

# vserver fpolicy commands

**ONTAP 9.6 commands** 

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# vserver fpolicy commands

## vserver fpolicy disable

Disable a policy

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

### **Description**

The vserver fpolicy disable command disables an FPolicy policy for the specified Vserver.

### **Parameters**

#### -vserver <Vserver Name> - Vserver

This parameter specifies the name of the Vserver on which you want to disable an FPolicy policy.

### -policy-name <Policy name> - Policy

This parameter specifies the name of the FPolicy policy you want to disable.

## **Examples**

The following command disables an FPolicy policy.

cluster1::> vserver fpolicy show Policy Name Vserver Sequence Status Engine vs1.example.com vs1\_pol - off native vs2.example.com vs2\_pol 5 on external 2 entries were displayed. cluster1::> vserver fpolicy disable -vserver vs2.example.com -policy-name vs2 pol cluster1::> vserver fpolicy show Vserver Policy Name Sequence Status Engine vsl.example.com vsl pol - off native vs2.example.com vs2\_pol - off external 2 entries were displayed.

## vserver fpolicy enable

## Enable a policy

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

## Description

The vserver fpolicy enable command enables FPolicy policies for the specified Vserver and sets their sequence (priority). The sequence is used when multiple policies have subscribed to the same file access event. To modify the sequence number of a policy, the administrator must disable the policy (if it is enabled) and then use this command to enable it with the new sequence number. Policies that use the <code>native</code> engine configuration have a higher priority than policies for any other engine, regardless of the sequence number assigned to them.



Events on FlexGroup volumes do not notify the FPolicy server.

#### **Parameters**

#### -vserver <Vserver Name> - Vserver

This parameter specifies the name of the Vserver on which you want to enable an FPolicy policy. The

Vserver administrator can enable FPolicy policies created within the scope of the Vserver and can also enable an FPolicy policy created by the cluster administrator. The cluster administrator can enable FPolicy policies for any Vserver but cannot enable them with a scope of cluster. The scope is determined at a Vserver level.

#### -policy-name <Policy name> - Policy

This parameter specifies the name of the FPolicy policy you want to enable.

#### -sequence-number <integer> - Policy Sequence Number

This parameter specifies the sequence number that is assigned to the policy.

## **Examples**

The following command enables an FPolicy policy:

/server	Policy Name	Sequence Statu	ıs
Engine		55 10000	
			_
vs1.example.com	vs1 pol	- off	
native			
vs2.example.com	vs2_pol	- off	
external	<del>-</del>		
2 entries were displ	aved		
<u> </u>	ayea:		
		s2.example.com -policy-na	me
<pre>cluster1::&gt; vserver</pre>	fpolicy enable -vserver v	s2.example.com -policy-na	.me
	fpolicy enable -vserver v	s2.example.com -policy-na	.me
<pre>cluster1::&gt; vserver vs2_pol -sequence-nu</pre>	fpolicy enable -vserver v umber 5	s2.example.com -policy-na	me
<pre>cluster1::&gt; vserver vs2_pol -sequence-nu cluster1::&gt; vserver</pre>	fpolicy enable -vserver v umber 5	s2.example.com -policy-na Sequence Statu	
<pre>cluster1::&gt; vserver vs2_pol -sequence-nu cluster1::&gt; vserver Vserver</pre>	fpolicy enable -vserver vumber 5 fpolicy show		
<pre>cluster1::&gt; vserver vs2_pol -sequence-nu cluster1::&gt; vserver Vserver</pre>	fpolicy enable -vserver vumber 5 fpolicy show		
<pre>cluster1::&gt; vserver vs2_pol -sequence-nu cluster1::&gt; vserver Vserver</pre>	fpolicy enable -vserver vumber 5 fpolicy show		
<pre>cluster1::&gt; vserver vs2_pol -sequence-nu cluster1::&gt; vserver Vserver Engine</pre>	fpolicy enable -vserver v umber 5  fpolicy show Policy Name		
<pre>cluster1::&gt; vserver vs2_pol -sequence-nu cluster1::&gt; vserver Vserver</pre>	fpolicy enable -vserver v umber 5  fpolicy show Policy Name	Sequence Statu	
<pre>cluster1::&gt; vserver vs2_pol -sequence-nu cluster1::&gt; vserver Vserver Engine vs1.example.com native</pre>	fpolicy enable -vserver v umber 5  fpolicy show Policy Name  vs1_pol	Sequence Statu	
<pre>cluster1::&gt; vserver vs2_pol -sequence-nu cluster1::&gt; vserver Vserver Engine vs1.example.com</pre>	fpolicy enable -vserver v umber 5  fpolicy show Policy Name  vs1_pol	Sequence Statu 	

## vserver fpolicy engine-connect

Establish a connection to FPolicy server

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

### **Description**

The vserver fpolicy engine-connect command connects an FPolicy server to a specified node. Connecting the FPolicy server to a node enables FPolicy processing, providing the FPolicy configuration is complete. Before connecting an FPolicy server to a node, you must configure FPolicy by completing the following tasks:

- Create an FPolicy event
- · Create an FPolicy external engine
- Create an FPolicy policy
- Create a scope for the FPolicy policy



The FPolicy event and external engine must be attached to the FPolicy policy.



The FPolicy policy should be enabled.

#### **Parameters**

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

This parameter specifies the node that you want to connect to the FPolicy server. The value local specifies the current node.

#### -vserver <Vserver Name> - Vserver

This parameter specifies the Vserver that you want to connect to the specified FPolicy server using the specified FPolicy policy.

#### -policy-name <Policy name> - Policy

This parameter specifies the name of the FPolicy policy that is attached to an external engine.

#### -server <IP Address> - Server

This parameter specifies the FPolicy server to which you want to connect the node. The specified server must be present in the external engine configuration of the above specified policy.

## **Examples**

The following example connects an FPolicy server.

## vserver fpolicy engine-disconnect

Terminate connection to FPolicy server

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

### **Description**

The vserver fpolicy engine-disconnect command disconnects an FPolicy server from a specified node.

#### **Parameters**

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

This parameter specifies the node that you want to disconnect from the FPolicy server. The value local specifies the current node.

#### -vserver <Vserver Name> - Vserver

This parameter specifies the Vserver that you want to disconnect from the specified FPolicy server with the specified attached FPolicy policy.

#### -policy-name <Policy name> - Policy

This parameter specifies the name of the FPolicy policy that is attached with an external engine.

#### -server <IP Address> - Server

This parameter specifies the FPolicy server you want to disconnect. The specified server must be present in the external engine configuration of the above specified FPolicy policy.

## **Examples**

The following example disconnects an FPolicy server.

## vserver fpolicy show-enabled

Display all enabled policies

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

## **Description**

The vserver fpolicy show-enabled command displays information about all enabled policies in the Vserver. The command output depends on the parameter or parameters specified with the command. If you do not specify any parameters, the command displays the following information about all FPolicy policies:

- Vserver name
- Policy name
- Priority

You can specify the -fields parameter to specify which fields of information to display about FPolicy policies.

You can specify the -instance parameter to display information for all FPolicy policies in a list format.

#### **Parameters**

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

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

#### | [-instance ] }

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

#### [-vserver <vserver>] - Vserver

If you specify this parameter, the command displays information only about the FPolicy policies for the specified Vserver.

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

If you specify this parameter, the command displays information only about the FPolicy policy that you specify.

#### [-priority <text>] - Policy Priority

If you specify this parameter, the command displays information only about the FPolicy policies with the policy priority that you specify.

## **Examples**

The following example displays the information about enabled FPolicy policies on the cluster.

<pre>cluster1::&gt; vserver fpolicy show-enabled</pre>			
<i>J</i> server	Policy Name	Priority	
vs1.example.com	pol_native	native	
vs1.example.com	pol_native2	native	
vs1.example.com	pol1	2	
vs1.example.com	pol2	4	

## vserver fpolicy show-engine

Display FPolicy server status

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

## **Description**

The vserver fpolicy show-engine command displays status information for all FPolicy external engines or displays status information only for FPolicy servers for a specified Vserver. The command output depends on the parameter or parameters specified with the command. If you do not specify any parameters, the command displays the following information for all FPolicy servers:

- Vserver name
- Node name
- · FPolicy policy name
- FPolicy server IP Address
- · FPolicy server status
- FPolicy server type

You can specify the <code>-fields</code> parameter to specify which fields of information to display about FPolicy servers. You can specify specific parameters to display only information that matches those parameters. For instance, to display information only about all FPolicy servers (external engines) that are connected, run the command with the <code>-fields</code> parameter set to server and `-server-status ` parameter set to connected.

You can specify the -instance parameter to display all information for all policies in the list form.

#### **Parameters**

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

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

#### |[-instance]}

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

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

If you specify this parameter, the command displays information only about the FPolicy external engine attached to the specified node.

#### [-vserver <Vserver Name>] - Vserver

If you specify this parameter, the command displays information only about the FPolicy server for the specified Vserver.

#### [-policy-name <Policy name>] - Policy

If you specify this parameter, the command displays information only about the FPolicy servers that are attached with the specified policy.

#### [-server <IP Address>] - Server

If you specify this parameter, the command displays information only about the FPolicy servers that you specify.

#### [-server-status <Status>] - Server Status

If you specify this parameter, the command displays information only about the FPolicy servers that have the specified status.

#### [-server-type <Server Type>] - Server Type

If you specify this parameter, the command displays information only about the FPolicy servers that have the specified server type.

#### [-connected-since <MM/DD/YYYY HH:MM:SS>] - Time FPolicy Server was Connected

If you specify this parameter, the command displays information only about the FPolicy servers that have been connected since the specified time.

#### [-disconnected-since <MM/DD/YYYY HH:MM:SS>] - Time FPolicy Server was Disconnected

If you specify this parameter, the command displays information only about the FPolicy servers that have been disconnected since the specified time.

#### [-disconnect-reason <text>] - Reason for FPolicy Server Disconnection

If you specify this parameter, the command displays information only about the FPolicy servers that are disconnected because of the specified reason.

### [-disconnect-reason-id <integer>] - ID for FPolicy Server Disconnection

If you specify this parameter, the command displays information about the FPolicy servers that are disconnected because of the specified disconnect reason ID. There is a unique ID associated with each disconnect reason, which can be used to identify the reason for FPolicy server disconnection.

#### [-session-id <text>] - Session ID

If you specify this parameter, the command displays information about the FPolicy server that is connected with the specified session ID. There is a unique session ID associated with each connection to FPolicy server, which can be used to identify the established connection.

## **Examples**

This example displays information about all FPolicy servers (external engines).

This example displays information only about all connected FPolicy servers (external engines).

This example displays information about an FPolicy server.

## vserver fpolicy show-passthrough-read-connection

Display connection status for FPolicy passthrough-read

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

## **Description**

The vserver fpolicy show-passthrough-read-connection command displays the status of the passthrough-read connection from all FPolicy servers. Passthrough-read is a way to read data for offline files without restoring the files to primary storage. If you do not specify any parameters, the command displays following information about the passthrough-read connection from FPolicy servers:

- Vserver name
- · FPolicy policy name
- · Node name
- · FPolicy server IP address
- · Passthrough-read connection status

You can specify the -fields parameter to specify which fields of information to display. In addition to the fields above, you can display the following fields.

- · Session ID of the control channel
- · Time passthrough-read channel was connected
- · Time passthrough-read channel was disconnected
- · Reason for passthrough-read channel disconnection

You can specify the -instance parameter to display information for all passthrough-read connections in the list form.

