security ipsec commands

ONTAP 9.13.1 commands

NetApp
February 12, 2024

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security ipsec show-ikesa

Show IKE SA Information

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

Description

The `security ipsec show-ikesa` command displays information about IKE Security Associations (SA).

Running this command with the `-node` parameter displays information relevant to IKE SAs generated at the specified node.

Running this command with the `-vserver` parameter displays information relevant to IKE SAs associated with the specified vserver.

Running this command with the `-policy-name` parameter displays information relevant to IKE SAs created based on the specified security policy.

You can specify additional parameters to display only information matching those parameters. For example, to display IKE SAs associated with a specific local address, run the command with the `-local-address` parameter.

Parameters

{ [-fields <fieldname>,…]

If you specify the `-fields <fieldname>,…` parameter, the command displays only the specified fields. Notice that key fields are always displayed.

| [-instance] }

If you specify the `-instance` parameter, the command displays all fields of the IKE SAs.

-node <nodename> - Node

This required parameter specifies the node from which the IKE SA information will be collected and displayed.

[-vserver <vserver name>] - Vserver Name

Use this parameter to display the IKE SAs associated with the specified Vserver.

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

Use this parameter to display the IKE SAs created based on the specified security policy.

[-local-address <text>] - Local Address

Use this parameter to display the IKE SAs with the specified local endpoint IP address.

[-remote-address <text>] - Remote Address

Use this parameter to display the IKE SAs with the specified remote endpoint IP address.

[-initiator-spi <text>] - Initiator SPI

Use this parameter to display the IKE SAs with the specified initiator Security Parameter Index (SPI).

[-responder-spi <text>] - Responder SPI

Use this parameter to display the IKE SAs with the specified responder SPI.

[-is-initiator {true|false}] - Is Initiator

Use this parameter to display the IKE SAs created when the given node matches the specified initiator role: true means initiator role and false means responder role in IKE negotiation.

[-ike-version <integer>] - IKE Version

Use this parameter to display the IKE SAs created using the specified IKE version.

[-auth-method <IKE Authentication Method>] - Authentication Method

Use this parameter to display the IKE SAs created using the specified authentication method.

[-state <IKE SA State>] - IKE SA State

Use this parameter to display only the IKE SAs that are in the specified state.

[-cipher-suite <Cipher Suite Type>] - Cipher Suite

Use this parameter to display the IKE SAs created using the specified cipher suite.

[-lifetime <integer>] - Lifetime

Use this parameter to display the IKE SAs with the specified remaining lifetime. Notice that lifetime keeps changing for the duration of the security association.

Examples

This example displays all IKE SAs for node *cluster1-node1* :

```
cluster-1::> security ipsec show-ikesa -node cluster1-node1
            Policy Local           Remote
Vserver     Name   Address         Address         Initator-SPI     State
----------- ------ --------------- --------------- ----------------
-----------
vs1         Policy1
                   192.186.10.1    192.186.10.2    e658e5bc7ece199e
ESTABLISHED
vs2         Policy2
                   192.168.20.1    192.168.20.2    8eac392028ab4f12
ESTABLISHED
2 entries were displayed.
```

This example displays selected fields of all IKE SAs for node *cluster1-node1* :

```
cluster-1::> security ipsec show-ikesa -node cluster1-node1 -fields is-
initiator,initiator-spi,responder-spi,auth-method,cipher-suite,lifetime

node           vserver policy-name local-address remote-address initiator-
spi    responder-spi    is-initiator auth-method cipher-suite  lifetime
-------------- ------- ----------- ------------- --------------
---------------- ---------------- ------------ ----------- -------------
--------
cluster1-node1 vs1     Policy1     192.186.10.1  192.186.10.2
e658e5bc7ece199e 9b61befff71e8ca2 false        PSK         SUITEB_GCM256
6300
cluster1-node1 vs2     Policy2     192.186.20.1  192.186.20.2
4d43aaba8ca01cd8 00bdd5aac569e08a true         PSK         SUITEB_GCM256
6720
2 entries were displayed.
```

