

# Manage FPolicy engine configuration

ONTAP 9.14.1 REST API reference

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# Manage FPolicy engine configuration

# Protocols fpolicy svm.uuid engines endpoint overview

### Overview

The FPolicy engine allows you to configure the external servers to which the file access notifications are sent. As part of FPolicy engine configuration, you can configure a server(s) to which the notification is sent, an optional set of secondary server(s) to which the notification is sent in the case of a primary server(s) failure, the port number for FPolicy application, the type of the engine, which is either synchronous or asynchronous and the format of the notifications, which is either xml or protobuf.

For the synchronous engine, ONTAP will wait for a response from the FPolicy application before it allows the operation. With an asynchronous engine, ONTAP proceeds with the operation processing after sending the notification to the FPolicy application. An engine can belong to multiple FPolicy policies. If the format is not specified, the default format, xml, is configured.

### **Examples**

Creating an FPolicy engine

```
# The API:
POST /protocols/fpolicy/{svm.uuid}/engines
#The call:
curl -X POST "https://<mgmt-ip>/api/protocols/fpolicy/4f643fb4-fd21-11e8-
ae49-0050568e2c1e/engines/" -H "accept: application/json" -H "Content-
Type: application/json" -d "{ \"name\": \"engine0\", \"port\": 9876,
\"primary servers\": [ \"10.132.145.22\", \"10.140.101.109\" ],
\"secondary servers\": [ \"10.132.145.20\", \"10.132.145.21\" ], \"type\":
\"synchronous\", \"format\": \"xml\", \"request abort timeout\": \"PT3M\",
\"request cancel timeout\": \"PT29S\", \"server progress timeout\":
\"PT1M\", \"status request interval\": \"PT23S\",
\"keep alive interval\": \"PT2M\" }"
# The response:
{
"num records": 1,
"records": [
    "name": "engine0",
    "primary servers": [
      "10.132.145.22",
      "10.140.101.109"
    1,
    "secondary servers": [
      "10.132.145.20",
      "10.132.145.21"
    ],
    "port": 9876,
    "type": "synchronous",
    "format": "xml"
  }
]
}
```

### Creating an FPolicy engine with the minimum required fields

```
# The API:
POST /protocols/fpolicy/{svm.uuid}/engines
#The call:
curl -X POST "https://<mgmt-ip>/api/protocols/fpolicy/4f643fb4-fd21-11e8-
ae49-0050568e2c1e/engines/" -H "accept: application/json" -H "Content-
Type: application/json" -d "{ \"name\": \"engine0\", \"port\": 9876,
\"primary servers\": [ \"10.132.145.22\", \"10.140.101.109\" ], \"type\":
\"synchronous\"}"
# The response:
"num records": 1,
"records": [
    "name": "engine0",
    "primary servers": [
      "10.132.145.22",
      "10.140.101.109"
    "port": 9876,
    "type": "synchronous",
    "format": "xml"
 }
]
}
```

#### Retrieving an FPolicy engine configuration for a particular SVM

```
"svm": {
      "uuid": "4f643fb4-fd21-11e8-ae49-0050568e2c1e"
    },
    "name": "cifs",
    "primary servers": [
     "10.20.20.10"
    1,
    "port": 9876,
    "type": "synchronous"
  },
    "svm": {
      "uuid": "4f643fb4-fd21-11e8-ae49-0050568e2c1e"
    },
    "name": "nfs",
    "primary servers": [
     "10.23.140.64",
     "10.140.101.109"
    "secondary servers": [
     "10.132.145.20",
     "10.132.145.22"
    ],
    "port": 9876,
    "type": "synchronous",
    "format": "xml",
    "ssl_option": "no_auth",
    "resiliency": {
      "enabled": false,
      "retention duration": "PT3M"
    "buffer size": {
      "recv buffer": 262144,
      "send buffer": 1048576
    } ,
    "max server requests": 500,
    "request cancel timeout": "PT29S",
    "request abort timeout": "PT3M",
    "server progress timeout": "PT1M",
    "status request interval": "PT23S",
    "keep alive interval": "PT2M"
],
"num records": 2
```

```
# The Api:
GET /protocols/fpolicy/{svm.uuid}/engines/{name}
#The call:
curl -X GET "https://<mgmt-ip>/api/protocols/fpolicy/4f643fb4-fd21-11e8-
ae49-0050568e2c1e/engines/cifs?fields=*" -H "accept: application/json"
# The response:
"svm": {
 "uuid": "4f643fb4-fd21-11e8-ae49-0050568e2c1e"
 "name": "cifs",
 "primary servers": [
  "10.20.20.10"
],
 "port": 9876,
 "type": "synchronous",
 "format": "xml"
}
```

#### Updating an FPolicy engine for an SVM

```
# The API:
PATCH /protocols/fpolicy/{svm.uuid}/engines/{name}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/protocols/fpolicy/4f643fb4-fd21-11e8-
ae49-0050568e2c1e/engines/cifs" -H "accept: application/json" -H "Content-
Type: application/json" -d "{ \"port\": 6666, \"secondary_servers\": [
\"10.132.145.20\", \"10.132.145.21\"], \"type\": \"synchronous\"}"
```