#### **Parameters**

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

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

#### | [-instance ] }

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

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

If you specify this parameter, the command displays information only about the passthrough-read connections on the specified node.

#### [-vserver <Vserver Name>] - Vserver

If you specify this parameter, the command displays information only about the passthrough-read connections for the specified Vserver.

#### [-policy-name <Policy name>] - Policy

If you specify this parameter, the command displays information only about the passthrough-read connections that are attached with the specified FPolicy policy.

#### [-server <IP Address>] - Server

If you specify this parameter, the command displays information only about the passthrough-read connections from the specified FPolicy server.

#### [-control-session-id <text>] - Session ID of the Control Channel

If you specify this parameter, the command displays information only about the passthrough-read connections that are connected with the specified control session ID. The passthrough-read connection is attached to a control connection that has a unique control session ID.

#### [-server-status <Status of fpolicy passthrough-read connection>] - Server Status

If you specify this parameter, the command displays information only about the passthrough-read connections that have the specified status.

#### [-connected-since <MM/DD/YYYY HH:MM:SS>] - Time Channel Was Connected

If you specify this parameter, the command displays information only about the passthrough-read connections that have the specified connection time.

#### [-disconnected-since <MM/DD/YYYY HH:MM:SS>] - Time Channel Was Disconnected

If you specify this parameter, the command displays information only about the passthrough-read connections that have the specified disconnection time.

# [-disconnect-reason <Reason for fpolicy passthrough-read disconnection>] - Reason for Disconnection

If you specify this parameter, the command displays information only about the passthrough-read connections that are disconnected because of the specified disconnect reason.

## **Examples**

This example displays information about passthrough-read connections from all FPolicy servers.

This example displays information about passthrough-read connections from all connected FPolicy servers.

```
cluster1::> vserver fpolicy show-passthrough-read-connection -server
-status connected

FPolicy Server

Vserver Policy Name Node Server Status
------
vs1.example.com pol_cifs_1 FPolicy-01 1.1.1.1 connected
```

This example displays information about passthrough-read connections from FPolicy servers configured in an FPolicy policy.

## vserver fpolicy show

Display all policies with status

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

### **Description**

The vserver fpolicy show command displays status information about all FPolicy policies in the Vserver. The command output depends on the parameter or parameters specified with the command. If you do not specify any parameters, the command displays the following information about all FPolicy policies:

- Vserver name
- · Policy name
- Sequence number
- Status

You can specify the -fields parameter to specify which fields of information to display about FPolicy policies.

You can specify the -instance parameter to display information for all FPolicy policies in a list format.

#### **Parameters**

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

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

#### |[-instance]}

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

#### [-vserver <Vserver Name>] - Vserver

If you specify this parameter, the command displays information only about the FPolicy policies for the specified Vserver.

#### [-policy-name <Policy name>] - Policy

If you specify this parameter, the command displays information only about the FPolicy policy that you specify.

#### [-sequence-number <integer>] - Sequence Number

If you specify this parameter, the command displays information only about the FPolicy policy or policies that use the specified sequence-number.

#### [-status {on|off}] - Status

If you specify this parameter, the command displays information only about the FPolicy policy or policies that use the specified status.

### [-engine <Engine name>] - FPolicy Engine

If you specify this parameter, the command displays information only about the FPolicy policy or policies that use the specified engine.

## **Examples**

The following example displays the information about FPolicy policies on the cluster using the vserver fpolicy show command.

	:> vserver fpolicy show		Sequence
	Vserver	Policy Name	Number
Status	Engine		
	FPolicy	cserver_policy	-
off	eng1		
	vs1.example.com	v1p1	-
off	eng2		
	vs1.example.com	v1p2	-
off	native		
	vs1.example.com	v1p3	-
off	native		
	vs1.example.com	cserver_policy	-
off	eng1		
	vs2.example.com	v1p1	3
on	native		
	vs2.example.com	v1p2	1
on	eng3		
	vs2.example.com	cserver_policy	2
on	eng1		
	8 entries were displ	layed.	

## vserver fpolicy policy create

## Create a policy

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

## **Description**

The vserver fpolicy policy create command creates an FPolicy policy. You must create an FPolicy event name before creating an FPolicy policy. If you are using an external FPolicy server, you must also create an FPolicy engine before creating a policy.

#### **Parameters**

#### -vserver <Vserver Name> - Vserver

This parameter specifies the name of the Vserver on which you want to create an FPolicy policy.

#### -policy-name <Policy name> - Policy

This parameter specifies the name of the FPolicy policy that you want to create. An FPolicy policy name can be up to 256 characters long and is a string that can only contain any combination of ASCII-range alphanumeric characters (a-z, A-Z, 0-9), " " and ".".

#### -events <Event name>,... - Events to Monitor

This parameter specifies a list of events to monitor for the FPolicy policy. All the events in the event list should be created by the administrator of the specified Vserver or the cluster administrator. The events must already exist. Create events using the fpolicy policy event create command.

#### -engine <Engine name> - FPolicy Engine

This parameter specifies an external engine for this FPolicy policy. An external engine contains information required by the node to send notifications to an FPolicy server. The Vserver administrator of the specified Vserver or the cluster administrator creates the external engine prior to creating the FPolicy policy. If this parameter is not specified, the default native external engine is used. The native external engine is internal to Data ONTAP and is used if you want to configure native file blocking and you do not want to use an external FPolicy server.

#### [-is-mandatory {true|false}] - Is Mandatory Screening Required

This parameter specifies what action to take on a file access event in a case when all primary and secondary servers are down or no response is received from the FPolicy servers within a given timeout period. When this parameter is set to true, file access events will be denied under these circumstances. To allow file access events under these circumstances, set this parameter to false. By default, it is true.

#### [-allow-privileged-access {yes|no}] - Allow Privileged Access

This parameter specifies privileged access for FPolicy servers. It is used to specify whether privileged access is required for FPolicy servers. Privileged access is used when the FPolicy server requires direct access to the cluster nodes. With this option set to yes, FPolicy servers can access files on the cluster using a separate data channel with privileged access. By default, it is no.

#### [-privileged-user-name <text>] - User Name for Privileged Access

This parameter specifies the privileged user name. It is used to specify the privileged user name for accessing files on the cluster using a separate data channel with privileged access. The input for this field should be in " $domain \setminus user$  name" format. If -allow-privileged-access is set to no, any value set for this field is ignored.

#### [-is-passthrough-read-enabled {true|false}] - Is Passthrough Read Enabled

This parameter specifies whether passthrough-read should be allowed for FPolicy servers registered for the policy. Passthrough-read is a way to read data for offline files without restoring the files to primary storage. Offline files are the files which have been moved to secondary storage. If passthrough-read is enabled, the FPolicy server provides the data for the file over a separate channel instead of restoring the file to primary storage. By default, this parameter is <code>false</code>.

## **Examples**

The following example creates an FPolicy policy.

## vserver fpolicy policy delete

Delete a policy

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

## Description

The vserver fpolicy policy delete command deletes an FPolicy policy.

#### **Parameters**

#### -vserver <Vserver Name> - Vserver

This parameter specifies the name of the Vserver from which you want to delete the FPolicy policy.

```
-policy-name <Policy name> - Policy
```

This parameter specifies the name of the FPolicy policy that you want to delete.

## **Examples**

The following example deletes an FPolicy policy.

```
cluster1::> vserver fpolicy policy delete -vserver vs1.example.com -policy
-name vs1_pol
```

## vserver fpolicy policy modify

Modify a policy

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

### **Description**

The vserver fpolicy policy modify command modifies an FPolicy policy.

#### **Parameters**

#### -vserver <Vserver Name> - Vserver

This parameter specifies the name of the Vserver on which you want to modify an FPolicy policy.

#### -policy-name <Policy name> - Policy

This parameter specifies the name of the FPolicy policy that you want to modify. An FPolicy policy name can be up to 256 characters long and is a string that can only contain any combination of ASCII-range alphanumeric characters (a-z, A-Z, 0-9), "\_" and ".".

#### [-events <Event name>,...] - Events to Monitor

This parameter specifies a list of events to monitor for the FPolicy policy. All the events in the event list should be created by the administrator of the specified Vserver or the cluster administrator. The events must already exist. Create events using the fpolicy policy event create command.

#### [-engine <Engine name>] - FPolicy Engine

This parameter specifies an external engine for this FPolicy policy. An external engine contains information required by the node to send notifications to an FPolicy server. The Vserver administrator of the specified Vserver or the cluster administrator creates the external engine prior to modifying the FPolicy policy. If this parameter is not specified, the default native external engine is used. The native external engine is internal to Data ONTAP and is used if you want to configure \_native file blocking and you do not want to use an external FPolicy server.

#### [-is-mandatory {true|false}] - Is Mandatory Screening Required

This parameter specifies what action to take on a file access event in a case when all primary and secondary servers are down or no response is received from the FPolicy servers within a given timeout period. When this parameter is set to true, file access events will be denied under these circumstances. To allow file access events under these circumstances, set this parameter to false. By default, it is true.

### [-allow-privileged-access {yes|no}] - Allow Privileged Access

This parameter specifies privileged access for FPolicy servers. It is used to specify whether privileged access is required for FPolicy servers. Privileged access is used when the FPolicy server requires direct access to the cluster nodes. With this option set to yes, FPolicy servers can access files on the cluster using a separate data channel with privileged access. By default, it is no.

#### [-privileged-user-name <text>] - User Name for Privileged Access

This parameter specifies the privileged user name. It is used to specify the privileged user name for accessing files on the cluster using a separate data channel with privileged access. The input for this field should be in " $domain \user$  name" format. If -allow-privileged-access is set to no, any value set for this field is ignored.

#### [-is-passthrough-read-enabled {true|false}] - Is Passthrough Read Enabled

This parameter specifies whether passthrough-read should be allowed for FPolicy servers registered for the policy. Passthrough-read is a way to read data for offline files without restoring the files to primary storage. Offline files are the files which have been moved to secondary storage. If passthrough-read is enabled, the

FPolicy server provides the data for the file over a separate channel instead of restoring the file to primary storage. By default, this parameter is false.

## **Examples**

The following example modifies an FPolicy policy.

## vserver fpolicy policy show

Display policy configuration

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

## **Description**

The vserver fpolicy policy show command displays information about all FPolicy policies belonging to the Vserver. Any Vserver administrator can see FPolicy policies associated with their Vserver as well as policies created by the cluster administrator. The command output depends on the parameter or parameters specified with the command. If you do not specify any parameters, the command displays the following information about all FPolicy policies:

- Vserver name
- · Policy name
- · Events to monitor
- · FPolicy engine
- · Is mandatory screening required
- · Allow privileged access
- · User name for privileged access

You can specify the -fields parameter to specify which fields of information to display about FPolicy policies.

You can specify additional parameters to display only information that matches those parameters. For example, to display information only about FPolicy policies where the FPolicy server requires privileged access, run the command with the <code>-fields</code> parameter set to policy-name (no "-") and <code>-allow-privileged-access</code> parameter set to <code>yes</code>.

You can specify the -instance parameter to display all information for all policies in the list form.

#### **Parameters**

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

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

#### |[-instance]}

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

#### [-vserver <Vserver Name>] - Vserver

If you specify this parameter, the command displays information only about the FPolicy policies for the specified Vserver. FPolicy policies created by the cluster administrator are visible for all Vservers.

#### [-policy-name <Policy name>] - Policy

If you specify this parameter, the command displays information only about the FPolicy policy that you specify.