This example displays all IKE SAs for vserver *vs1* :

```
cluster-1::> security ipsec show-ikesa -node cluster1-node1
            Policy Local           Remote
Vserver     Name   Address         Address         Initator-SPI     State
----------- ------ --------------- --------------- ----------------
-----------
vs1         Policy1
                   192.186.10.1    192.186.10.2    e658e5bc7ece199e
ESTABLISHED
```

This example displays instance view (all fields) for all IKE SAs associated with node *cluster1-node1* , vserver *vs1* and created using policy *Policy1* :

```
cluster-1::> security ipsec show-ikesa -node cluster1-node1 -vserver vs1
-policy-name Policy1 -instance
Node: cluster1-node1
         Vserver Name: vs1
          Policy Name: Policy1
        Local Address: 192.168.10.1
       Remote Address: 192.168.10.2
        Initiator SPI: e658e5bc7ece199e
        Responder SPI: 9b61befff71e8ca2
         Is Initiator: false
          IKE Version: 2
Authentication Method: PSK
         IKE SA State: ESTABLISHED
         Cipher Suite: SUITEB_GCM256
             Lifetime: 6000
```

security ipsec show-ipsecsa

Show IPsec SA Information

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

Description

The `security ipsec show-ipsecsa` command displays information about IPsec Security Associations (SA).

Running the command with the `-node` parameter displays information relevant to IPsec SAs at the specified node.

Running this command with the `-vserver` parameter displays information relevant to IPsec SAs associated with the specified vserver.

Running this command with the `-policy-name` parameter displays information relevant to IPsec SAs created using the specified security policy.

You can specify additional parameters to display only information matching those parameters. For example, to display IPsec SAs only about a certain local address, run the command with the `-local-address` parameter.

Parameters

{ [-fields <fieldname>,…]

If you specify the `-fields <fieldname>,…` parameter, the command displays only the specified fields. Notice that key fields are always displayed.

| [-instance] }

If you specify the `-instance` parameter, the command displays all fields of matching IPsec SAs.

-node <nodename> - Node

This required parameter specifies from which node the IPsec SA information will be collected and displayed.

[-vserver <vserver name>] - Vserver Name

Use this parameter to display the IPsec SAs associated with the specified Vserver.

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

Use this parameter to display the IPsec SAs created based on the specified security policy.

[-local-address <text>] - Local Address

Use this parameter to display the IPsec SAs with the specified local endpoint IP address.

[-remote-address <text>] - Remote Address

Use this parameter to display the IPsec SAs with the specified remote endpoint IP address.

[-inbound-spi <text>] - Inbound SPI

Use this parameter to display the IPsec SA having the specified inbound Security Parameter Index (SPI).

[-outbound-spi <text>] - Outbound SPI

Use this parameter to display the IPsec SA having the specified outbound SPI.

[-action <IPsec Action Type>] - IPsec Action

Use this parameter to display IPsec SAs with the specified security action type, such as ESP_TRA for ESP transport mode protection or BYPASS to bypass IPsec, or DISCARD.

[-state <text>] - IPsec SA State

Use the parameter to display only the IPsec SAs that are in the specified state.

[-cipher-suite <Cipher Suite Type>] - Cipher Suite

Use this parameter to display the IPsec SAs that use the specified cipher-suite.

[-ib-bytes <integer>] - Inbound Bytes Processed

Use this parameter to display the IPsec SAs matching the processed inbound bytes. Notice that ib-bytes keeps changing as inbound packets are processed.

[-ib-pkts <integer>] - Inbound Pkts Processed

Use this parameter to display the IPsec SAs matching the processed inbound packets. Notice that ib-pkts keeps changing as inbound packets are processed.

[-ob-bytes <integer>] - Outbound Bytes Processed

Use this parameter to display the IPsec SAs matching the processed outbound bytes. Notice that ob-bytes keeps changing as outbound packets are processed.

[-ob-pkts <integer>] - Outbound Pkts Processed

Use this parameter to display the IPsec SAs matching the processed outbound packets. Notice that ob-pkts keeps changing as outbound packets are processed.

[-lifetime <integer>] - IPsec SA Lifetime Seconds

Use this parameter to display the IPsec SAs matching the remaining lifetime. Notice that lifetime keeps changing for the duration of the security association.