#### Updating all the attributes of a specific FPolicy engine for an SVM

```
# The API:
PATCH /protocols/fpolicy/{svm.uuid}/engines/{name}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/protocols/fpolicy/4f643fb4-fd21-11e8-
ae49-0050568e2c1e/engines/cifs" -H "accept: application/json" -H "Content-
Type: application/json" -d "{ \"port\": 9876, \"primary_servers\": [
\"10.132.145.20\", \"10.140.101.109\"], \"secondary_servers\": [
\"10.132.145.23\", \"10.132.145.21\"], \"type\": \"synchronous\",
\"format\": \"protobuf\"}"
```

### Deleting a specific FPolicy engine for an SVM

```
# The API:
DELETE /protocols/fpolicy/{svm.uuid}/engines/{name}

# The call:
curl -X DELETE "https://<mgmt-ip>/api/protocols/fpolicy/4f643fb4-fd21-
11e8-ae49-0050568e2c1e/events/cifs" -H "accept: application/json"
```

# Retrieve the FPolicy engine configuration for all engines of an SVM

GET /protocols/fpolicy/{svm.uuid}/engines

Introduced In: 9.6

Retrieves FPolicy engine configurations of all the engines for a specified SVM. ONTAP allows creation of cluster-level FPolicy engines that act as a template for all the SVMs belonging to the cluster. These cluster-level FPolicy engines are also retrieved for the specified SVM.

### **Related ONTAP commands**

• fpolicy policy external-engine show

#### Learn more

DOC /protocols/fpolicy/{svm.uuid}/engines

# **Parameters**

Name	Туре	In	Required	Description
buffer_size.recv_buff er	integer	query	False	Filter by buffer_size.recv_buf fer  • Max value: 7895160  • Min value: 0  • Introduced in: 9.11
buffer_size.send_buf fer	integer	query	False	Filter by buffer_size.send_bu ffer  • Max value: 7895160  • Min value: 0  • Introduced in: 9.11
type	string	query	False	Filter by type
ssl_option	string	query	False	• Introduced in: 9.11
secondary_servers	string	query	False	Filter by secondary_servers
status_request_inter val	string	query	False	Filter by status_request_inter val  • Introduced in: 9.11
keep_alive_interval	string	query	False	Filter by keep_alive_interval  • Introduced in: 9.13

Name	Туре	In	Required	Description
format	string	query	False	• Introduced in: 9.11
port	integer	query	False	Filter by port
name	string	query	False	Filter by name
primary_servers	string	query	False	Filter by primary_servers
resiliency.directory_ path	string	query	False	Filter by resiliency.directory_ path  • Introduced in: 9.11
resiliency.enabled	boolean	query	False	Filter by resiliency.enabled  • Introduced in: 9.11
resiliency.retention_ duration	string	query	False	Filter by resiliency.retention_ duration  • Introduced in: 9.11
request_cancel_time out	string	query	False	Filter by request_cancel_time out  • Introduced in: 9.11
request_abort_timeo ut	string	query	False	Filter by request_abort_timeo ut  • Introduced in: 9.11

Name	Туре	In	Required	Description
max_server_request s	integer	query	False	Filter by max_server_request s  • Max value: 10000 • Min value: 1 • Introduced in: 9.11
server_progress_tim eout	string	query	False	Filter by server_progress_tim eout  • Introduced in: 9.11
certificate.serial_nu mber	string	query	False	Filter by certificate.serial_nu mber  • Introduced in: 9.11
certificate.name	string	query	False	Filter by certificate.name  • Introduced in: 9.11
certificate.ca	string	query	False	Filter by certificate.ca  • Introduced in: 9.11
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.

Name	Туре	In	Required	Description
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned.  • Default value: 1
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached.  • Max value: 120  • Min value: 0  • Default value: 1
order_by	array[string]	query	False	Order results by specified fields and optional [asc

# Response

Status: 200, Ok

Name	Туре	Description
_links	_links	
num_records	integer	Number of records
records	array[fpolicy_engine]	

```
" links": {
  "next": {
    "href": "/api/resourcelink"
  },
  "self": {
    "href": "/api/resourcelink"
  }
},
"num records": 1,
"records": [
    "certificate": {
     "ca": "TASample1",
      "name": "Sample1-FPolicy-Client",
      "serial number": "8DDE112A114D1FBC"
    },
    "format": "string",
    "keep alive interval": "PT2M",
    "max server requests": 500,
    "name": "fp ex eng",
    "port": 9876,
    "primary servers": [
     "10.132.145.20",
     "10.140.101.109"
    ],
    "request abort timeout": "PT40S",
    "request cancel timeout": "PT20S",
    "resiliency": {
      "directory path": "/dir1",
      "retention duration": "PT3M"
    },
    "secondary servers": [
     "10.132.145.20",
      "10.132.145.21"
    ],
    "server progress timeout": "PT1M",
    "ssl option": "string",
    "status request interval": "PT10S",
    "svm": {
     "uuid": "string"
    "type": "string"
```

```
] }
```

### **Error**

```
Status: Default,
```

Name	Туре	Description
error	returned_error	

### Example error

# **Definitions**

### **See Definitions**

href

Name	Туре	Description
href	string	

\_links

Name	Туре	Description
next	href	
self	href	

### buffer\_size

Specifies the send and receive buffer size of the connected socket for the FPolicy server.

