



## **cluster time-service commands**

### ONTAP commands

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# cluster time-service commands

## cluster time-service ntp security modify

Modify NTP security settings

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

### Description

The `cluster time-service ntp security modify` command allows setting of security parameters related to the Network Time Protocol (NTP) subsystem.

### Parameters

**`[-is-query-enabled {true|false}]` - Is Querying of NTP Server Enabled? (privilege: advanced)**

Setting this parameter to `true` allows querying of the NTP subsystem from systems external to the cluster. For example, querying a node using the standard "ntpq" command can be enabled by this command. The default setting is `false` to protect against possible security vulnerabilities. If querying of the NTP subsystem is disabled, the [cluster time-service ntp status show](#) command can be used to obtain similar information. Although querying of the NTP subsystem from external hosts can be disabled with this command, executing a local query to the localhost address is always enabled.

### Examples

The following example enables the querying of the NTP subsystem from clients external to the cluster:

```
cluster-1::> cluster time-service ntp security modify -is-query-enabled
true
```

### Related Links

- [cluster time-service ntp status show](#)

## cluster time-service ntp security show

Display NTP security settings

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

### Description

The `cluster time-service ntp security show` command displays the configuration of security features related to the Network Time Protocol (NTP) subsystem.

## Examples

The following example displays the NTP security configuration of the cluster:

```
cluster1::> cluster time-service ntp security show
External queries enabled?: true
```

## cluster time-service ntp server create

### Add a NTP Server

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

### Description

The `cluster time-service ntp server create` command associates the cluster with an external network time server for time correction and adjustment by using the Network Time Protocol (NTP).

The command resolves the time server host name to an IP address and performs several validation checks. If an error is detected during validation, it is reported.

The validation checks performed by this command include the following:

- The NTP replies to an NTP query with the specified protocol version.
- The NTP reply indicates that the external time server is synchronized to another time server.
- The distance and dispersion of the NTP reply from the "root" or source clock are within the required limits.

### Parameters

#### **-server <text> - NTP Server Host Name, IPv4 or IPv6 Address**

This specifies the host name or IP address of the external NTP server that is to be associated with the cluster for time correction and adjustment.

#### **[-version {3|4|auto}] - NTP Version for Server (default: auto)**

This optionally specifies the NTP protocol version that should be used for communicating with the external NTP server. If the external NTP server does not support the specified protocol version, time exchange cannot take place.

The supported values for this parameter include the following:

- 3 - Use NTP protocol version 3, which is based on Internet Standard Request For Comments (RFC) #1305.
- 4 - Use NTP protocol version 4, which is based on Internet Standard RFC #5905.
- auto - Have Data ONTAP select the NTP protocol version.

The default setting is `auto`.

## **[-is-preferred {true|false}] - Is Preferred NTP Server (default: false) (privilege: advanced)**

This optionally specifies whether the external NTP server is the primary time source for correcting and adjusting the cluster time. The responses from this source will be used unless its time is outside the accepted selection range.

The default setting is `false`.

You use this parameter when a high quality radio (or GPS) based time server is being used with a set of non-radio based backup time servers.

## **Examples**

The following example associates the cluster with an NTP server named `ntp1.example.com`.

```
cluster1::> cluster time-service ntp server create -server  
ntp1.example.com
```

## **cluster time-service ntp server delete**

### **Delete a NTP Server**

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

### **Description**

The `cluster time-service ntp server delete` command removes the association between the cluster and an external network time server that uses the Network Time Protocol (NTP).

### **Parameters**

#### **-server <text> - NTP Server Host Name, IPv4 or IPv6 Address**

This specifies the host name or IP address of an existing external NTP server that the cluster will disassociate from.

## **Examples**

The following example disassociates an NTP server named `ntp2.example.com` from the cluster:

```
cluster1::> cluster time-service ntp server delete -server  
ntp2.example.com
```

## **cluster time-service ntp server modify**

### **Modify NTP Server Options**

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

## Description

The `cluster time-service ntp server modify` command modifies the configuration of an existing external network time server that uses the Network Time Protocol (NTP) for time correction and adjustment.