Examples

The this example displays all IPsec SAs for node *cluster1-node1* :

```
cluster-1::> security ipsec show-ipsecsa -node cluster1-node1
            Policy  Local           Remote          Inbound  Outbound
Vserver     Name    Address         Address         SPI      SPI
State
----------- ------- --------------- --------------- -------- --------
---------
vs1         Policy1
                    192.186.10.1    192.186.10.2    c68de9db c84f913b
INSTALLED
vs2         Policy2
                    192.186.20.1    192.186.20.2    cbc01493 c6ee7424
INSTALLED
2 entries were displayed.
```

This example displays selected fields of all IPsec SAs for node *cluster1-node1* :

```
cluster-1::> security ipsec show-ipsecsa -node cluster1-node1 -fields
local-address,remote-address,inbound-spi,outbound-spi
node           vserver policy-name local-address  remote-address inbound-
spi outbound-spi
-------------- ------- ----------- -------------- --------------
----------- ------------
cluster1-node1 vs1     Policy1     192.186.10.1   192.186.10.2   c68de9db
c84f913b
cluster1-node1 vs2     Policy2     192.186.20.1   192.186.20.2   cbc01493
c6ee7424
2 entries were displayed.
```

```
This example displays selected fields of all IPsec SAs associated with
node ``_cluster1-node1_``:
cluster-1::> security ipsec show-ipsecsa -node cluster1-node1 -fields ib-
bytes,ib-pkts,ob-bytes,ob-pkts
node           vserver policy-name local-address  remote-address inbound-
spi ib-bytes ib-pkts ob-bytes ob-pkts
-------------- ------- ----------- -------------- --------------
----------- -------- ------- -------- -------
cluster1-node1 vs1     Policy1     192.186.10.1   192.186.10.2   c68de9db
4704     56      6720     56
cluster1-node1 vs2     Policy2     192.186.20.1   192.186.20.2   cbc01493
20434    115     23082    120
2 entries were displayed.
```

This example displays instance view (all fields) for all IPsec SAs associated with node *cluster1-node1* , vserver *vs1* and created using policy *Policy1* :

```
cluster-1::> security ipsec show-ipsecsa -node cluster1-node1 -vserver vs1
-policy-name Policy1 -instance
Node: cluster1-node1
             Vserver Name: vs1
              Policy Name: Policy1
              Inbound SPI: c68de9db
             Outbound SPI: c84f913b
            Local Address: 192.168.10.1
           Remote Address: 192.168.10.2
             IPsec Action: ESP_TRA
           IPsec SA State: INSTALLED
             Cipher Suite: SUITEB_GCM256
  Inbound Bytes Processed: 4704
   Inbound Pkts Processed: 56
 Outbound Bytes Processed: 6720
  Outbound Pkts Processed: 56
IPsec SA Lifetime Seconds: 1800
```

security ipsec ca-certificate add

Add CA certificate(s) to a vserver

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

Description

This command adds a list of CA certificates to IPsec for the given Vserver. These certificates will be used for PKI authentication with remote IKE endpoint. The CA certificates should have already been installed using

either security certificate install command or security certificate create command.

Parameters

`-vserver <vserver name>` - Vserver Name

Use this parameter to specify the Vserver for which the IPsec CA certificates should be added.

`-ca-certs <text>,…` - CA Certificate Names

Use this parameter to specify the list of CA certificates to be added to IPsec.

Examples

The following example adds two IPsec CA certificates named caCert1 and caCert2 to Vserver v1.

```
cluster-1::>security ipsec ca-certificate add -vserver v1 -ca-certs
caCert1,caCert2
```

Related Links

- security certificate install
- security certificate create

security ipsec ca-certificate remove

Remove CA certificate(s) from a vserver

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

Description

This command removes a list of IPsec CA certificates for the given Vserver. The CA certificates being removed should have been previously added to IPsec using security ipsec ca-certificate add command.

Parameters

`-vserver <vserver name>` - Vserver Name

Use this parameter to specify the Vserver for which the IPsec CA certificates should be removed.

`-ca-certs <text>,…` - CA Certificate Names

Use this parameter to specify the list of CA certificates to be removed from IPsec.