Name	Туре	Description
recv_buffer	integer	Specifies the receive buffer size of the connected socket for the FPolicy server. Default value is 256KB.
send_buffer	integer	Specifies the send buffer size of the connected socket for the FPolicy server. Default value 1MB.

### certificate

Provides details about certificate used to authenticate the Fpolicy server.

Name	Туре	Description
са	string	Specifies the certificate authority (CA) name of the certificate used for authentication if SSL authentication between the SVM and the FPolicy server is configured.
name	string	Specifies the certificate name as a fully qualified domain name (FQDN) or custom common name. The certificate is used if SSL authentication between the SVM and the FPolicy server is configured.

Name	Туре	Description
serial_number	string	Specifies the serial number of the certificate used for authentication if SSL authentication between the SVM and the FPolicy server is configured.

### resiliency

If all primary and secondary servers are down, or if no response is received from the FPolicy servers, file access events are stored inside the storage controller under the specified resiliency-directory-path.

Name	Туре	Description
directory_path	string	Specifies the directory path under the SVM namespace, where notifications are stored in the files whenever a network outage happens.
enabled	boolean	Specifies whether the resiliency feature is enabled or not. Default is false.
retention_duration	string	Specifies the ISO-8601 duration, for which the notifications are written to files inside the storage controller during a network outage. The value for this field must be between 0 and 600 seconds. Default is 180 seconds.

### svm

Name	Туре	Description
uuid	string	SVM UUID

### fpolicy\_engine

Defines how ONTAP makes and manages connections to external FPolicy servers.

Name	Туре	Description
buffer_size	buffer_size	Specifies the send and receive buffer size of the connected socket for the FPolicy server.

Name	Туре	Description
certificate	certificate	Provides details about certificate used to authenticate the Fpolicy server.
format	string	The format for the notification messages sent to the FPolicy servers. The possible values are:  • xml - Notifications sent to the FPolicy server will be formatted using the XML schema.  • protobuf - Notifications sent to the FPolicy server will be formatted using Protobuf schema, which is a binary form.
keep_alive_interval	string	Specifies the ISO-8601 interval time for a storage appliance to send Keep Alive message to an FPolicy server. The allowed range is between 10 to 600 seconds.
max_server_requests	integer	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. The default values are 500, 1000 or 2000 for Lowend(<64 GB memory), Midend(>=64 GB memory) and Highend(>=128 GB memory)
name	string	Specifies the name to assign to the external server configuration.
port	integer	Port number of the FPolicy server application.
primary_servers	array[string]	

Name	Туре	Description
request_abort_timeout	string	Specifies the ISO-8601 timeout duration for a screen request to be aborted by a storage appliance. The allowed range is between 0 to 200 seconds.
request_cancel_timeout	string	Specifies the ISO-8601 timeout duration for a screen request to be processed by an FPolicy server. The allowed range is between 0 to 100 seconds.
resiliency	resiliency	If all primary and secondary servers are down, or if no response is received from the FPolicy servers, file access events are stored inside the storage controller under the specified resiliency-directorypath.
secondary_servers	array[string]	
server_progress_timeout	string	Specifies the ISO-8601 timeout duration in which a throttled FPolicy server must complete at least one screen request. If no request is processed within the timeout, connection to the FPolicy server is terminated. The allowed range is between 0 to 100 seconds.

Name	Туре	Description
ssl_option	string	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.  • server_auth When set to "server_auth", only the FPolicy server is authenticated by the SVM. 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 When set to "mutual_auth", mutual authentication takes place between the SVM and the FPolicy server. This means authentication of the FPolicy server by the SVM along with authentication of the SVM 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 and key file for authentication of the SVM.
status_request_interval	string	Specifies the ISO-8601 interval time for a storage appliance to query a status request from an FPolicy server. The allowed range is between 0 to 50 seconds.
svm	svm	

Name	Туре	Description
type	string	The notification mode determines what ONTAP does after sending notifications to FPolicy servers. The possible values are:  • synchronous - After sending a
		notification, wait for a response from the FPolicy server.
		<ul> <li>asynchronous - After sending a notification, file request processing continues.</li> </ul>
		∘ Default value: 1
		<ul><li>enum: ["synchronous", "asynchronous"]</li></ul>
		∘ Introduced in: 9.6
		∘ x-nullable: true

### error\_arguments

Name	Туре	Description
code	string	Argument code
message	string	Message argument

### returned\_error

Name	Туре	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

# **Create the FPolicy engine configuration for an SVM**

POST /protocols/fpolicy/{svm.uuid}/engines

Introduced In: 9.6

Creates an FPolicy engine configuration for a specified SVM. FPolicy engine creation is allowed only on data SVMs.

# **Required properties**

- svm.uuid Existing SVM in which to create the FPolicy engine.
- name Name of external engine.
- port Port number of the FPolicy server application.
- primary servers List of primary FPolicy servers to which the node will send notifications.

### **Recommended optional properties**

• secondary\_servers - It is recommended to configure secondary FPolicy server to which the node will send notifications when the primary server is down.