## Parameters

### **`-server <text>` - NTP Server Host Name, IPv4 or IPv6 Address**

This specifies the host name or IP address of an existing external NTP server that is to be modified.

### **`[-version {3|4|auto}]` - NTP Version for Server (default: auto)**

This optionally specifies the NTP protocol version that should be used for communicating with the external NTP server. If the external NTP server does not support the specified protocol version, time exchange cannot take place.

The supported values for this parameter include the following:

- 3 - Use NTP protocol version 3, which is based on Internet Standard Request For Comments (RFC) #1305.
- 4 - Use NTP protocol version 4, which is based on Internet Standard RFC #5905.
- auto - Have Data ONTAP select the NTP protocol version.

The default setting is `auto`.

### **`[-is-preferred {true|false}]` - Is Preferred NTP Server (default: false) (privilege: advanced)**

This optionally specifies whether the external NTP server is the primary time source for correcting and adjusting the cluster time. The responses from this source will be used unless its time is outside the accepted selection range

The default setting is `false`.

You use this parameter when a high quality radio (or GPS) based time server is being used with a set of non-radio based backup time servers.

This parameter is available only at the advanced privilege level and higher.

## Examples

The following example modifies the NTP version of an NTP server named `ntp1.example.com`. The NTP version is changed to 4.

```
cluster1::> cluster time-service ntp server modify -server
ntp1.example.com -version 4
```

## cluster time-service ntp server reset

Reset NTP server list to a default selection

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

## Description

The `cluster time-service ntp server reset` command replaces the current configuration with one of the selected configurations.

If none or more than one time service configuration is selected, the command will fail.

## Parameters

**`[-use-public {true|false}]` - Reset Server List to Public Identified Defaults (default: false)  
(privilege: advanced)**

When set to true, this specifies that the public NTP server list used by Data ONTAP should replace the current configuration.

The default setting is `false`.

## Examples

The following example replaces the current time service configuration with the default public NTP server list that is used by Data ONTAP.

```
cluster1::> cluster time-service ntp server reset -use-public true
```

## cluster time-service ntp server show

Display a list of NTP Servers

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

## Description

The `cluster time-service ntp server show` command displays the association between the cluster and external network time servers that use the Network Time Protocol (NTP).

## Parameters

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

If you specify the `-fields <fieldname>,...` parameter, the command only displays the fields that you specify. For example: `-fields server,version`.

**| [-instance ] }**

If the `-instance` parameter is specified, the command displays all the available field information.

**`[-server <text>]` - NTP Server Host Name, IPv4 or IPv6 Address**

If this parameter is specified, the command displays the external NTP servers that match the specified server name or IP address.

#### **[-version {3|4|auto}] - NTP Version for Server (default: auto)**

If this parameter is specified, the command displays the external NTP servers that use the specified NTP version.

#### **[-is-preferred {true|false}] - Is Preferred NTP Server (default: false) (privilege: advanced)**

If this parameter is specified, the command displays the external NTP server or servers that match the specified preferred server status.

#### **[-is-public {true|false}] - Is Public NTP Server Default (privilege: advanced)**

If this parameter is specified, the command displays the information for the external NTP servers that are either on the NTP server list defined by Data ONTAP (true` ') or not on the list (false` ').

## **Examples**

The following example displays information about all external NTP time servers that are associated with the cluster:

```
cluster1::> cluster time-service ntp server show
Server          Version
-----
ntp1.example.com    auto
ntp2.example.com    auto
```

## **cluster time-service ntp status show**

Display status of the node's NTP client

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

## **Description**

The `cluster time-service ntp status show` command displays the status of the associations between the cluster and external network time servers that use the Network Time Protocol (NTP).

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

### **[-node {<nodename>|local}] - Node (privilege: advanced)**

If this parameter is specified, the command displays information related to associations on the specified node.

**[-server <text>] - NTP Server Host Name, IPv4 or IPv6 Address (privilege: advanced)**

If this parameter is specified, the command displays information about the associations related to the specified NTP server. The server should be specified as it is configured in the [cluster time-service ntp server show](#) command.