Examples

The following example removes two IPsec CA certificates named caCert1 and caCert2 for Vserver v1.

```
cluster-1::>security ipsec ca-certificate remove -vserver v1 -ca-certs
caCert1,caCert2
```

Related Links

- security ipsec ca-certificate add

security ipsec ca-certificate show

Displays the CA certificates added to IPsec

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

Description

This command displays the configured IPsec CA certificates.

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 Name

If you specify this parameter, then the command displays only the IPsec CA certificates configured for the given vserver.

[-ca-certs <text>,…] - CA Certificate Names

If you specify this parameter, then the command displays only the Vservers for which the given CA certificates are present in IPsec.

Examples

The following example lists the IPsec CA certificates configured for all Vservers.

```
cluster-1::>security ipsec ca-certificate show

Vserver              CA Certificate Names
-------------------  -----------------------------------
v1                   caCert1, caCert2
v2                   caCert3, caCert4
2 entries were displayed.
```

security ipsec config modify

Modify IPsec config

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

Description

This command modifies IPsec configuration parameters.

Parameters

`[-is-enabled {true|false}]` - Is IPsec Enabled

This parameter enables and disables IPsec on the storage system.

`[-log-level <IPsec Log Level>]` - IPsec Logging Level

This parameter sets the IPsec logging level, where logging level 0 means no logging, and logging level 5 is most verbose. Default value is 2.

`[-replay-window {0|64|128|256|512|1024}]` - IPsec Replay Window Size

This parameter sets the IPsec replay window size. The possible values are 0, 64, 128, 256, 512 and 1024. Default value is 0.

`[-ready-to-downgrade {true|false}]` - IPsec Ready To Downgrade (privilege: advanced)

This parameter is used when downgrade to a non-IPsec capable ONTAP. Set this parameter to true to cleanup IPsec configurations before such downgrade.

Examples

The following example enables IPsec:

```
cluster-1::> security ipsec config modify -is-enabled true
```

The following example sets the IPsec logging level to 4:

```
cluster-1::> security ipsec config modify -log-level 4
```

The following example sets the IPsec replay window size to 64:

```
cluster-1::> security ipsec config modify -replay-window 64
```

security ipsec config show

Display IPsec config

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

Description

This command shows the current IPsec configuration parameters.

Examples

The following example shows the state of IPsec (enabled/disabled) and the IPsec logging level:

```
cluster-1::> security ipsec config show
     IPsec Enabled: false
   IPsec Log Level: 2
Replay Window Size: 0
```

security ipsec policy create

Create an IPsec policy

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

Description

This command creates a new IPsec policy. The traffic to be protected is specified by the traffic selectors (local-ip-subnets, remote-ip-subnets, local-ports, remote-ports, protocols). IPsec is not supported for the admin Vserver in a MetroCluster environment.

Parameters

`-vserver <vserver name>` - Vserver

Specifies the Vserver to which the policy will belong. If there is only a single Vserver capable of supporting IPsec, the Vserver parameter is implied.

`-name <text>` - Policy Name

This required parameter specifies the name of the policy which may be a text string (1-64 bytes), a hexadecimal string (begining with '0x') or a base64 encoded binary string (beginning with '0s').

`-local-ip-subnets <IP Address/Mask>,…` - Local IP Subnets

This required parameter specifies the IPv4 or IPv6 subnet (address and mask, can be subnet or individual address) representing the local address (range) to be protected by this policy.

`-remote-ip-subnets <IP Address/Mask>,…` - Remote IP Subnets

This required parameter specifies the IPv4 or IPv6 subnet (address and mask, can be subnet or individual address) representing the remote address (range) to be protected by this policy.

`[-local-ports {<Number>|<StartingNumber>-<EndingNumber>}]` - Local Ports

This optional parameter specifies logical port associated with the local address to be protected by this policy. The port defaults to any port ('0-0' or '0') but a single port may be specified ('port number' or 'port number-port number').

[-remote-ports {<Number>|<StartingNumber>-<EndingNumber>}] - Remote Ports

This optional parameter specifies logical port associated with the remote address to be protected by this policy. The port defaults to any port ('0-0' or '0') but a single port may be specified ('port number' or 'port number-port number').