### **Default property values**

- type synchronous
- format xml

### **Related ONTAP commands**

• fpolicy policy external-engine create

### Learn more

• DOC /protocols/fpolicy/{svm.uuid}/engines

### **Parameters**

Name	Туре	In	Required	Description
return_records	boolean	query	False	The default is false. If set to true, the records are returned.  • Default value:
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

# **Request Body**

Name	Туре	Description	
buffer_size	buffer_size	Specifies the send and receive buffer size of the connected socket for the FPolicy server.	
certificate	certificate	Provides details about certificate used to authenticate the Fpolicy server.	
format	string	The format for the notification messages sent to the FPolicy servers. The possible values are:  • xml - Notifications sent to the FPolicy server will be formatted using the XML schema.  • protobuf - Notifications sent to the FPolicy server will be formatted using Protobuf schema, which is a binary form	
keep_alive_interval	string	Specifies the ISO-8601 interval time for a storage appliance to send Keep Alive message to an FPolicy server. The allowed range is between 10 to 600 seconds.	
max_server_requests	integer	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. The default values are 500, 1000 or 2000 for Low-end(<64 GB memory), Mid-end(>=64 GB memory) and High-end(>=128 GB memory) Platforms respectively.	
name	string	Specifies the name to assign to the external server configuration.	
port	integer	Port number of the FPolicy server application.	
primary_servers	array[string]		

Name	Туре	Description
request_abort_timeout	string	Specifies the ISO-8601 timeout duration for a screen request to be aborted by a storage appliance. The allowed range is between 0 to 200 seconds.
request_cancel_timeout	string	Specifies the ISO-8601 timeout duration for a screen request to be processed by an FPolicy server. The allowed range is between 0 to 100 seconds.
resiliency	resiliency	If all primary and secondary servers are down, or if no response is received from the FPolicy servers, file access events are stored inside the storage controller under the specified resiliency-directory-path.
secondary_servers	array[string]	
server_progress_timeout	string	Specifies the ISO-8601 timeout duration in which a throttled FPolicy server must complete at least one screen request. If no request is processed within the timeout, connection to the FPolicy server is terminated. The allowed range is between 0 to 100 seconds.

Name	Туре	Description
ssl_option	string	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.  • server_auth When set to "server_auth", only the FPolicy server is authenticated by the SVM. 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 SVM and the FPolicy server. This means authentication of the FPolicy server by the SVM along with authentication of the SVM by the FPolicy server. With this option, before creating the FPolicy external engine, the administrator must install the public certificate authority (CA) that signed the FPolicy server certificate authority (CA) that signed the FPolicy server certificate and key file for authentication of the SVM.
status_request_interval	string	Specifies the ISO-8601 interval time for a storage appliance to query a status request from an FPolicy server. The allowed range is between 0 to 50 seconds.
svm	svm	

Name	Туре	Description
type	string	The notification mode determines what ONTAP does after sending notifications to FPolicy servers. The possible values are:
		<ul> <li>synchronous - After sending a notification, wait for a response from the FPolicy server.</li> </ul>
		<ul> <li>asynchronous - After sending a notification, file request processing continues.</li> </ul>
		∘ Default value: 1
		<ul><li>enum: ["synchronous", "asynchronous"]</li></ul>
		∘ Introduced in: 9.6
		∘ x-nullable: true

#### **Example request**

```
"certificate": {
   "ca": "TASample1",
   "name": "Sample1-FPolicy-Client",
   "serial number": "8DDE112A114D1FBC"
 },
 "format": "string",
 "keep alive interval": "PT2M",
 "max server requests": 500,
 "name": "fp ex eng",
 "port": 9876,
 "primary servers": [
   "10.132.145.20",
   "10.140.101.109"
 ],
 "request abort timeout": "PT40S",
 "request cancel timeout": "PT20S",
 "resiliency": {
   "directory_path": "/dir1",
   "retention duration": "PT3M"
 },
 "secondary servers": [
   "10.132.145.20",
   "10.132.145.21"
 ],
 "server progress timeout": "PT1M",
 "ssl option": "string",
 "status request interval": "PT10S",
 "svm": {
   "uuid": "string"
 },
 "type": "string"
}
```

# Response

```
Status: 201, Created
```

Name	Туре	Description
_links	_links	

Name	Туре	Description
num_records	integer	Number of records
records	array[fpolicy_engine]	

```
" links": {
  "next": {
   "href": "/api/resourcelink"
  },
  "self": {
   "href": "/api/resourcelink"
  }
},
"num records": 1,
"records": [
    "certificate": {
     "ca": "TASample1",
      "name": "Sample1-FPolicy-Client",
      "serial number": "8DDE112A114D1FBC"
    },
    "format": "string",
    "keep alive interval": "PT2M",
    "max server requests": 500,
    "name": "fp ex eng",
    "port": 9876,
    "primary servers": [
     "10.132.145.20",
     "10.140.101.109"
    ],
    "request abort timeout": "PT40S",
    "request cancel timeout": "PT20S",
    "resiliency": {
      "directory path": "/dir1",
      "retention duration": "PT3M"
    },
    "secondary servers": [
     "10.132.145.20",
      "10.132.145.21"
    ],
    "server progress timeout": "PT1M",
    "ssl option": "string",
    "status request interval": "PT10S",
    "svm": {
     "uuid": "string"
    "type": "string"
```

] }

### Headers

Name	Description	Туре
Location	Useful for tracking the resource location	string

# **Error**

Status: Default

# ONTAP Error Response Codes

Error Code	Description
9764885	The primary secondary server has a redundant IP address
9764953	The name of the FPolicy engine is "native" which is reserved by the system
9765011	The resiliency feature is not supported with mandatory screening
9765012	The specified resiliency directory path does not exist

Name	Туре	Description
error	returned_error	

### Example error

# **Definitions**

#### **See Definitions**

buffer\_size

Specifies the send and receive buffer size of the connected socket for the FPolicy server.