**[-server-address <IP Address>] - Server IP Address (privilege: advanced)**

If this parameter is specified, the command displays information about the associations related to the NTP server with the specified IP address.

**[-is-peer-reachable {true|false}] - Is Peer Reachable and Responding to Polls? (privilege: advanced)**

If this parameter is specified as *true*, the command displays information about associations with the NTP servers that have been successfully polled.

**[-is-peer-selected {true|false}] - Is Peer Selected as Clock Source? (privilege: advanced)**

If this parameter is specified as *true*, the command displays information about associations with the NTP servers that have been selected as the current clock source.

**[-selection-state <State of NTP Peer Selection>] - State of Server Selection (privilege: advanced)**

If this parameter is specified, the command displays information about associations with the specified selection state.

**[-selection-state-text <text>] - Description of Server Selection State (privilege: advanced)**

If this parameter is specified, the command displays information about associations with the specified selection state description.

**[-poll-interval <integer>] - Poll Interval (secs) (privilege: advanced)**

If this parameter is specified, the command displays information about associations that have the specified polling interval.

**[-time-last-poll <integer>] - Time from Last Poll (secs) (privilege: advanced)**

If this parameter is specified, the command displays information about associations that are polled at the specified time.

**[-offset <double>] - Offset from Server Time (ms) (privilege: advanced)**

If this parameter is specified, the command displays information about associations with the specified offset from the NTP server.

**[-delay <double>] - Delay Time to Server (ms) (privilege: advanced)**

If this parameter is specified, the command displays information about associations with the specified travelling time to the NTP server.

**[-jitter <double>] - Maximum Offset Error (ms) (privilege: advanced)**

If this parameter is specified, the command displays information about associations with the specified offset error from the NTP server.

**[-reachability <Hex String>] - Reachability of Server (privilege: advanced)**

If this parameter is specified, the command displays information about associations with the specified reachability to the NTP server. Reachability is specified as a hexbyte that has a bit to represent the success

of each of the last eight polls of the specified server. A set bit represents a successful poll. The least significant bit represents the most recent poll, the next most significant bit the poll before that, and so on.

#### **[-server-stratum <integer>] - Stratum of Server Clock (privilege: advanced)**

If this parameter is specified, the command displays information about associations with NTP servers with the specified clock stratum.

#### **[-server-reference <text>] - Reference Clock at Server (privilege: advanced)**

If this parameter is specified, the command displays information about associations with NTP servers using the specified clock as reference.

#### **[-reported-errors <NTP Peer and Packet Errors>, ...] - Reported Packet and Peer Errors (privilege: advanced)**

If this parameter is specified, the command displays information about associations with the specified errors.

## **Examples**

The following example displays the status of the NTP associations of the cluster:

```
cluster-1::*:>cluster time-service ntp status show
Node: node-1
Server          Reachable  Selection State          Offset
(ms)
-----
-----
ntp1.eng.netapp.com      true  Currently Selected Server
39.122
ntp2.eng.netapp.com      true  Candidate Server
37.786
2 entries were displayed.
```

The following example displays the status of the association with the specified external NTP server:

```
cluster-1::*>cluster time-service ntp status show -instance -server
ntp1.example.com
Node: node-1
NTP Server Host Name, IPv4 or IPv6 Address: ntp1.example.com
                                Server IP Address: 10.56.32.33
Is Peer Reachable and Responding to Polls?: true
    Is Peer Selected as Clock Source?: true
        State of Server Selection: sys_peer
    Description of Server Selection State: Currently Selected Server
        Poll Interval (secs): 64
        Time from Last Poll (secs): 1
        Offset from Server Time (ms): 26.736
        Delay Time to Server (ms): 61.772
        Maximum Offset Error (ms): 3.064
        Reachability of Server: 01
        Stratum of Server Clock: 2
        Reference Clock at Server: 10.56.68.21
    Reported Packet and Peer Errors: -
```

## Related Links

- [cluster time-service ntp server show](#)

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