytes
Served
------------- -------- ------- ----- ----- -------- -------------
------------
node1         true     true    80    443   online              5
1362
node2         true     true    80    443   online              5
1362
2 entries were displayed.
```

Related Links

- system services web show

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