Name	Туре	Description
recv_buffer	integer	Specifies the receive buffer size of the connected socket for the FPolicy server. Default value is 256KB.
send_buffer	integer	Specifies the send buffer size of the connected socket for the FPolicy server. Default value 1MB.

### certificate

Provides details about certificate used to authenticate the Fpolicy server.

Name	Туре	Description
ca	string	Specifies the certificate authority (CA) name of the certificate used for authentication if SSL authentication between the SVM and the FPolicy server is configured.
name	string	Specifies the certificate name as a fully qualified domain name (FQDN) or custom common name. The certificate is used if SSL authentication between the SVM and the FPolicy server is configured.
serial_number	string	Specifies the serial number of the certificate used for authentication if SSL authentication between the SVM and the FPolicy server is configured.

### resiliency

If all primary and secondary servers are down, or if no response is received from the FPolicy servers, file access events are stored inside the storage controller under the specified resiliency-directory-path.

Name	Туре	Description
directory_path	string	Specifies the directory path under the SVM namespace, where notifications are stored in the files whenever a network outage happens.
enabled	boolean	Specifies whether the resiliency feature is enabled or not. Default is false.
retention_duration	string	Specifies the ISO-8601 duration, for which the notifications are written to files inside the storage controller during a network outage. The value for this field must be between 0 and 600 seconds. Default is 180 seconds.

### svm

Name	Туре	Description
uuid	string	SVM UUID

# fpolicy\_engine

Defines how ONTAP makes and manages connections to external FPolicy servers.

Name	Туре	Description
buffer_size	buffer_size	Specifies the send and receive buffer size of the connected socket for the FPolicy server.
certificate	certificate	Provides details about certificate used to authenticate the Fpolicy server.

Name	Туре	Description
format	string	The format for the notification messages sent to the FPolicy servers. The possible values are:  • xml - Notifications sent to the FPolicy server will be formatted using the XML schema.  • protobuf - Notifications sent to the FPolicy server will be formatted using Protobuf schema, which is a binary form.
keep_alive_interval	string	Specifies the ISO-8601 interval time for a storage appliance to send Keep Alive message to an FPolicy server. The allowed range is between 10 to 600 seconds.
max_server_requests	integer	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. The default values are 500, 1000 or 2000 for Lowend(<64 GB memory), Midend(>=64 GB memory) and Highend(>=128 GB memory)
name	string	Specifies the name to assign to the external server configuration.
port	integer	Port number of the FPolicy server application.
primary_servers	array[string]	
request_abort_timeout	string	Specifies the ISO-8601 timeout duration for a screen request to be aborted by a storage appliance. The allowed range is between 0 to 200 seconds.

Name	Туре	Description
request_cancel_timeout	string	Specifies the ISO-8601 timeout duration for a screen request to be processed by an FPolicy server. The allowed range is between 0 to 100 seconds.
resiliency	resiliency	If all primary and secondary servers are down, or if no response is received from the FPolicy servers, file access events are stored inside the storage controller under the specified resiliency-directory-path.
secondary_servers	array[string]	
server_progress_timeout	string	Specifies the ISO-8601 timeout duration in which a throttled FPolicy server must complete at least one screen request. If no request is processed within the timeout, connection to the FPolicy server is terminated. The allowed range is between 0 to 100 seconds.

Name	Туре	Description
ssl_option	string	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.  • server_auth When set to "server_auth", only the FPolicy server is authenticated by the SVM. 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 SVM and the FPolicy server. This means authentication of the FPolicy server by the SVM along with authentication of the SVM by the FPolicy server. With this option, before creating the FPolicy external engine, the administrator must install the public certificate authority (CA) that signed the FPolicy server certificate and key file for authentication of the SVM.
status_request_interval	string	Specifies the ISO-8601 interval time for a storage appliance to query a status request from an FPolicy server. The allowed range is between 0 to 50 seconds.
svm	svm	

Name	Туре	Description
type	string	The notification mode determines what ONTAP does after sending notifications to FPolicy servers. The possible values are:
		<ul> <li>synchronous - After sending a notification, wait for a response from the FPolicy server.</li> </ul>
		<ul> <li>asynchronous - After sending a notification, file request processing continues.</li> </ul>
		<ul> <li>Default value: 1</li> </ul>
		<ul><li>enum: ["synchronous", "asynchronous"]</li></ul>
		<ul><li>Introduced in: 9.6</li></ul>
		∘ x-nullable: true

### href

Name	Туре	Description
href	string	

# \_links

Name	Туре	Description
next	href	
self	href	

# error\_arguments

Name	Туре	Description
code	string	Argument code
message	string	Message argument

# returned\_error

Name	Туре	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code

Name	Туре	Description
message	string	Error message
target	string	The target parameter that caused the error.