#### [-events <Event name>,...] - Events to Monitor

If you specify this parameter, the command displays information only about the FPolicy policy or policies that use the specified event or events.

#### [-engine <Engine name>] - FPolicy Engine

If you specify this parameter, the command displays information only about the FPolicy policy or policies that use the specified engine.

#### [-is-mandatory {true|false}] - Is Mandatory Screening Required

If you specify this parameter, the command displays information only about the FPolicy policy or policies that use the specified mandatory attribute.

#### [-allow-privileged-access {yes|no}] - Allow Privileged Access

If you specify this parameter, the command displays information only about the FPolicy policy or policies that use the specified privileged access.

### [-privileged-user-name <text>] - User Name for Privileged Access

If you specify this parameter, the command displays information only about the FPolicy policy or policies that use the specified privileged user name.

#### [-is-passthrough-read-enabled {true|false}] - Is Passthrough Read Enabled

If you specify this parameter, the command displays information only about the FPolicy policies that use the specified passthrough-read setting.

#### **Examples**

The following example displays the information about FPolicy policies on the cluster using the vserver

fpolicy policy show command.

/server	Policy	Events	Engine	Is Mandatory	
PrivAccess					
Cluster	cserver_pol	cserver_ evt	cserver_eng	true	yes
vs1.example.co	m p	r	n	true	no
vs1.example.co	m cserver_pol	cserver_ evt	cserver_eng	true	yes
vs2.example.co	m cserver_pol	cserver_ evt	cserver_eng	true	yes
4 entries were	displayed.				

The following example displays FPolicy policy name information about all Vserver FPolicy policies with the -allow-privileged-access parameter set to "yes".

## vserver fpolicy policy event create

Create an event

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

## **Description**

The vserver fpolicy policy event create command creates an FPolicy event. An event describes what to monitor. An event can contain protocol, file operations, filters, and volume operation event types. In the FPolicy configuration, an event is attached to an FPolicy policy. You can attach the same event to one or more policies.



Three parameters have dependency rules: -protocol, -files-operations and -filters. The following combinations are supported:

• Both -protocol and -file-operations

- All of -protocol, -file-operations and -filters
- · Specify none of three

### **Parameters**

#### -vserver <Vserver Name> - Vserver

This parameter specifies the name of the Vserver on which you want to create an FPolicy event.

#### -event-name <Event name> - Event

This parameter specifies the name of the FPolicy event that you want to create. An event name can be up to 256 characters long. An event name value is a string that can only contain any combination of ASCII-range alphanumeric characters (a-z, A-Z, 0-9), " " and ".".

#### [-protocol <Protocol>] - Protocol

This parameter specifies the protocol name for which the event will be created. By default, no protocol is selected. The value of this parameter must be one of the following:

- cifs This specifies that the event is for the CIFS protocol.
- \_ nfsv3\_ This specifies that the event is for the NFSv3 protocol.
- nfsv4 This specifies that the event is for the NFSv4 protocol.



If you specify -protocol, then you must also specify a valid value for the -file -operations parameter.

#### [-file-operations <File Operation>,...] - File Operations

This parameter specifies a list of file operations for the FPolicy event. The event will check the operations specified in this list from all client requests using the protocol specified in the -protocol parameter. The list can include one or more of the following operations:

- close File close operations.
- create File create operations.
- \_create\_dir \_ Directory create operations.
- delete File delete operations.
- delete dir Directory delete operations.
- getattr Get attribute operations.
- \_link \_ Link operations.
- lookup Lookup operations.
- \_open \_ File open operations.
- read File read operations.
- write File write operations.
- rename File rename operations.
- rename dir Directory rename operations.

- \_setattr \_ Set attribute operations.
- symlink Symbolic link operations.



If you specify -file-operations then you must specify a valid protocol in the -protocol parameter.

### [-filters <Filter>,...] - Filters

This parameter specifies a list of filters of given file operation or operations for the protocol specified in the -protocol parameter. The values in the -filters parameter are used to filter client requests. The list can include one or more of the following:

- monitor-ads Filter the client request for alternate data stream.
- close-with-modification Filter the client request for close with modification.
- close-without-modification Filter the client request for close without modification.
- close-with-read Filter the client request for close with read.
- \_\_first-read \_\_- Filter the client requests for the first-read. When this filter is used for CIFS events, the first-read request within a CIFS session results in FPolicy processing. When this filter is used for NFS events, the -file-session-io-grouping-count and -file-session-io-grouping -duration configurations determine the first read-request for which FPolicy processing is done.
- \_\_first-write \_\_- Filter the client requests for the first-write. When this filter is used for CIFS events, the first-write request within a CIFS session results in FPolicy processing. When this filter is used for NFS events, the -file-session-io-grouping-count and -file-session-io-grouping-duration configurations determine the first-write request for which FPolicy processing is done.
- \_ offline-bit \_ Filter the client request for offline bit set. Setting this filter, FPolicy server receives notification only when offline files are accessed.
- \_\_open-with-delete-intent \_ Filter the client request for open with delete intent. Setting this filter, FPolicy server receives notification only when an attempt is made to open a file with the intent to delete it. This is used by file systems when the FILE\_DELETE\_ON\_CLOSE flag is specified.
- \_\_open-with-write-intent \_\_- Filter the client request for open with write intent. Setting this filter, FPolicy server receives notification only when an attempt is made to open a file with the intent to write something in it.
- write-with-size-change
   Filter the client request for write with size change.
- \_ setattr-with-owner-change \_- Filter the client setattr requests for changing owner of a file or directory.
- \_ setattr-with-group-change \_- Filter the client setattr requests for changing group of a file or directory.
- \_ setattr-with-sacl-change \_ Filter the client setattr requests for changing sacl on a file or directory.
- \_ setattr-with-dacl-change \_ Filter the client setattr requests for changing dacl on a file or directory.
- \_ setattr-with-modify-time-change \_ Filter the client setattr requests for changing the modification time of a file or directory.

- \_ setattr-with-access-time-change \_ Filter the client setattr requests for changing the access time of a file or directory.
- \_ setattr-with-creation-time-change \_ Filter the client setattr requests for changing the creation time of a file or directory.
- \_ setattr-with-mode-change \_ Filter the client setattr requests for changing the mode bits on a file or directory.
- \_ setattr-with-size-change \_ Filter the client setattr requests for changing the size of a file.
- \_ setattr-with-allocation-size-change \_- Filter the client setattr requests for changing the allocation size of a file.
- \_ exclude-directory \_ Filter the client requests for directory operations. When this filter is specified directory operations are not monitored.



If you specify a value for the -filters parameter, then you must also specify valid values for the -file-operations and -protocol parameters.



If the client sends multiple read/write requests simultaneously for the same file, then the first-read and first-write filters can result in more than one FPolicy notification.

#### [-volume-operation {true|false}] - Send Volume Operation Notifications

This parameter specifies whether volume operations generate notifications for the FPolicy event. If this field is set to true then FPolicy sends notifications when volumes are mounted or unmounted. By default, it is false.

## **Examples**

The following example creates an FPolicy event.

The following is a list of supported -file-operations and -filters for the CIFS protocol.

```
Supported |
         File |
   Operations | Supported Filters
______
========
   close
             : monitor-ads, close-with-modification, close-without-
modification,
               offline-bit, close-with-read, exclude-directory
              : monitor-ads, offline-bit
   create
   create dir : none
   delete : monitor-ads, offline-bit
   delete dir : none
              : offline-bit, exclude-directory
   getattr
   open
              : monitor-ads, offline-bit, open-with-delete-intent, open-
with-write-intent,
               exclude-directory
              : monitor-ads, first-read, offline-bit
   read
              : monitor-ads, first-write, offline-bit, write-with-size-
   write
change
            : offline-bit, monitor-ads
   rename
   rename dir : none
              : offline-bit, monitor-ads, setattr-with-owner-change,
   setattr
               setattr-with-group-change, setattr-with-sacl-change,
               setattr-with-dacl-change, setattr-with-modify-time-
change,
               setattr-with-access-time-change, setattr-with-creation-
time-change,
               setattr-with-size-change, setattr-with-allocation-size-
change,
               exclude-directory
```

The following is a list of supported -file-operations and -filters for the nfsv3 protocol.

```
Supported |
        File |
   Operations | Supported Filters
______
=========
    create : offline-bit
    create dir : none
    delete : offline-bit
    delete dir : none
    link
            : offline-bit
    lookup
            : offline-bit, exclude-directory
             : offline-bit, first-read
    read
    write
            : offline-bit, write-with-size-change, first-write
    rename : offline-bit
    rename dir : none
    setattr : offline-bit, setattr-with-owner-change, setattr-with-
group-change,
               setattr-with-modify-time-change, setattr-with-access-
time-change,
               setattr-with-mode-change, setattr-with-size-change,
exclude-directory
    symlink : offline-bit
```

The following is a list of supported -file-operations and -filters for the nfsv4 protocol.

```
Supported |
         File |
   Operations | Supported Filters
=========
    close
              : offline-bit, exclude-directory
    create : offline-bit
    create dir : none
    delete
            : offline-bit
    delete dir : none
    getattr : offline-bit, exclude-directory
    link
              : offline-bit
              : offline-bit, exclude-directory
    lookup
              : offline-bit, exclude-directory
    open
              : offline-bit, first-read
    read
              : offline-bit, write-with-size-change, first-write
    write
    rename
              : offline-bit
    rename dir : none
              : offline-bit, setattr-with-owner-change, setattr-with-
    setattr
group-change,
                 setattr-with-sacl-change, setattr-with-dacl-change,
                 setattr-with-modify-time-change, setattr-with-access-
time-change,
                setattr-with-size-change, exclude-directory
    symlink
               : offline-bit
```

## vserver fpolicy policy event delete

#### Delete an event

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

## **Description**

The vserver fpolicy policy event delete command deletes an FPolicy event.

#### **Parameters**

#### -vserver <Vserver Name> - Vserver

This parameter specifies the Vserver from which you want to delete an FPolicy event.

#### -event-name <Event name> - Event

This parameter specifies the name of the FPolicy event you want to delete.

## **Examples**

The following example deletes an FPolicy event.

```
cluster1::> vserver fpolicy policy event delete -vserver vs1.example.com
-event-name cifs_event
```

## vserver fpolicy policy event modify

### Modify an event

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

### **Description**

The vserver fpolicy policy event modify command modifies an FPolicy event. An event describes what to monitor. An event can contain protocol, file operations, filters, and volume operation event types. In the FPolicy configuration, an event is attached to an FPolicy policy. You can attach the same event to one or more policies. You can modify an event while it is attached to an FPolicy policy. Any changes to the event take effect immediately.



Three parameters have dependency rules: -protocol, -files-operations and -filters. The following combinations are supported:

- Both -protocol and -file-operations
- All of -protocol, -file-operations and -filters
- · Specify none of three

#### **Parameters**

#### -vserver <Vserver Name> - Vserver

This parameter specifies the name of the Vserver on which you want to modify an FPolicy event.

#### -event-name <Event name> - Event

This parameter specifies the name of the FPolicy event that you want to modify. An event name can be up to 256 characters long. An event name value is a string that can only contain any combination of ASCII-range alphanumeric characters (a-z, A-Z, 0-9), "\_" and ".".

#### [-protocol <Protocol>] - Protocol

This parameter specifies the protocol name for which the event will be modified. By default, no protocol is selected. The value of this parameter must be one of the following:

- cifs This specifies that the event is for the CIFS protocol.
- nfsv3 This specifies that the event is for the NFSv3 protocol.
- nfsv4 This specifies that the event is for the NFSv4 protocol.