[-protocols {<Protocol Number>|<Protocol Name>}] - Protocols

This optional parameter specifies the protocol to be protected by by this policy. The protocol defaults to any protocol ('any' or '0') but a single protocol may be specified ('tcp', 'udp' or protocol number).

[-action <IPsec Action Type>] - Action

This optional parameter specifies the action to be performed when a packet meets the traffic selectors described by this policy. The possible values are 'ESP_TRA' (IPsec protect traffic), 'DISCARD' (discard matching traffic), or 'BYPASS' (send matching traffic in cleartext (not protected by IPsec)). NOTE: if the action is 'ESP_TRA', then 'shared-key' becomes a required parameter. If the action is 'BYPASS' or 'DISCARD' and a shared-key is provided, then the shared-key value will be ignored and discarded. The default value is 'ESP_TRA'.

[-cipher-suite <Cipher Suite Type>] - Cipher Suite

This optional parameter specifies the suite of algorithms that will be used to protect the traffic. The possible values are:

SUITEB_GCM256: Suite-B-GCM-256 cipher suite as specified in RFC6379.

SUITEB_GMAC256: Suite-B-GMAC-256 cipher suite as specified in RFC6379.

SUITE_AESCBC: Suite consisting of AES256 CBC and SHA512 for ESP and AES256-SHA512-MODP4096 for IKE.

The default value is 'SUITEB_GCM256'.

[-ike-lifetime <integer>] - IKE Security Association Lifetime

This optional parameter specifies the lifetime of an IKE Security Association (in seconds). Shortly before the expiration of the IKE-lifetime, a new IKE security association will be created and the existing IKE security association (and child IPsec security associations) will be destroyed. The default value is 86400 seconds.

[-ipsec-lifetime <integer>] - IPsec Security Association Lifetime

This optional parameter specifies the lifetime of an IPsec Security Association (in seconds). Shortly before the expiration of the ipsec-lifetime, a new IPsec security association will be created and the existing IPsec security association will be destroyed. The default value is 28800 seconds.

[-ipsec-lifetime-bytes <integer>] - IPsec Security Association Lifetime (bytes)

This optional parameter specifies the byte lifetime of an IPsec Security Association. Shortly before the expiration of the ipsec-lifetime-bytes (ipsec-lifetime-bytes have been processed by the IPsec security association), a new IPsec security association will be created and the existing IPsec security association will be destroyed. The default value is 0, i.e infinity bytes.

[-is-enabled {true|false}] - Is Policy Enabled

This optional parameter specifies whether the IPsec policy is enabled or not. Any policy that is created is stored in a replicated database. The 'is-enabled' parameter determines if the policy will be included in those evaluated when determining the best-matched policy to match the traffic selectors of the packet. The default value is 'true'.

[-local-identity <text>] - Local Identity

This optional parameter specifies the local IKE endpoint's identity for authentication purpose. If this field is not explicitly specified, local-ip-subnet will assume the role for identity. If this field is set to "ANYTHING", then it will be translated to the strongSwan "%any" special identity.

[-remote-identity <text>] - Remote Identity

This optional parameter specifies the remote IKE endpoint's identity for authentication purpose. If this field is not explicitly specified, remote-ip-subnet will assume the role for identity. If this field is set to "ANYTHING", then it will be translated to the strongSwan "%any" special identity.

[-auth-method <IKE Authentication Method>] - Authentication Method

This optional parameter specifies the authentication method for an IPsec policy. The default value is 'PSK', the pre-shared key authentication method.

[-cert-name <text>] - Certificate for Local Identity

This parameter specifies the certificate name and is mandatory for an IPsec policy using the PKI authentication method. The certificate should have already been installed using security certificate install command.