# Delete an FPolicy external engine configuration

DELETE /protocols/fpolicy/{svm.uuid}/engines/{name}

Introduced In: 9.6

Deletes the FPolicy external engine configuration. Deletion of an FPolicy engine that is attached to one or more FPolicy policies is not allowed.

## **Related ONTAP commands**

fpolicy policy external-engine modify

### Learn more

• DOC /protocols/fpolicy/{svm.uuid}/engines

#### **Parameters**

Name	Туре	In	Required	Description
name	string	path	True	
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

## Response

Status: 200, Ok

#### **Error**

Status: Default

**ONTAP Error Response Codes** 

Error Code	Description	
9764940	At least one FPolicy policy is using the FPolicy engine	
9764887	The FPolicy engine is a cluster level FPolicy engine	

Name	Туре	Description
error	returned_error	

## Example error

## **Definitions**

#### **See Definitions**

#### error\_arguments

Name	Туре	Description
code	string	Argument code
message	string	Message argument

#### returned error

Name	Туре	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

# Retrieve a particular FPolicy engine configuration for an SVM

GET /protocols/fpolicy/{svm.uuid}/engines/{name}

Introduced In: 9.6

Retrieves a particular FPolicy engine configuration of a specified SVM. A cluster-level FPolicy engine configuration cannot be retrieved for a data SVM.

#### **Related ONTAP commands**

• fpolicy policy external-engine show

#### Learn more

• DOC /protocols/fpolicy/{svm.uuid}/engines

#### **Parameters**

Name	Туре	In	Required	Description
name	string	path	True	

Name	Туре	In	Required	Description
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.
fields	array[string]	query	False	Specify the fields to return.

# Response

Status: 200, Ok

Name	Туре	Description
buffer_size	buffer_size	Specifies the send and receive buffer size of the connected socket for the FPolicy server.
certificate	certificate	Provides details about certificate used to authenticate the Fpolicy server.
format	string	The format for the notification messages sent to the FPolicy servers. The possible values are:  • xml - Notifications sent to the FPolicy server will be formatted using the XML schema.  • protobuf - Notifications sent to the FPolicy server will be formatted using Protobuf schema, which is a binary form.
keep_alive_interval	string	Specifies the ISO-8601 interval time for a storage appliance to send Keep Alive message to an FPolicy server. The allowed range is between 10 to 600 seconds.

Name	Туре	Description
max_server_requests	integer	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. The default values are 500, 1000 or 2000 for Low-end(<64 GB memory), Mid-end(>=64 GB memory) and High-end(>=128 GB memory) Platforms respectively.
name	string	Specifies the name to assign to the external server configuration.
port	integer	Port number of the FPolicy server application.
primary_servers	array[string]	
request_abort_timeout	string	Specifies the ISO-8601 timeout duration for a screen request to be aborted by a storage appliance. The allowed range is between 0 to 200 seconds.
request_cancel_timeout	string	Specifies the ISO-8601 timeout duration for a screen request to be processed by an FPolicy server. The allowed range is between 0 to 100 seconds.
resiliency	resiliency	If all primary and secondary servers are down, or if no response is received from the FPolicy servers, file access events are stored inside the storage controller under the specified resiliency-directory-path.
secondary_servers	array[string]	

Name	Туре	Description
server_progress_timeout	string	Specifies the ISO-8601 timeout duration in which a throttled FPolicy server must complete at least one screen request. If no request is processed within the timeout, connection to the FPolicy server is terminated. The allowed range is between 0 to 100 seconds.
ssl_option	string	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.  • server_auth When set to "server_auth", only the FPolicy server is authenticated by the SVM. 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 When set to "mutual_auth", mutual authentication takes place between the SVM and the FPolicy server. This means authentication of the FPolicy server by the SVM along with authentication of the SVM by the FPolicy server. With this option, before creating the FPolicy external engine, the administrator must install the public certificate authority (CA) that signed the FPolicy server certificate authority (CA) that signed the FPolicy server certificate and key file for authentication of the SVM.

Туре	Description
string	Specifies the ISO-8601 interval time for a storage appliance to query a status request from an FPolicy server. The allowed range is between 0 to 50 seconds.
svm	
string	The notification mode determines what ONTAP does after sending notifications to FPolicy servers. The possible values are:  • synchronous - After sending a notification, wait for a response from the FPolicy server.  • asynchronous - After sending a notification, file request processing continues.  • Default value: 1
	<ul><li>enum: ["synchronous", "asynchronous"]</li></ul>
	<ul> <li>Introduced in: 9.6</li> </ul>
	<ul> <li>x-nullable: true</li> </ul>
	string

#### **Example response**

```
"certificate": {
   "ca": "TASample1",
   "name": "Sample1-FPolicy-Client",
   "serial number": "8DDE112A114D1FBC"
 },
 "format": "string",
 "keep alive interval": "PT2M",
 "max server requests": 500,
 "name": "fp ex eng",
 "port": 9876,
 "primary servers": [
   "10.132.145.20",
  "10.140.101.109"
 ],
 "request abort timeout": "PT40S",
 "request cancel timeout": "PT20S",
 "resiliency": {
   "directory path": "/dir1",
   "retention duration": "PT3M"
 },
 "secondary servers": [
   "10.132.145.20",
   "10.132.145.21"
 ],
 "server progress timeout": "PT1M",
 "ssl option": "string",
 "status request interval": "PT10S",
 "svm": {
   "uuid": "string"
 },
 "type": "string"
}
```

## **Error**

```
Status: Default, Error
```

Name	Туре	Description
error	returned_error	

## Example error

## **Definitions**

#### **See Definitions**

## buffer\_size

Specifies the send and receive buffer size of the connected socket for the FPolicy server.