If you specify -protocol, then you must also specify a valid value for the -file -operations parameter.

#### [-file-operations <File Operation>,...] - File Operations

This parameter specifies a list of file operations for the FPolicy event. The event will check the operations specified in this list from all client requests using the protocol specified in the -protocol parameter. The list can include one or more of the following operations:

- close File close operations.
- \_ create \_ File create operations.
- \_ create\_dir\_ Directory create operations.
- \_ delete \_ File delete operations.
- \_ delete\_dir\_ Directory delete operations.
- \_ getattr \_ Get attribute operations.
- \_ link \_ Link operations.
- lookup Lookup operations.
- \_ open \_ File open operations.
- read File read operations.
- write File write operations.
- rename File rename operations.
- rename dir Directory rename operations.
- \_ setattr \_ Set attribute operations.
- symlink Symbolic link operations.



If you specify -file-operations then you must specify a valid protocol in the -protocol parameter.

#### [-filters <Filter>,...] - Filters

This parameter specifies a list of filters of given file operation or operations for the protocol specified in the -protocol parameter. The values in the -filters parameter are used to filter client requests. The list can include one or more of the following:

- monitor-ads Filter the client request for alternate data stream.
- close-with-modification Filter the client request for close with modification.
- close-without-modification Filter the client request for close without modification.
- close-with-read Filter the client request for close with read.
- \_\_first-read \_\_- Filter the client requests for the first-read. When this filter is used for CIFS events, the first-read request within a CIFS session results in FPolicy processing. When this filter is used for NFS events, the -file-session-io-grouping-count and -file-session-io-grouping -duration configurations determine the first read-request for which FPolicy processing is done.

- \_\_first-write \_\_- Filter the client requests for the first-write. When this filter is used for CIFS events, the first-write request within a CIFS session results in FPolicy processing. When this filter is used for NFS events, the -file-session-io-grouping-count and -file-session-io-grouping-duration configurations determine the first-write request for which FPolicy processing is done.
- \_ offline-bit \_ Filter the client request for offline bit set. Setting this filter, FPolicy server receives notification only when offline files are accessed.
- \_\_open-with-delete-intent \_\_- Filter the client request for open with delete intent. Setting this filter, FPolicy server receives notification only when an attempt is made to open a file with the intent to delete it. This is used by file systems when the FILE\_DELETE\_ON\_CLOSE flag is specified.
- \_\_ open-with-write-intent \_\_- Filter the client request for open with write intent. Setting this filter, FPolicy server receives notification only when an attempt is made to open a file with the intent to write something in it.
- \_ write-with-size-change \_ Filter the client request for write with size change.
- \_ setattr-with-owner-change \_- Filter the client setattr requests for changing owner of a file or directory.
- \_ setattr-with-group-change \_- Filter the client setattr requests for changing group of a file or directory.
- \_ setattr-with-sacl-change \_ Filter the client setattr requests for changing sacl on a file or directory.
- \_ setattr-with-dacl-change \_ Filter the client setattr requests for changing dacl on a file or directory.
- \_ setattr-with-modify-time-change \_ Filter the client setattr requests for changing the modification time of a file or directory.
- \_ setattr-with-access-time-change \_ Filter the client setattr requests for changing the access time of a file or directory.
- \_ setattr-with-creation-time-change \_ Filter the client setattr requests for changing the creation time of a file or directory.
- \_ setattr-with-mode-change \_ Filter the client setattr requests for changing the mode bits on a file or directory.
- \_ setattr-with-size-change \_ Filter the client setattr requests for changing the size of a file.
- \_ setattr-with-allocation-size-change \_- Filter the client setattr requests for changing the allocation size of a file.
- \_ exclude-directory \_ Filter the client requests for directory operations. When this filter is specified directory operations are not monitored.



If you specify a value for the -filters parameter, then you must also specify valid values for the -file-operations and -protocol parameters.



If the client sends multiple read/write requests simultaneously for the same file, then the first-read and first-write filters can result in more than one FPolicy notification.

#### [-volume-operation {true|false}] - Send Volume Operation Notifications

This parameter specifies whether volume operations generate notifications for the FPolicy event. If this field is set to true then FPolicy sends notifications when volumes are mounted or unmounted. By default, it is false.

## **Examples**

The following example modifies an FPolicy event.

The following is a list of supported -file-operations and -filters for the CIFS protocol.

```
Supported |
         File |
   Operations | Supported Filters
______
========
   close
             : monitor-ads, close-with-modification, close-without-
modification,
               offline-bit, close-with-read, exclude-directory
              : monitor-ads, offline-bit
   create
   create dir : none
   delete : monitor-ads, offline-bit
   delete dir : none
              : offline-bit, exclude-directory
   getattr
   open
              : monitor-ads, offline-bit, open-with-delete-intent, open-
with-write-intent,
               exclude-directory
              : monitor-ads, first-read, offline-bit
   read
              : monitor-ads, first-write, offline-bit, write-with-size-
   write
change
            : offline-bit, monitor-ads
   rename
   rename dir : none
              : offline-bit, monitor-ads, setattr-with-owner-change,
   setattr
               setattr-with-group-change, setattr-with-sacl-change,
               setattr-with-dacl-change, setattr-with-modify-time-
change,
               setattr-with-access-time-change, setattr-with-creation-
time-change,
               setattr-with-size-change, setattr-with-allocation-size-
change,
               exclude-directory
```

The following is a list of supported -file-operations and -filters for the nfsv3 protocol.

```
Supported |
        File |
   Operations | Supported Filters
______
=========
    create : offline-bit
    create dir : none
    delete : offline-bit
    delete dir : none
    link
            : offline-bit
    lookup
            : offline-bit, exclude-directory
             : offline-bit, first-read
    read
            : offline-bit, write-with-size-change, first-write
    write
    rename : offline-bit
    rename dir : none
    setattr : offline-bit, setattr-with-owner-change, setattr-with-
group-change,
               setattr-with-modify-time-change, setattr-with-access-
time-change,
               setattr-with-mode-change, setattr-with-size-change,
exclude-directory
    symlink : offline-bit
```

The following is a list of supported -file-operations and -filters for the nfsv4 protocol.

```
Supported |
         File |
   Operations | Supported Filters
=========
    close
               : offline-bit, exclude-directory
    create
             : offline-bit
    create dir : none
    delete
               : offline-bit
    delete dir : none
    getattr : offline-bit, exclude-directory
    link
               : offline-bit
    lookup
               : offline-bit, exclude-directory
               : offline-bit, exclude-directory
    open
               : offline-bit, first-read
    read
               : offline-bit, write-with-size-change, first-write
    write
               : offline-bit
    rename
    rename dir : none
    setattr
               : offline-bit, setattr-with-owner-change, setattr-with-
group-change,
                 setattr-with-sacl-change, setattr-with-dacl-change,
                 setattr-with-modify-time-change, setattr-with-access-
time-change,
                 setattr-with-size-change, exclude-directory
    symlink
                : offline-bit
```

## vserver fpolicy policy event show

## Display events

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

## Description

The vserver fpolicy policy event show command displays information about all FPolicy events belonging to the Vserver. Any Vserver administrator can see FPolicy events associated with their Vserver as well as FPolicy events created by the cluster administrator. The command output depends on the parameter or parameters specified with the command. If you do not specify any parameters, the command displays the following information about all FPolicy events:

- Vserver name
- · FPolicy event name
- Protocol name
- · List of file operations

- · List of filters
- · Volume operation

You can specify the <code>-fields</code> parameter to specify which fields of information to display about FPolicy events. You can specify additional parameters to display only information that matches those parameters. For example, to display information only about all CIFS events configured with the <code>-volume-operation</code> field set, run the command with the <code>-fields</code> parameter set to <code>-event-name</code> event-name <code>-protocol</code> <code>cifs-volume-operation</code> <code>yes</code>.

You can specify the -instance parameter to display all information for all policies in a list format.

#### **Parameters**

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

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

#### |[-instance]}

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

#### [-vserver <Vserver Name>] - Vserver

If you specify this parameter, the command displays information only about the FPolicy events for the specified Vserver. Events created on the admin Vserver by the cluster administrator are visible in all Vservers.

#### [-event-name <Event name>] - Event

If you specify this parameter, the command displays information only about the FPolicy event that matches the specified event name.

#### [-protocol <Protocol>] - Protocol

If you specify this parameter, the command displays information only about the FPolicy event or events that use the specified protocol.

#### [-file-operations <File Operation>,...] - File Operations

If you specify this parameter, the command displays information only about the FPolicy event or events that use the specified file operation or operations.

#### [-filters <Filter>,...] - Filters

If you specify this parameter, the command displays information only about the FPolicy event or events that use the specified filter or filters.

#### [-volume-operation {true|false}] - Send Volume Operation Notifications

If this field is set to true, then FPolicy displays information about those events for which it sends notifications when volumes are mounted or unmounted. If you set this parameter to true, the command displays information about events where the -volume-operation parameter is set true and volume operations such as mount and unmount are monitored. If you set this parameter to false, the command displays information about events where volume operations are not monitored.

### **Examples**

The following example displays the information about all Vserver FPolicy policy events.

server fpolicy poli	icy event show		
	Event		File
	Name	Protocols	Operations
Operation			
			-
	cserver_evt	ClÍS	open, close,
true			
			read, write
wal ayampla dam	aconyon out	cifs	open, close,
	cserver_evc	CIIS	open, crose,
CIUC			read, write
			1044, 11100
vs1.example.com	v1e1	cifs	open, read
_			· ,
vs1.example.com	v1e2	cifs	open
false			
vs1.example.com	v1e3	nfsv4	open
true			
vs2.example.com	cserver_evt	cifs	open, close,
true			
			read, write
6 entries were o	displayed.		
	Vserver Operation	Vserver Name Operation Cluster cserver_evt true  vs1.example.com cserver_evt true  vs1.example.com v1e1  vs1.example.com v1e2 false vs1.example.com v1e3 true vs2.example.com cserver_evt	Vserver Name Protocols Operation

The following example displays event name information about all Vserver FPolicy policy events with CIFS as a protocol and with false as volume operation.

## vserver fpolicy policy external-engine create

### Create an external engine

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

### **Description**

The vserver fpolicy policy external-engine create command creates an FPolicy external engine. The cluster uses the external engine to hold configuration information that it needs in order to send notification information to the FPolicy servers. It specifies the primary servers and secondary servers to which the cluster will send notifications. It also specifies FPolicy server related configuration information.

#### **Parameters**

#### -vserver <Vserver Name> - Vserver

This parameter specifies the name of the Vserver on which you want to create an FPolicy external engine.

#### -engine-name <Engine name> - Engine

This parameter specifies the name of the FPolicy external engine that you want to create. An external engine name can be up to 256 characters long. An external engine name is a string that can only contain any combination of ASCII-range alphanumeric characters (a-z, A-Z, 0-9), "\_", and ".".

### -primary-servers <IP Address>, ... - Primary FPolicy Servers

This parameter specifies a list of IP addresses for the primary FPolicy servers to which you want the external engine you create to apply. The -primary-servers parameter is used to specify a list of servers to which to send file access events for a given FPolicy policy. When an administrator configures multiple servers as primary servers, notifications are sent to the FPolicy servers in a round-robin fashion.

#### -port <integer> - Port Number of FPolicy Service

This parameter specifies the port number for the FPolicy service.