Examples

This is an example of the creation of an IPsec policy that protects matching traffic, with all parameters specified. The preshared key can be string of length 18-128 bytes, a sequence hexadecimal digits beginning with 0x or a sequence of Base64 encoded binary data with 0s.

```
cluster-1::> security ipsec policy create -vserver vs_data1 -name Policy1
-local-ip-subnets 192.168.10.1/32 -remote-ip-subnets 192.168.20.1/32
-local-ports 4000 -remote-ports 5001 -protocols tcp -action ESP_TRA
-shared-key This_is_a_shared_key_for_ipsec_policy -ike-version 2 -cipher
-suite SUITEB_GCM256 -ike-lifetime 4000 -ipsec-lifetime 1800 -ipsec
-lifetime-bytes 104880 -is-enabled true

Enter the preshared key for IPsec Policy "Policy1" on Vserver "vs_data1":
Re-enter the preshared key:
```

This is an example of the creation of an IPsec policy that protects matching traffic, with some parameters specified (others will be using the default values). PKI authentication method . is used. In this example, remote-identity does not matter, as long as a trusted certificate is provided.

```
cluster-1::> security ipsec policy create -vserver vs_data1 -name Policy2
-local-ip-subnets 192.168.10.1/32 -remote-ip-subnets 0.0.0.0/0 -local
-ports 2049 -auth-method PKI -cert-name lifcert -local-identity
"CN=lif1_certificate.netapp.com" -remote-identity ANYTHING
```

This is an example of the creation of an IPsec policy that discards matching traffic:

```
cluster-1::> security ipsec policy create -vserver vs_data1 -name
DiscardTraffic -local-ip-subnets 192.168.10.1/32 -remote-ip-subnets
192.168.20.1/32 -action DISCARD
```

Related Links

- security certificate install

security ipsec policy delete

Delete an IPsec policy

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

Description

This command deletes an existing IPsec policy.

Parameters

`-vserver <vserver name>` - Vserver

Specifies the Vserver to which the policy belongs. If there is only a single Vserver capable of supporting IPsec, the Vserver parameter is implied.

`-name <text>` - Policy Name

This required parameter specifies the name of the policy to be deleted. The name may be a text string (1-64 bytes), a hexadecimal string (begining with '0x') or a base64 encoded binary string (beginning with '0s').

Examples

This is an example of IPsec policy deletion where two or more Vservers are capable of supporting IPsec:

```
cluster-1::> security ipsec policy delete -vserver vs_data1 -name
DiscardTraffic
```

This is an example of IPsec policy deletion where only a single Vserver is capable of supporting IPsec:

```
cluster-1::> security ipsec policy delete -name policy1
```

This is an example of an attempt to delete a non-existent IPsec policy:

```
cluster-1::> security ipsec policy delete -vserver vs_data1 -name Discard

Error: There are no entries matching your query.
```

security ipsec policy modify

Modify an IPsec policy

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

Description

This command modifies an existing IPsec policy. You cannot modify the name or vserver of a policy. Moving a policy from one Vserver to another or renaming a policy requires that the existing policy be deleted and then a new policy created in the desired Vserver with the desired name.

It is highly recommended that the user set the field `-is-enabled` to `false` prior to making any other modifications to the policy. This will disable the policy and allow all existing IPsec and IKE Security Associations associated with policy to get flushed. Then, the user can modify the policy with the desired changes, along with setting the `-is-enabled` field to `true` to re-enable the policy.

Parameters

`-vserver <vserver name>` - Vserver

Specifies the Vserver to which the policy belongs. If there is only a single Vserver capable of supporting IPsec, the Vserver parameter is implied.

`-name <text>` - Policy Name

This required parameter specifies the name of the policy which may be a text string (1-64 bytes), a hexadecimal string (begining with '0x') or a base64 encoded binary string (beginning with '0s').

`[-local-ip-subnets <IP Address/Mask>,…]` - Local IP Subnets

This parameter specifies the IPv4 or IPv6 subnet (address and mask, can be subnet or individual address) representing the local address (range) to be protected by this policy.

`[-remote-ip-subnets <IP Address/Mask>,…]` - Remote IP Subnets

This parameter specifies the IPv4 or IPv6 subnet (address and mask, can be subnet or individual address) representing the remote address (range) to be protected by this policy.

`[-local-ports {<Number>|<StartingNumber>-<EndingNumber>}]` - Local Ports

This parameter specifies the logical port associated with the local address to be protected by this policy. The value may be specified by 'port number' or 'port number-port number'.