Name	Туре	Description
recv_buffer	integer	Specifies the receive buffer size of the connected socket for the FPolicy server. Default value is 256KB.
send_buffer	integer	Specifies the send buffer size of the connected socket for the FPolicy server. Default value 1MB.

## certificate

Provides details about certificate used to authenticate the Fpolicy server.

Name	Туре	Description
ca	string	Specifies the certificate authority (CA) name of the certificate used for authentication if SSL authentication between the SVM and the FPolicy server is configured.
name	string	Specifies the certificate name as a fully qualified domain name (FQDN) or custom common name. The certificate is used if SSL authentication between the SVM and the FPolicy server is configured.
serial_number	string	Specifies the serial number of the certificate used for authentication if SSL authentication between the SVM and the FPolicy server is configured.

## resiliency

If all primary and secondary servers are down, or if no response is received from the FPolicy servers, file access events are stored inside the storage controller under the specified resiliency-directory-path.

Name	Туре	Description
directory_path	string	Specifies the directory path under the SVM namespace, where notifications are stored in the files whenever a network outage happens.
enabled	boolean	Specifies whether the resiliency feature is enabled or not. Default is false.
retention_duration	string	Specifies the ISO-8601 duration, for which the notifications are written to files inside the storage controller during a network outage. The value for this field must be between 0 and 600 seconds. Default is 180 seconds.

## svm

Name	Туре	Description
uuid	string	SVM UUID

## error\_arguments

Name	Туре	Description
code	string	Argument code
message	string	Message argument

## returned\_error

Name	Type Description	
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

# Update a specific FPolicy engine configuration for an SVM

PATCH /protocols/fpolicy/{svm.uuid}/engines/{name}

Introduced In: 9.6

Updates a specific FPolicy engine configuration of an SVM. Modification of an FPolicy engine that is attached to one or more enabled FPolicy policies is not allowed.

## **Related ONTAP commands**

• fpolicy policy external-engine modify

## Learn more

• DOC /protocols/fpolicy/{svm.uuid}/engines

## **Parameters**

Name	Туре	In	Required	Description
name	string	path	True	
svm.uuid	string	path	True	UUID of the SVM to which this object belongs.

## **Request Body**

Name	Туре	Description	
buffer_size	buffer_size	Specifies the send and receive buffer size of the connected socket for the FPolicy server.	
certificate	certificate	Provides details about certificate used to authenticate the Fpolicy server.	
format	string	The format for the notification messages sent to the FPolicy servers. The possible values are:  • xml - Notifications sent to the FPolicy server will be formatted using the XML schema.	
		<ul> <li>protobuf - Notifications sent to the FPolicy server will be formatted using Protobuf schema, which is a binary form.</li> </ul>	

Name	Туре	Description
keep_alive_interval	string	Specifies the ISO-8601 interval time for a storage appliance to send Keep Alive message to an FPolicy server. The allowed range is between 10 to 600 seconds.
max_server_requests	integer	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. The default values are 500, 1000 or 2000 for Low-end(<64 GB memory), Mid-end(>=64 GB memory) and High-end(>=128 GB memory) Platforms respectively.
name	string	Specifies the name to assign to the external server configuration.
port	integer	Port number of the FPolicy server application.
primary_servers	array[string]	
request_abort_timeout	string	Specifies the ISO-8601 timeout duration for a screen request to be aborted by a storage appliance. The allowed range is between 0 to 200 seconds.
request_cancel_timeout	string	Specifies the ISO-8601 timeout duration for a screen request to be processed by an FPolicy server. The allowed range is between 0 to 100 seconds.
resiliency	resiliency	If all primary and secondary servers are down, or if no response is received from the FPolicy servers, file access events are stored inside the storage controller under the specified resiliency-directory-path.
secondary_servers	array[string]	

Name	Туре	Description
server_progress_timeout	string	Specifies the ISO-8601 timeout duration in which a throttled FPolicy server must complete at least one screen request. If no request is processed within the timeout, connection to the FPolicy server is terminated. The allowed range is between 0 to 100 seconds.
ssl_option	string	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.  • server_auth When set to "server_auth", only the FPolicy server is authenticated by the SVM. 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 When set to "mutual_auth", mutual authentication takes place between the SVM and the FPolicy server. This means authentication of the FPolicy server by the SVM along with authentication of the SVM by the FPolicy server. With this option, before creating the FPolicy external engine, the administrator must install the public certificate authority (CA) that signed the FPolicy server certificate authority (CA) that signed the FPolicy server certificate and key file for authentication of the SVM.