#### [-secondary-servers <IP Address>,...] - Secondary FPolicy Servers

This parameter specifies a list of IP addresses for the secondary FPolicy servers to which you want the external engine you create to apply. Secondary servers will be used only when all the primary servers are not reachable. When an administrator configures multiple servers as secondary servers, notifications are sent to FPolicy server in a round-robin fashion. By default, no secondary server is selected.

#### [-extern-engine-type <External Engine Type>] - External Engine Type

This parameter specifies the type of the external engine. This specifies how the FPolicy server should behave, synchronously or asynchronously. By default, it is <code>synchronous</code> in nature. When set to <code>synchronous</code>, after sending a notification to the external FPolicy server, request processing does not continue until after receiving a response from the FPolicy server. At that point request flow either continues or processing results in denial, depending on whether the response from the FPolicy server permits the requested action. When set to <code>asynchronous</code>, after sending a notification to the external FPolicy server, file request processing continues.

#### -ssl-option {no-auth|server-auth|mutual-auth} - SSL Option for External Communication

This parameter specifies the SSL option for external communication with the FPolicy server. Possible values include the following:

- no-auth: When set to no-auth, no authentication takes place. The communication link is established over the TCP protocol.
- server-auth: When set to server-auth, only the FPolicy server is authenticated by the Vserver. With this option, before creating the FPolicy external engine, the administrator must install the public certificate of the certificate authority (CA) that signed the FPolicy server certificate.
- mutual-auth: When set to mutual-auth, mutual authentication takes place between the Vserver and the

FPolicy server, i.e. authentication of the FPolicy server by the Vserver along with authentication of the Vserver by the FPolicy server. With this option, before creating the FPolicy external engine, the administrator must install the public certificate of the certificate authority (CA) that signed the FPolicy server certificate along with the public certificate and key file for authentication of the Vserver.

The public certificate of certificate authority (CA) that is used to sign the FPolicy server certificate is installed using the security certificate install command with -type set to  $client\_ca$ . The private key and public certificate required for authentication of the Vserver is installed using the security certificate install command with -type set to server.

## [-reqs-cancel-timeout <[<integer>h] [<integer>m] [<integer>s]>] - Timeout for Canceling a Request (privilege: advanced)

This parameter specifies the timeout for canceling a request. It is used to specify the time interval in which the node waits for a response from the FPolicy server. Beyond this timeout, a cancel request is sent to the FPolicy server to cancel the pending request. The request is then sent to an alternate FPolicy server that is registered for the policy. This timeout helps in handling a FPolicy server that is not responding, which can improve CIFS/NFS client response. Also, this feature can help in releasing of system resources since the request is moved from a down/bad FPolicy server to an alternate FPolicy server. The value for this field must be between 0s and 100s. By default, it is 20s.

## [-reqs-abort-timeout <[<integer>h] [<integer>m] [<integer>s]>] - Timeout for Aborting a Request (privilege: advanced)

This parameter specifies the timeout for aborting a request. The value for this field must be between 0s and 200s. By default, it is 40s.

# [-status-req-interval <[<integer>h][<integer>m][<integer>s]>] - Interval for Sending Status Requests (privilege: advanced)

This parameter specifies the interval for sending status requests. It is used to specify the interval after which a status request will be send to the FPolicy server. The value for this field must be between 0s and 50s. By default, it is 10s.

#### [-max-connection-retries <integer>] - Max Reconnect Attempt (privilege: advanced)

This parameter specifies the maximum number of attempts to reconnect to the FPolicy server from a Vserver. It is used to specify the number of times a broken connection will be retried. The value for this field must be between 0 and 20. By default, it is 5.

## [-max-server-reqs <integer>] - Maximum Outstanding Requests for FPolicy Server (privilege: advanced)

This parameter specifies the maximum number of outstanding requests for the FPolicy server. It is used to specify maximum outstanding requests that will be queued up for the FPolicy server. The value for this field must be between 1 and 10000. By default, it is 50.

# [-server-progress-timeout < [<integer>h] [<integer>m] [<integer>s]>] - Timeout for Disconnecting Non-responsive Server (privilege: advanced)

This parameter specifies the timeout for disconnecting non-responsive FPolicy servers. It is used to specify the time interval after which the connection to the FPolicy server is terminated. This happens only when the FPolicy server's queue contains the maximum allowed number of requests that it can hold in its queue and no response is received within this timeout. The maximum allowed number of requests is either 50 (the default) or the number specified by the <code>-max-server-reqs</code> parameter. The value for this field must be between 1s and 100s. By default, it is 60s.

# [-keep-alive-interval <[<integer>h][<integer>m][<integer>s]>] - Interval for Sending Keep-Alive Messages (privilege: advanced)

This parameter specifies the interval in hours (h), minutes (m), or seconds (s) at which keep-alive messages are sent to the FPolicy server. Keep-alive messages are used to detect half-open connections. The range of supported values for this field is 10 through 600 (h, m, or s). Alternatively, the value can be set to 0, which disables keep-alive messages and prevents them from being sent to the FPolicy servers. The default value for this field is 120s.

## [-certificate-common-name <FQDN or Custom Common Name>] - FQDN or Custom Common Name

This parameter specifies the certificate name as a fully qualified domain name (FQDN) or custom common name. The certificate is used if SSL authentication between the Vserver and the FPolicy server is configured.

#### [-certificate-serial <text>] - Serial Number of Certificate

This parameter specifies the serial number of the certificate used for authentication if SSL authentication between the Vserver and the FPolicy server is configured.

### [-certificate-ca <text>] - Certificate Authority

This parameter specifies the certificate authority (CA) name of the certificate used for authentication if SSL authentication between the Vserver and the FPolicy server is configured.

#### [-recv-buffer-size <integer>] - Receive Buffer Size (privilege: advanced)

This parameter specifies the receive buffer size of the connected socket for the FPolicy server. The default value is set to 256 kilobytes (Kb). When the value is set to 0, the size of the receive buffer is set to a value defined by the system. For example, if the default receive buffer size of the socket is 65536 bytes, by setting the tunable value to 0, the socket buffer size is set to 65536 bytes. You can use any non-default value to set the size (in bytes) of the receive buffer.

#### [-send-buffer-size <integer>] - Send Buffer Size (privilege: advanced)

This parameter specifies the send buffer size of the connected socket for the FPolicy server. The default value is set to 256 kilobytes (Kb). When the value is set to 0, the size of the send buffer is set to a value defined by the system. For example, if the default send buffer size of the socket is set to 65536 bytes, by setting the tunable value to 0, the socket buffer size is set to 65536 bytes. You can use any non-defualt value to set the size (in bytes) of the send buffer.

## [-session-timeout <[<integer>h] [<integer>m] [<integer>s]>] - Session ID Purge Timeout During Reconnection (privilege: advanced)

This parameter specifies the interval after which a new session ID is sent to the FPolicy server during reconnection attempts. The value for this field must be between 0s and 200s. The default value is set to 10 seconds. If the connection between the storage controller and the FPolicy server is terminated and reconnection is made within the <code>-session-timeout</code> interval, the old session ID is sent to FPolicy server so that it can send responses for old notifications.

#### [-is-resiliency-enabled {true|false}] - Is Resiliency Feature Enabled

This parameter specifies whether the resiliency feature is enabled. When this parameter is set to true and all the primary and secondary servers are down, or no response is received from the FPolicy servers, file access events are stored inside the storage controller under the specified -resiliency-directory-path. To deny the file access events from being stored under these circumstances, set this parameter to false. By default, it is false.

## [-resiliency-max-retention-duration <[<integer>h] [<integer>m] [<integer>s]>] Maximum Notification Retention Duration

This parameter specifies the duration for which the notifications are written to files inside the storage controller during network outage. The value for this field must be between 0s and 600s. By default, it is set to 180s.

#### [-resiliency-directory-path <text>] - Directory for Notification Storage

This parameter specifies the directory path under the -vserver namespace, where notifications are stored in the files whenever network outage happens.

### **Examples**

The following example creates an FPolicy external engine.

```
cluster1::> vserver fpolicy policy external-engine create -vserver
vsl.example.com -engine-name new engine -primary-servers 1.1.1.1 -port 10
-secondary-servers 2.2.2.2 -ssl-option mutual-auth -extern-engine-type
synchronous -certificate-serial 8DDE112A114D1FBC -certificate-common-name
Sample1-FPolicy-Client -certificate-ca TASample1
cluster1::> vserver fpolicy policy external-engine show -vserver
vs1.example.com -engine-name new engine
Vserver: vs1.example.com
                               Engine: new engine
              Primary FPolicy Servers: 1.1.1.1
       Port Number of FPolicy Service: 10
            Secondary FPolicy Servers: 2.2.2.2
                 External Engine Type: synchronous
SSL Option for External Communication: mutual-auth
           FQDN or Custom Common Name: Sample1-FPolicy-Client
                        Serial Number: 8DDE112A114D1FBC
                Certificate Authority: TASample1
```

### **Related Links**

· security certificate install

### vserver fpolicy policy external-engine delete

Delete an external engine

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

#### **Description**

The vserver fpolicy policy external-engine delete command deletes an FPolicy external engine.

#### **Parameters**

#### -vserver <Vserver Name> - Vserver

This parameter specifies the Vserver from which you want to delete an FPolicy external engine.

#### -engine-name <Engine name> - Engine

This parameter specifies the name of the FPolicy external engine you want to delete.

### **Examples**

The following example deletes an FPolicy external engine.

### vserver fpolicy policy external-engine modify

Modify an external engine

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

### **Description**

The vserver fpolicy policy external-engine modify command modifies an FPolicy external engine. The cluster uses the external engine to hold configuration information that it needs in order to send notification information to the FPolicy servers. It specifies the primary servers and secondary servers to which the cluster will send notifications. It also specifies FPolicy server related configuration information.

#### **Parameters**

#### -vserver <Vserver Name> - Vserver

This parameter specifies the name of the Vserver on which you want to modify an FPolicy external engine.

#### -engine-name <Engine name> - Engine

This parameter specifies the name of the FPolicy external engine that you want to modify. An external engine name can be up to 256 characters long. An external engine name is a string that can only contain any combination of ASCII-range alphanumeric characters (a-z, A-Z, 0-9), "\_", and ".".

#### [-primary-servers <IP Address>,...] - Primary FPolicy Servers

This parameter specifies a list of IP addresses for the primary FPolicy servers to which you want the external engine you modify to apply. The -primary-servers parameter is used to specify a list of servers to which to send file access events for a given FPolicy policy. When an administrator configures multiple servers as primary servers, notifications are sent to the FPolicy servers in a round-robin fashion.

#### [-port <integer>] - Port Number of FPolicy Service

This parameter specifies the port number for the FPolicy service.

#### [-secondary-servers <IP Address>,...] - Secondary FPolicy Servers

This parameter specifies a list of IP addresses for the secondary FPolicy servers to which you want the external engine you modify to apply. Secondary servers will be used only when all the primary servers are not reachable. When an administrator configures multiple servers as secondary servers, notifications are sent to FPolicy server in a round-robin fashion. By default, no secondary server is selected.

#### [-extern-engine-type <External Engine Type>] - External Engine Type

This parameter specifies the type of the external engine. This specifies how the FPolicy server should behave, synchronously or asynchronously. By default, it is synchronous in nature. When set to synchronous, after sending a notification to the external FPolicy server, request processing does not continue until after receiving a response from the FPolicy server. At that point request flow either continues or processing results in denial, depending on whether the response from the FPolicy server permits the requested action. When set to asynchronous, after sending a notification to the external FPolicy server, file request processing continues.