`[-remote-ports {<Number>|<StartingNumber>-<EndingNumber>}]` - Remote Ports

This parameter specifies the logical port associated with the remote address to be protected by this policy. The value may be specified by 'port number' or 'port number-port number'.

`[-protocols {<Protocol Number>|<Protocol Name>}]` - Protocols

This parameter specifies the protocol to be protected by this policy. The protocol may be specified as 'tcp', 'udp' or protocol number.

`[-cipher-suite <Cipher Suite Type>]` - Cipher Suite

This parameter specifies the suite of algorithms that will be used to protect the traffic. The possible values are:

SUITEB_GCM256: Suite-B-GCM-256 cipher suite as specified in RFC6379.

SUITEB_GMAC256: Suite-B-GMAC-256 cipher suite as specified in RFC6379.

SUITE_AESCBC: Suite consisting of AES256 CBC and SHA512 for ESP and AES256-SHA512-MODP4096 for IKE.

The default value is 'SUITEB_GCM256'.

`[-ike-lifetime <integer>]` - IKE Security Association Lifetime

This parameter specifies the lifetime of an IKE Security Association (in seconds). Shortly before the expiration of the IKE-lifetime, a new IKE security association will be created and the existing IKE security association (and child IPsec security associations) will be destroyed.

`[-ipsec-lifetime <integer>]` - IPsec Security Association Lifetime

This parameter specifies the lifetime of an IPsec Security Association (in seconds). Shortly before the expiration of the ipsec-lifetime, a new IPsec security association will be created and the existing IPsec security association will be destroyed.

`[-ipsec-lifetime-bytes <integer>]` - IPsec Security Association Lifetime (bytes)

This parameter specifies the byte lifetime of an IPsec Security Association. Shortly before the expiration of the ipsec-lifetime-bytes (ipsec-lifetime-bytes have been processed by the IPsec security association), a new IPsec security association will be created and the existing IPsec security association will be destroyed.

`[-is-enabled {true|false}]` - Is Policy Enabled

This parameter specifies the whether the IPsec policy is enabled or not. Any policy which is created is stored in a replicated database. The 'is-enabled' parameter determines if the policy will be included in those evaluated when determining the best-matched policy to match the traffic selectors of the packet. The default value is 'true'.

`[-local-identity <text>]` - Local Identity

This optional parameter specifies the local IKE endpoint’s identity for authentication purpose. If this field is not explicitly specified, local-ip-subnet will assume the role for identity. If this field is set to "ANYTHING", then it will be translated to the strongSwan "%any" special identity.

`[-remote-identity <text>]` - Remote Identity

This optional parameter specifies the remote IKE endpoint’s identity for authentication purpose. If this field is not explicitly specified, remote-ip-subnet will assume the role for identity. If this field is set to "ANYTHING", then it will be translated to the strongSwan "%any" special identity.

`[-cert-name <text>]` - Certificate for Local Identity

This optional parameter specifies the certificate name for an IPsec policy using PKI authentication method.

Examples

The following example modifies the local-ip-subnets value of an IPsec policy:

```
cluster-1::> security ipsec policy modify -vserver vs_data1 -name Policy1
-local-ip-subnets 192.168.30.2/32
```

security ipsec policy show

Display IPsec policies

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

Description

The `security ipsec policy show` command displays information about configured IPsec policies. All parameters are optional. This command is supported only when IPsec is enabled.

Running the command with the `-vserver` parameter displays all policies associated with the specified vserver.

You can specify additional parameters to display only information that matches those parameters. For example, to display policies associated with a certain local ip subnet, run the command with the `-local-ip-subnets` parameter.

Parameters

{ [-fields <fieldname>,…]

If you specify the `-fields <fieldname>,…` parameter, the command displays only the specified fields. Notice that key fields are always displayed.

| [-instance] }

If you specify the `-instance` parameter, the command displays all fields of the policies.

[-vserver <vserver name>] - Vserver

If you specify this parameter, only policies associated with this Vserver will be displayed.

[-name <text>] - Policy Name

This parameter specifies the policy to be displayed.

[-local-ip-subnets <IP Address/Mask>,…] - Local IP Subnets

If you specify this parameter, information about local-ip-subnets will be displayed.