#### [-ssl-option {no-auth|server-auth|mutual-auth}] - SSL Option for External Communication

This parameter specifies the SSL option for external communication with the FPolicy server. Possible values include the following:

- no-auth: When set to no-auth, no authentication takes place. The communication link is established over the TCP protocol.
- server-auth: When set to server-auth, only the FPolicy server is authenticated by the Vserver. With this option, before creating the FPolicy external engine, the administrator must install the public certificate of the certificate authority (CA) that signed the FPolicy server certificate.
- mutual-auth: When set to mutual-auth, mutual authentication takes place between the Vserver and the
  FPolicy server, i.e. authentication of the FPolicy server by the Vserver along with authentication of the
  Vserver by the FPolicy server. With this option, before creating the FPolicy external engine, the
  administrator must install the public certificate of the certificate authority (CA) that signed the FPolicy
  server certificate along with the public certificate and key file for authentication of the Vserver.

The public certificate of certificate authority (CA) that is used to sign the FPolicy server certificate is installed using the security certificate install command with -type set to  $client\_ca$ . The private key and public certificate required for authentication of the Vserver is installed using the security certificate install command with -type set to server.

# [-reqs-cancel-timeout <[<integer>h] [<integer>m] [<integer>s]>] - Timeout for Canceling a Request (privilege: advanced)

This parameter specifies the timeout for canceling a request. It is used to specify the time interval in which the node waits for a response from the FPolicy server. Beyond this timeout, a cancel request is sent to the FPolicy server to cancel the pending request. The request is then sent to an alternate FPolicy server that is registered for the policy. This timeout helps in handling a FPolicy server that is not responding, which can improve CIFS/NFS client response. Also, this feature can help in releasing of system resources since the request is moved from a down/bad FPolicy server to an alternate FPolicy server. The value for this field must be between 0s and 100s. By default, it is 20s.

## [-reqs-abort-timeout <[<integer>h] [<integer>m] [<integer>s]>] - Timeout for Aborting a Request (privilege: advanced)

This parameter specifies the timeout for aborting a request. The value for this field must be between 0s and 200s. By default, it is 40s.

## [-status-req-interval <[<integer>h][<integer>m][<integer>s]>] - Interval for Sending Status Requests (privilege: advanced)

This parameter specifies the interval for sending status requests. It is used to specify the interval after which a status request will be send to the FPolicy server. The value for this field must be between 0s and 50s. By default, it is 10s.

#### [-max-connection-retries <integer>] - Max Reconnect Attempt (privilege: advanced)

This parameter specifies the maximum number of attempts to reconnect to the FPolicy server from a Vserver. It is used to specify the number of times a broken connection will be retried. The value for this field must be between 0 and 20. By default, it is 5.

## [-max-server-reqs <integer>] - Maximum Outstanding Requests for FPolicy Server (privilege: advanced)

This parameter specifies the maximum number of outstanding requests for the FPolicy server. It is used to specify the maximum outstanding requests that will be queued up for the FPolicy server. The value for this field must be between 1 and 10000. By default, it is 50.

## [-server-progress-timeout <[<integer>h] [<integer>m] [<integer>s]>] - Timeout for Disconnecting Non-responsive Server (privilege: advanced)

This parameter specifies the timeout for disconnecting non-responsive FPolicy servers. It is used to specify the time interval after which the connection to the FPolicy server is terminated. This happens only when the FPolicy server's queue contains the maximum allowed number of requests that it can hold in its queue and no response is received within this timeout. The maximum allowed number of requests is either 50 (the default) or the number specified by the <code>-max-server-reqs</code> parameter. The value for this field must be between 1s and 100s. By default, it is 60s.

## [-keep-alive-interval <[<integer>h][<integer>m][<integer>s]>] - Interval for Sending Keep-Alive Messages (privilege: advanced)

This parameter specifies the interval in hours (h), minutes (m), or seconds (s) at which keep-alive messages are sent to the FPolicy server. Keep-alive messages are used to detect half-open connections. The range of supported values for this field is 10 through 600 (h, m, or s). Alternatively, the value can be set to 0, which disables keep-alive messages and prevents them from being sent to the FPolicy servers. The default value for this field is 120s

## [-certificate-common-name <FQDN or Custom Common Name>] - FQDN or Custom Common Name

This parameter specifies the certificate name as a fully qualified domain name (FQDN) or custom common

name. The certificate is used if SSL authentication between the Vserver and the FPolicy server is configured.

#### [-certificate-serial <text>] - Serial Number of Certificate

This parameter specifies the serial number of the certificate used for authentication if SSL authentication between the Vserver and the FPolicy server is configured.

#### [-certificate-ca <text>] - Certificate Authority

This parameter specifies the certificate authority (CA) name of the certificate used for authentication if SSL authentication between the Vserver and the FPolicy server is configured.

### [-recv-buffer-size <integer>] - Receive Buffer Size (privilege: advanced)

This parameter specifies the receive buffer size of the connected socket for the FPolicy server. The default value is set to 256 kilobytes (Kb). When the value is set to 0, the size of the receive buffer is set to a value defined by the system. For example, if the default receive buffer size of the socket is 65536 bytes, by setting the tunable value to 0, the socket buffer size is set to 65536 bytes. You can use any non-default value to set the size (in bytes) of the receive buffer.

#### [-send-buffer-size <integer>] - Send Buffer Size (privilege: advanced)

This parameter specifies the send buffer size of the connected socket for the FPolicy server. The default value is set to 256 kilobytes (Kb). When the value is set to 0, the size of the send buffer is set to a value defined by the system. For example, if the default send buffer size of the socket is set to 65536 bytes, by setting the tunable value to 0, the socket buffer size is set to 65536 bytes. You can use any non-defualt value to set the size (in bytes) of the send buffer.

## [-session-timeout <[<integer>h] [<integer>m] [<integer>s]>] - Session ID Purge Timeout During Reconnection (privilege: advanced)

This parameter specifies the interval after which a new session ID is sent to the FPolicy server during reconnection attempts. The value for this field must be between 0s and 200s. The default value is set to 10 seconds. If the connection between the storage controller and the FPolicy server is terminated and reconnection is made within the <code>-session-timeout</code> interval, the old session ID is sent to FPolicy server so that it can send responses for old notifications.

### [-is-resiliency-enabled {true|false}] - Is Resiliency Feature Enabled

This parameter specifies whether the resiliency feature is enabled. When this parameter is set to true and all the primary and secondary servers are down, or no response is received from the FPolicy servers, file access events are stored inside the storage controller under the specified -resiliency-directory -path. To deny the file access events from being stored under these circumstances, set this parameter to false. By default, it is false.

## [-resiliency-max-retention-duration <[<integer>h][<integer>m][<integer>s]>] - Maximum Notification Retention Duration

This parameter specifies the duration for which the notifications are written to files inside the storage controller during network outage. The value for this field must be between 0s and 600s. By default, it is set to 180s.

#### [-resiliency-directory-path <text>] - Directory for Notification Storage

This parameter specifies the directory path under the -vserver namespace, where notifications are stored in the files whenever network outage happens.

### **Examples**

The following example modifies an FPolicy external engine.

```
cluster1::> vserver fpolicy policy external-engine modify -vserver
vs1.example.com -engine-name new_engine -primary-servers 1.1.1.1 -port 10
-secondary-servers 2.2.2.2

cluster1::> vserver fpolicy policy external-engine show -vserver
vs1.example.com -engine-name new_engine

Vserver: vs1.example.com

Engine: new_engine

Primary FPolicy Servers: 1.1.1.1

Port Number of FPolicy Service: 10

Secondary FPolicy Servers: 2.2.2.2

External Engine Type: synchronous

SSL Option for External Communication: mutual-auth

FQDN or Custom Common Name: Sample1-FPolicy-Client

Serial Number: 8DDE112A114D1FBC

Certificate Authority: TASample1
```

The following example shows how to modify -recv-buffer-size and -send-buffer-size to a non-default value of 0.

```
cluster1::*> vserver fpolicy policy external-engine modify -vserver
vs1.example.com -engine-name new_engine -recv-buffer-size 0 -send-buffer
-size 0
```

#### **Related Links**

· security certificate install

### vserver fpolicy policy external-engine show

Display external engines

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

### Description

The vserver fpolicy policy external-engine show command displays information about all FPolicy external engines belonging to the Vserver. Any Vserver administrator can see FPolicy external engines associated to their Vserver as well as external engines created by cluster administrator. The command output depends on the parameter or parameters specified with the command. If you do not specify any parameters, the command displays the following information about all FPolicy external engines:

- Vserver name
- · FPolicy external engine name
- · List of primary FPolicy servers
- · List of secondary FPolicy servers
- · Port number for FPolicy service
- · FPolicy external engine type

You can specify the <code>-fields</code> parameter to specify which fields of information to display about FPolicy external engines. You can specify additional parameters to display only information that matches those parameters. For instance, to display information only about all external engines where the <code>-port</code> parameter is set to <code>9</code>, run the command with the <code>-field</code> parameter set to engine-name and <code>-port</code> parameter set to <code>9</code>.

You can specify the -instance parameter to display all information for all policies in a list format.

#### **Parameters**

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

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

#### |[-instance]}

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

#### [-vserver <Vserver Name>] - Vserver

If you specify this parameter, the command displays information only about the FPolicy external engines for the specified Vserver. FPolicy external engines that the cluster administrator creates are visible in all Vservers.

#### [-engine-name <Engine name>] - Engine

If you specify this parameter, the command displays information only about the FPolicy external engine that you specify.

#### [-primary-servers <IP Address>,...] - Primary FPolicy Servers

If you specify this parameter, the command displays information only about the FPolicy external engine or engines that use the specified IP addresses as primary FPolicy servers.

#### [-port <integer>] - Port Number of FPolicy Service

If you specify this parameter, the command displays information only about the FPolicy external engine or engines that use the specified port for the FPolicy service.

#### [-secondary-servers <IP Address>,...] - Secondary FPolicy Servers

If you specify this parameter, the command displays information only about the FPolicy external engine or engines that use the specified IP addresses as secondary FPolicy servers.

#### [-extern-engine-type <External Engine Type>] - External Engine Type

If you specify this parameter, the command displays information only about the FPolicy external engine or engines that use the specified external engine type.

### $\hbox{[-ssl-option } \{\hbox{no-auth} | \hbox{server-auth} | \hbox{mutual-auth} \} \hbox{] -SSL Option for External Communication}$

If you specify this parameter, the command displays information only about the FPolicy external engine or engines that use the specified SSL option.

## [-reqs-cancel-timeout <[<integer>h] [<integer>m] [<integer>s]>] - Timeout for Canceling a Request (privilege: advanced)

If you specify this parameter, the command displays information only about the FPolicy external engine or engines that use the specified timeout for canceling a request.

## [-reqs-abort-timeout <[<integer>h] [<integer>m] [<integer>s]>] - Timeout for Aborting a Request (privilege: advanced)

If you specify this parameter, the command displays information only about the FPolicy external engine or engines that use the specified timeout for aborting a request.

## [-status-req-interval <[<integer>h][<integer>m][<integer>s]>] - Interval for Sending Status Requests (privilege: advanced)

If you specify this parameter, the command displays information only about the FPolicy external engine or engines that use the specified interval for sending status requests.

#### [-max-connection-retries <integer>] - Max Reconnect Attempt (privilege: advanced)

If you specify this parameter, the command displays information only about the FPolicy external engine or engines that use the specified maximum reconnect attempts.

# [-max-server-reqs <integer>] - Maximum Outstanding Requests for FPolicy Server (privilege: advanced)

If you specify this parameter, the command displays information only about the FPolicy external engine or engines that use the specified FPolicy server maximum outstanding requests.

# [-server-progress-timeout <[<integer>h] [<integer>m] [<integer>s]>] - Timeout for Disconnecting Non-responsive Server (privilege: advanced)

If you specify this parameter, the command displays information only about the FPolicy external engine or engines that use the specified timeout for disconnecting non-responsive server.

# [-keep-alive-interval <[<integer>h][<integer>m][<integer>s]>] - Interval for Sending Keep-Alive Messages (privilege: advanced)

If you specify this parameter, the command displays information only about the FPolicy external engine or engines that use the specified keep-alive interval.

## [-certificate-common-name <FQDN or Custom Common Name>] - FQDN or Custom Common Name

If you specify this parameter, the command displays information only about the FPolicy external engine or engines that use the specified certificate common name.

#### [-certificate-serial <text>] - Serial Number of Certificate

If you specify this parameter, the command displays information only about the FPolicy external engine or engines that use the specified certificate serial number.

#### [-certificate-ca <text>] - Certificate Authority

If you specify this parameter, the command displays information only about the FPolicy external engine or engines that use the specified certificate authority name.

#### [-recv-buffer-size <integer>] - Receive Buffer Size (privilege: advanced)

If you specify this parameter, the command displays information only about the FPolicy external engine or engines that use the specified receive buffer size.

#### [-send-buffer-size <integer>] - Send Buffer Size (privilege: advanced)

If you specify this parameter, the command displays information only about the FPolicy external engine or engines that use the specified send buffer size.

## [-session-timeout <[<integer>h] [<integer>m] [<integer>s]>] - Session ID Purge Timeout During Reconnection (privilege: advanced)

If you specify this parameter, the command displays information only about the FPolicy external engine or engines that use the specified session timeout.

#### [-is-resiliency-enabled {true|false}] - Is Resiliency Feature Enabled

If you specify this parameter set to true, the command displays information only about the FPolicy external engine or engines that has the resiliency feature enabled.

## [-resiliency-max-retention-duration <[<integer>h][<integer>m][<integer>s]>] - Maximum Notification Retention Duration

If you specify this parameter, the command displays information only about the FPolicy external engine or engines that use the specified network outage duration.

#### [-resiliency-directory-path <text>] - Directory for Notification Storage

If you specify this parameter, the command displays information only about the FPolicy external engine or engines that use the specified directory path.

### **Examples**

The following example displays the information about the configured external engines using the vserver fpolicy policy external-engine show command.

		Primary	Secondary	
External				
Vserver	Engine	Servers	Servers	Port
Engine Type				
Cluster	cserver_eng	9.9.9.9	-	9
synchronous				
vs1.example.com	cserver_eng	9.9.9.9	_	9
synchronous				
vs1.example.com	v1n1	1.1.1.1	2.2.2.2	1
synchronous				
vs2.example.com	cserver_eng	9.9.9.9	-	9
synchronous				
vs2.example.com	v2n1	3.3.3.3	5.5.5.5	2
synchronous				

The following example displays the information about all Vserver FPolicy external engines with the -port parameter set to 9.

The following example displays the values of all the advanced-level parameters for the external engine v1n1 in Vserver vs1.example.com.

```
cluster1::*> vserver fpolicy policy external-engine show -vserver
vs1.example.com -engine-name v1n1 -instance
   (vserver fpolicy policy external-engine show)
Vserver: vs1.example.com
                                          Engine: v1n1
                         Primary FPolicy Servers: 1.1.1.1
                  Port Number of FPolicy Service: 1
                       Secondary FPolicy Servers: 2.2.2.2
                            External Engine Type: synchronous
           SSL Option for External Communication: no-auth
                 Timeout for Canceling a Request: 20s
                  Timeout for Aborting a Request: 40s
            Interval for Sending Status Requests: 10s
                           Max Reconnect Attempt: 5
 Maximum Outstanding Requests for FPolicy Server: 50
 Timeout for Disconnecting Non-responsive Server: 1m
        Interval for Sending Keep-Alive Messages: 2m
                      FQDN or Custom Common Name: -
                    Serial Number of Certificate: -
                           Certificate Authority: -
                             Receive Buffer Size: 0
                                Send Buffer Size: 0
    Session ID Purge Timeout During Reconnection: 10s
                   Is Resiliency Feature Enabled: true
         Maximum Notification Retention Duration: 3m
              Directory for Notification Storage: /fpolicy
```

### vserver fpolicy policy scope create

Create scope

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

### Description

The vserver fpolicy policy scope create command creates an FPolicy scope for an FPolicy policy. A scope defines the boundaries on which the FPolicy policy will apply. The Vserver is the basic scope boundary. When you create a scope for an FPolicy policy, you must define the FPolicy policy to which it will apply and you must designate to which Vserver you want to apply the scope. There are a number of parameters that further restrict the scope within the specified Vserver. You can restrict the scope by specifying what to include in the scope. Or you can restrict the scope by specifying what to exclude from the scope. For example, you can restrict the scope by specifying which volumes to include using the -volumes-to-exclude parameter. Once you apply a scope to an enabled policy, policy event checks get applied to the scope defined by this command.



There are special considerations for the scope for a cluster FPolicy policy. The cluster FPolicy policy is a policy that the cluster administrator creates for the admin Vserver. If the cluster administrator also creates the scope for that cluster FPolicy policy, a Vserver administrator cannot create a scope for that same policy. However, if the cluster administrator does not create a scope for the cluster FPolicy policy, then any Vserver administrator can create the scope for that cluster policy. In the event that the Vserver administrator creates a scope for that cluster FPolicy policy, the cluster administrator cannot subsequently create a cluster scope for that same cluster policy. This is because the cluster administrator cannot override the scope for the same cluster policy.

#### **Parameters**

#### -vserver <Vserver Name> - Vserver

This parameter specifies the name of the Vserver on which you want to create an FPolicy policy scope.

#### -policy-name <Policy name> - Policy

This parameter specifies the name of the FPolicy policy for which you want to create the scope.

#### [-shares-to-include <Share name>,...] - Shares to Include

This parameter specifies a list of shares for file access monitoring. With this option, the administrator provides a list of shares, separated by commas. For file access events relative to the specified shares and file operations monitored by the FPolicy policy, a notification is generated. The `-shares-to-include ` parameter can contain regular expressions and can include metacharacters such as "?" and "\*".



When a share is included in the -shares-to-include parameter and the parent volume of the share is included in the -volumes-to-exclude parameter, -volumes-to-exclude has precedence over -shares-to-include.

#### [-shares-to-exclude <Share name>,...] - Shares to Exclude

This parameter specifies a list of shares to exclude from file access monitoring. With this option, the administrator provides a list of shares, separated by commas. When a share is specified in the -shares -to-exclude parameter, no notification is sent for files accessed relative to that share. The -shares-to-exclude parameter can contain regular expressions and can include metacharacters such as "?" and "\*".

#### [-volumes-to-include <volume name>,...] - Volumes to Include

This parameter specifies a list of volumes for file access monitoring. With this option, the administrator provides a list of volumes, separated by commas. For file access events within the volume and file operations monitored by the FPolicy policy, a notification is generated. The <code>-volumes-to-include</code> parameter can contain regular expressions and can include metacharacters such as "?" and "\*".

#### [-volumes-to-exclude <volume name>,...] - Volumes to Exclude

This parameter specifies a list of volumes to exclude from file access monitoring. With this option, the administrator provides a list of volumes, separated by commas, for which no file access notifications are generated. The -volumes-to-exclude parameter can contain regular expressions and can include metacharacters such as "?" and "\*".



When a share is included in the -shares-to-include parameter and the parent volume of the share is included in the -volumes-to-exclude parameter, -volumes-to-exclude has precedence over -shares-to-include. Similarly, when an export policy is included in the -export-policies-to-include parameter and the parent volume of the export-policy is included in the -volumes-to-exclude parameter, -volumes-to-exclude has precedence over -export-policies-to-include.

#### [-export-policies-to-include <FPolicy export policy>,...] - Export Policies to Include

This parameter specifies a list of export policies for file access monitoring. With this option, the administrator provides a list of export policies, separated by commas. For file access events within an export policy and file operations monitored by the FPolicy policy, a notification is generated. The <code>-export-policies-to-include</code> parameter can contain regular expressions and can include metacharacters such as "?" and "\*".



When an export policy is included in the <code>-export-policies-to-include</code> parameter and the parent volume of the export policy is included in the <code>-volumes-to-exclude</code> parameter, <code>-volumes-to-exclude</code> has precedence over <code>-export-policies-to-include</code>.

#### [-export-policies-to-exclude <FPolicy export policy>,...] - Export Policies to Exclude

This parameter specifies a list of export policies to exclude from file access monitoring. With this option, the administrator provides a list of export policies, separated by commas, for which no file access notification is sent. The <code>-export-policies-exclude</code> parameter can contain regular expressions and can include metacharacters such as "?" and \*.

#### [-file-extensions-to-include <File extension>,...] - File Extensions to Include

This parameter specifies a list of file extensions, separated by commas, for a given FPolicy policy for which FPolicy processing is required. Any file access to files with the same extensions included in the <code>-file-extensions-to-include</code> parameter generates a notification. The <code>-file-extensions-to-include</code> parameter can contain regular expressions and can include metacharacters such as "?".

#### [-file-extensions-to-exclude <File extension>,...] - File Extensions to Exclude

This parameter specifies a list of file extensions, separated by commas, for a given FPolicy policy for which FPolicy processing will be excluded. Using the exclude list, the administrator can request notification for all extensions except those in the excluded list. Any file access to files with the same extensions included in the <code>-file-extensions-to-exclude</code> parameter does not generate a notification. The <code>-file-extensions-to-exclude</code> parameter can contain regular expressions and can include metacharacters such as "?".



An administrator can specify both -file-extensions-to-include and -file -extensions-to-exclude lists. The -file-extensions-to-exclude parameter is checked first before the -file-extensions-to-include parameter is checked.

## [-is-file-extension-check-on-directories-enabled {true|false}] - Is File Extension Check on Directories Enabled (privilege: advanced)

This parameter specifies whether the file name extension checks apply to directory objects as well. If this parameter is set to true, the directory objects are subjected to same extension checks as regular files. If this parameter is set to false, the directory names are not matched for extensions and notifications would be sent for directories even if their name extensions do not match. By default, it is false.

# [-is-monitoring-of-objects-with-no-extension-enabled {true|false}] - Is Monitoring of Objects with No Extension Enabled (privilege: advanced)

This parameter specifies whether the extension checks apply to objects with no extension as well. If this parameter is set to true, the objects with no extension are also monitored along with the objects with extension. By default, it is false.



This parameter is ignored when file-extensions-to-include and file-extensions-to-exclude lists are empty.

### **Examples**

The following example creates an FPolicy policy scope.

```
cluster1::> vserver fpolicy policy scope create    -vserver vs1.example.com
                                                     -policy-name
vs1 pol
                                                     -file
-extensions-to-include flv, wmv, mp3, mp4
                                                     -file
-extensions-to-exclude cpp,c,h,txt
cluster1::> vserver fpolicy policy scope show
          Vserver
                         Policy
                                            Extensions
Extensions
                         Name
                                          Included
         Name
Excluded
          Cluster cserver pol txt
mp3, wmv
         vsl.example.com vsl pol flv, wmv, mp3, mp4
cpp, c, h, txt
          2 entries were displayed.
```

### vserver fpolicy policy scope delete

### Delete scope

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

### **Description**

The vserver fpolicy policy scope delete command deletes an FPolicy policy scope.