[-remote-ip-subnets <IP Address/Mask>,…] - Remote IP Subnets

If you specify this parameter, information about remote-ip-subnets will be displayed.

[-local-ports {<Number>|<StartingNumber>-<EndingNumber>}] - Local Ports

If you specify this parameter, information about local-ports will be displayed.

[-remote-ports {<Number>|<StartingNumber>-<EndingNumber>}] - Remote Ports

If you specify this parameter, information about remote-ports will be displayed.

[-protocols {<Protocol Number>|<Protocol Name>}] - Protocols

If you specify this parameter, information about protocols will be displayed.

[-action <IPsec Action Type>] - Action

If you specify this parameter, information about action will be displayed.

[-cipher-suite <Cipher Suite Type>] - Cipher Suite

If you specify this parameter, information about cipher-suite will be displayed.

[-ike-lifetime <integer>] - IKE Security Association Lifetime

If you specify this parameter, information about ike-lifetime will be displayed.

[-ipsec-lifetime <integer>] - IPsec Security Association Lifetime

If you specify this parameter, information about ipsec-lifetime will be displayed.

[-ipsec-lifetime-bytes <integer>] - IPsec Security Association Lifetime (bytes)

If you specify this parameter, information about ipsec-lifetime-bytes will be displayed.

[-is-enabled {true|false}] - Is Policy Enabled

If you specify this parameter, information about is-enabled will be displayed.

[-local-identity <text>] - Local Identity

If you specify this parameter, information about local IKE endpoint's identity, if configured, will be displayed.

[-remote-identity <text>] - Remote Identity

If you specify this parameter, information about remote IKE endpoint's identity, if configured, will be displayed.

[-auth-method <IKE Authentication Method>] - Authentication Method

If you specify this parameter, the authentication method of the policy will be displayed.

[-cert-name <text>] - Certificate for Local Identity

If you specify this parameter, the name of the certificate will be displayed.

Examples

The this example displays all policies in all Vservers:

```
cluster-1::> security ipsec policy show
        Policy                                          Cipher
Vserver Name       Local IP Subnet    Remote IP Subnet   Suite
Action
------- ---------- ------------------ ------------------ --------------
-------
vs_data1
        Policy1    192.168.10.1/32    192.168.20.1/32    SUITEB_GCM256
ESP_TRA
        Policy3    192.158.10.10/32   192.158.10.20/32   SUITEB_GCM256
DISCARD
vs_data2
        Policy2    10.10.10.10/32     20.20.20.20/32     SUITE_AESCBC
ESP_TRA
3 entries were displayed.
```

This example displays all of the IPsec policies from a single Vserver:

```
cluster-1::> security ipsec policy show -vserver vs_data1
        Policy                                          Cipher
Vserver Name       Local IP Subnet    Remote IP Subnet   Suite
Action
------- ---------- ------------------ ------------------ --------------
-------
vs_data1
        Policy1    192.168.10.1/32    192.168.20.1/32    SUITEB_GCM256
ESP_TRA
        Policy3    192.158.10.10/32   192.158.10.20/32   SUITEB_GCM256
DISCARD
2 entries were displayed.
```

This example displays a specific policy:

```
cluster-1::> security ipsec policy show -vserver vs_data1 -name Policy1
Vserver Name: vs_data1
                               Policy Name: Policy1
                          Local IP Subnets: 192.168.10.1/32
                         Remote IP Subnets: 192.168.20.1/32
                               Local Ports: 0-0
                              Remote Ports: 0-0
                                 Protocols: any
                                    Action: ESP_TRA
                              Cipher Suite: SUITEB_GCM256
          IKE Security Association Lifetime: 10800
        IPsec Security Association Lifetime: 3600
IPsec Security Association Lifetime (bytes): 0
                         Is Policy Enabled: true
                            Local Identity:
                           Remote Identity:
```

This example displays a specific field from all policies:

```
cluster-1::> security ipsec policy show -fields local-ip-subnets
vserver  name    local-ip-subnets
-------- ------- ----------------
vs_data1 Policy1 192.168.10.1/32
vs_data1 Policy3 192.158.10.10/32
vs_data2
         Policy2 10.10.10.10/32
3 entries were displayed.
```