#### **Parameters**

#### -vserver <Vserver Name> - Vserver

This parameter specifies the name of the Vserver from which you want to delete the FPolicy policy scope.

#### -policy-name <Policy name> - Policy

This parameter specifies the name of the FPolicy policy for which you want to delete the scope.

### **Examples**

The following example deletes a scope of an FPolicy policy.

cluster1::> vserver fpolicy policy scope delete -vserver vs1.example.com
-policy-name vs1\_pol

### vserver fpolicy policy scope modify

### Modify scope

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

### **Description**

The vserver fpolicy policy scope modify command modifies an FPolicy scope for an FPolicy policy. A scope defines the boundaries on which the FPolicy policy will apply. The Vserver is the basic scope boundary. When you modify a scope for an FPolicy policy, you must define the FPolicy policy to which it will apply and you must designate to which Vserver you want to apply the scope. There are a number of parameters that further restrict the scope within the specified Vserver. You can restrict the scope by specifying what to include in the scope. Or you can restrict the scope by specifying what to exclude from the scope. For example, you can restrict the scope by specifying which volumes to include using the -volumes-to-include parameter or which volumes to exclude using the -volumes-to-exclude parameter. Once you apply a scope to an enabled policy, policy event checks get applied to the scope defined by this command.

#### **Parameters**

#### -vserver <Vserver Name> - Vserver

This parameter specifies the name of the Vserver on which you want to modify an FPolicy policy scope.

#### -policy-name <Policy name> - Policy

This parameter specifies the name of the FPolicy policy for which you want to modify the scope.

#### [-shares-to-include <Share name>,...] - Shares to Include

This parameter specifies a list of shares for file access monitoring. With this option, the administrator provides a list of shares, separated by commas. For file access events relative to the specified shares and file operations monitored by the FPolicy policy, a notification is generated. The <code>-shares-to-include</code> parameter can contain regular expressions and can include metacharacters such as "?" and "\*".



When a share is included in the -shares-to-include parameter and the parent volume of the share is included in the -volumes-to-exclude parameter, -volumes-to-exclude has precedence over -shares-to-include.

#### [-shares-to-exclude <Share name>,...] - Shares to Exclude

This parameter specifies a list of shares to exclude from file access monitoring. With this option, the administrator provides a list of shares, separated by commas. When a share is specified in the -shares -to-exclude parameter, no notification is sent for files accessed relative to that share. The -shares-to-exclude parameter can contain regular expressions and can include metacharacters such as "?" and "\*".

#### [-volumes-to-include <volume name>,...] - Volumes to Include

This parameter specifies a list of volumes for file access monitoring. With this option, the administrator provides a list of volumes, separated by commas. For file access events within the volume and file operations monitored by the FPolicy policy, a notification is generated. The -volumes-to-include parameter can contain regular expressions and can include metacharacters such as "?" and "\*".

#### [-volumes-to-exclude <volume name>,...] - Volumes to Exclude

This parameter specifies a list of volumes to exclude from file access monitoring. With this option, the administrator provides a list of volumes, separated by commas, for which no file access notifications are generated. The -volumes-to-exclude parameter can contain regular expressions and can include metacharacters such as "?" and "\*".



When a share is included in the <code>-shares-to-include</code> parameter and the parent volume of the share is included in the <code>-volumes-to-exclude</code> parameter, <code>-volumes-to-exclude</code> has precedence over <code>-shares-to-include</code>. Similarly, when an export policy is included in the <code>-export-policies-to-include</code> parameter and the parent volume of the export-policy is included in the <code>-volumes-to-exclude</code> parameter, <code>-volumes-to-exclude</code> has precedence over <code>-export-policies-to-include</code>.

#### [-export-policies-to-include <FPolicy export policy>,...] - Export Policies to Include

This parameter specifies a list of export policies for file access monitoring. With this option, the administrator provides a list of export policies, separated by commas. For file access events within an export policy and file operations monitored by the FPolicy policy, a notification is generated. The <code>-export-policies-to-include</code> parameter can contain regular expressions and can include metacharacters such as "?" and "\*".



When an export policy is included in the <code>-export-policies-to-include</code> parameter and the parent volume of the export policy is included in the <code>-volumes-to-exclude</code> parameter, <code>-volumes-to-exclude</code> has precedence over <code>-export-policies-to-include</code>.

#### [-export-policies-to-exclude <FPolicy export policy>,...] - Export Policies to Exclude

This parameter specifies a list of export policies to exclude from file access monitoring. With this option, the administrator provides a list of export policies, separated by commas, for which no file access notification is sent. The <code>-export-policies-exclude</code> parameter can contain regular expressions and can include metacharacters such as "?" and \*.

#### [-file-extensions-to-include <File extension>,...] - File Extensions to Include

This parameter specifies a list of file extensions, separated by commas, for a given FPolicy policy for which FPolicy processing is required. Any file access to files with the same extensions included in the <code>-file-extensions-to-include</code> parameter generates a notification. The <code>-file-extensions-to-include</code> parameter can contain regular expressions and can include metacharacters such as "?".

### [-file-extensions-to-exclude <File extension>,...] - File Extensions to Exclude

This parameter specifies a list of file extensions, separated by commas, for a given FPolicy policy for which FPolicy processing will be excluded. Using the exclude list, the administrator can request notification for all extensions except those in the excluded list. Any file access to files with the same extensions included in the <code>-file-extensions-to-exclude</code> parameter does not generate a notification. The <code>-file-extensions-to-exclude</code> parameter can contain regular expressions and can include metacharacters such as "?".



An administrator can specify both -file-extensions-to-include and -file -extensions-to-exclude lists. The -file-extensions-to-exclude parameter is checked first before the -file-extensions-to-include parameter is checked.

# [-is-file-extension-check-on-directories-enabled {true|false}] - Is File Extension Check on Directories Enabled (privilege: advanced)

This parameter specifies whether the file name extension checks apply to directory objects as well. If this parameter is set to true, the directory objects are subjected to same extension checks as regular files. If this parameter is set to false, the directory names are not matched for extensions and notifications would be sent for directories even if their name extensions do not match. By default, it is false.

## [-is-monitoring-of-objects-with-no-extension-enabled {true|false}] - Is Monitoring of Objects with No Extension Enabled (privilege: advanced)

This parameter specifies whether the extension checks apply to objects with no extension as well. If this parameter is set to true, the objects with no extension are also monitored along with the objects with extension. By default, it is false.



This parameter is ignored when file-extensions-to-include and file-extensions-to-exclude lists are empty.

### **Examples**

The following example modifies an FPolicy policy scope.

```
cluster1::> vserver fpolicy policy scope modify -vserver vs1.example.com
                                                        -policy-name
vs1 pol
                                                        -file
-extensions-to-include flv, wmv, mp3, mp4
                                                        -file
-extensions-to-exclude cpp,c,h,txt
cluster1::> vserver fpolicy policy scope show
                           Policy
                                             Extensions
           Vserver
Extensions
                                              Included
           Name
                          Name
Excluded
           Cluster cserver pol txt
mp3, wmv
                                      flv, wmv, mp3, mp4
          vsl.example.com vsl pol
cpp, c, h, txt
           2 entries were displayed.
```

### vserver fpolicy policy scope show

### Display scope

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

### Description

The vserver fpolicy policy scope show command displays scope information about all FPolicy policies belonging to the Vserver. The command output depends on the parameter or parameters specified with the command. If you do not specify any parameters, the command displays the following information about all FPolicy scopes:

- Vserver name
- · Policy name
- · The file extensions to include
- · The file extensions to exclude

You can use the -fields parameter to specify which fields of information to display about FPolicy scopes. In addition to the fields above, you can display the following fields:

- · The shares to include
- · The shares to exclude
- · The volumes to include
- The volumes to exclude

- · The export policies to include
- · The export policies to exclude
- · Whether file extention check on directories is enabled
- · Whether monitoring of objects with no extension is enabled

You can specify specific parameters to display only information that matches those parameters. For example, to display scope information only about all FPolicy policies where the <code>-file-extensions-to-include</code> parameter is set to txt, run the command with the <code>-fields</code> parameter set to policy-name and <code>-file-extensions-to-include</code> parameter set to txt.

You can specify the -instance parameter to display scope information for all FPolicy policies in a list format.

#### **Parameters**

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

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

#### |[-instance]}

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

#### [-vserver <Vserver Name>] - Vserver

If you specify this parameter, the command displays scope information only about the FPolicy policies for the specified Vserver.

#### [-policy-name <Policy name>] - Policy

If you specify this parameter, the command displays information only about the specified FPolicy policy.

#### [-shares-to-include <Share name>,...] - Shares to Include

If you specify this parameter, the command displays scope information only about the FPolicy policy or policies that use the specified share or shares in the include list.

### [-shares-to-exclude <Share name>,...] - Shares to Exclude

If you specify this parameter, the command displays scope information only about the FPolicy policy or policies that use the specified share or shares in the exclude list.

#### [-volumes-to-include <volume name>,...] - Volumes to Include

If you specify this parameter, the command displays scope information only about the FPolicy policy or policies that use the specified volume or volumes in the include list.

#### [-volumes-to-exclude <volume name>,...] - Volumes to Exclude

If you specify this parameter, the command displays scope information only about the FPolicy policy or policies that use the specified volume or volumes in the exclude list.

#### [-export-policies-to-include <FPolicy export policy>,...] - Export Policies to Include

If you specify this parameter, the command displays scope information only about the FPolicy policy or policies that use the specified export policy or policies in the include list.

#### [-export-policies-to-exclude <FPolicy export policy>,...] - Export Policies to Exclude

If you specify this parameter, the command displays scope information only about the FPolicy policy or

policies that use the specified export policy or policies in the exclude list.

#### [-file-extensions-to-include <File extension>,...] - File Extensions to Include

If you specify this parameter, the command displays scope information only about the FPolicy policy or policies that use the specified file extension or extensions in the include list.

#### [-file-extensions-to-exclude <File extension>,...] - File Extensions to Exclude

If you specify this parameter, the command displays scope information only about the FPolicy policy or policies that use the specified file extension or extensions in exclude list.

# [-is-file-extension-check-on-directories-enabled {true|false}] - Is File Extension Check on Directories Enabled (privilege: advanced)

If you specify this parameter, the command displays scope information only about the FPolicy policy or policies that use the specified file extension check on directories. If set to true, the command displays information about scopes where file extension checks on directories is enabled. If set to false, the command displays information about scopes where file extension checks on directories is disabled.

# [-is-monitoring-of-objects-with-no-extension-enabled {true|false}] - Is Monitoring of Objects with No Extension Enabled (privilege: advanced)

If you specify this parameter, the command displays scope information only about the FPolicy policy or policies that use the specified monitoring of objects with no extension setting. If set to true, the command displays information about scope of policy or policies for which monitoring of objects with no extension is enabled.

### **Examples**

The following example displays scope information about FPolicy policies.

	fpolicy policy scope		
Vserver	Policy	Extensions	
xtensions			
Name	Name	Included	
xcluded			
Cluster	cserver_pol	-	_
vs1.exampl	e.com p	-	-
vs1.exampl	e.com vs1_pol	mp3	_
3 entries	were displayed.		

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