Туре	Description
string	Specifies the ISO-8601 interval time for a storage appliance to query a status request from an FPolicy server. The allowed range is between 0 to 50 seconds.
svm	
string	The notification mode determines what ONTAP does after sending notifications to FPolicy servers. The possible values are:  • synchronous - After sending a notification, wait for a response from the FPolicy server.  • asynchronous - After sending a notification, file request processing continues.  • Default value: 1
	<ul><li>enum: ["synchronous", "asynchronous"]</li></ul>
	<ul> <li>Introduced in: 9.6</li> </ul>
	<ul> <li>x-nullable: true</li> </ul>
	string

```
"certificate": {
   "ca": "TASample1",
   "name": "Sample1-FPolicy-Client",
   "serial number": "8DDE112A114D1FBC"
 },
 "format": "string",
 "keep alive interval": "PT2M",
 "max server requests": 500,
 "name": "fp ex eng",
 "port": 9876,
 "primary servers": [
   "10.132.145.20",
   "10.140.101.109"
 ],
 "request abort timeout": "PT40S",
 "request cancel timeout": "PT20S",
 "resiliency": {
   "directory path": "/dir1",
   "retention duration": "PT3M"
 },
 "secondary servers": [
   "10.132.145.20",
   "10.132.145.21"
 ],
 "server progress timeout": "PT1M",
 "ssl option": "string",
 "status request interval": "PT10S",
 "svm": {
   "uuid": "string"
 },
 "type": "string"
}
```

## Response

```
Status: 200, Ok
```

#### **Error**

Status: Default

## ONTAP Error Response Codes

Error Code	Description
9764922	The primary and secondary server has a redundant IP address
9764942	At least one FPolicy policy is using the FPolicy engine
9764886	FPolicy engine is a cluster-level FPolicy engine
9765011	The resiliency feature is not supported with mandatory screening
9765012	The specified resiliency directory path does not exist
9765042	The specified send buffer size exceeds the maximum limit
9765043	The specified receive buffer size exceeds the maximum limit
9765063	Policy with Persistent Store feature does not support a "synchronus"

Name	Туре	Description
error	returned_error	

## Example error

# **Definitions**

#### **See Definitions**

buffer\_size

Specifies the send and receive buffer size of the connected socket for the FPolicy server.

Name	Туре	Description
recv_buffer	integer	Specifies the receive buffer size of the connected socket for the FPolicy server. Default value is 256KB.
send_buffer	integer	Specifies the send buffer size of the connected socket for the FPolicy server. Default value 1MB.

## certificate

Provides details about certificate used to authenticate the Fpolicy server.

Name	Туре	Description
ca	string	Specifies the certificate authority (CA) name of the certificate used for authentication if SSL authentication between the SVM and the FPolicy server is configured.
name	string	Specifies the certificate name as a fully qualified domain name (FQDN) or custom common name. The certificate is used if SSL authentication between the SVM and the FPolicy server is configured.
serial_number	string	Specifies the serial number of the certificate used for authentication if SSL authentication between the SVM and the FPolicy server is configured.

## resiliency

If all primary and secondary servers are down, or if no response is received from the FPolicy servers, file access events are stored inside the storage controller under the specified resiliency-directory-path.

Name	Туре	Description
directory_path	string	Specifies the directory path under the SVM namespace, where notifications are stored in the files whenever a network outage happens.
enabled	boolean	Specifies whether the resiliency feature is enabled or not. Default is false.
retention_duration	string	Specifies the ISO-8601 duration, for which the notifications are written to files inside the storage controller during a network outage. The value for this field must be between 0 and 600 seconds. Default is 180 seconds.

## svm

Name	Туре	Description
uuid	string	SVM UUID

## fpolicy\_engine

Defines how ONTAP makes and manages connections to external FPolicy servers.

Name	Туре	Description
buffer_size	buffer_size	Specifies the send and receive buffer size of the connected socket for the FPolicy server.
certificate	certificate	Provides details about certificate used to authenticate the Fpolicy server.

Name	Туре	Description
format	string	The format for the notification messages sent to the FPolicy servers. The possible values are:  • xml - Notifications sent to the FPolicy server will be formatted using the XML schema.  • protobuf - Notifications sent to the FPolicy server will be formatted using Protobuf schema, which is a binary form.
keep_alive_interval	string	Specifies the ISO-8601 interval time for a storage appliance to send Keep Alive message to an FPolicy server. The allowed range is between 10 to 600 seconds.
max_server_requests	integer	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. The default values are 500, 1000 or 2000 for Lowend(<64 GB memory), Midend(>=64 GB memory) and Highend(>=128 GB memory)
name	string	Specifies the name to assign to the external server configuration.
port	integer	Port number of the FPolicy server application.
primary_servers	array[string]	
request_abort_timeout	string	Specifies the ISO-8601 timeout duration for a screen request to be aborted by a storage appliance. The allowed range is between 0 to 200 seconds.

Name	Туре	Description
request_cancel_timeout	string	Specifies the ISO-8601 timeout duration for a screen request to be processed by an FPolicy server. The allowed range is between 0 to 100 seconds.
resiliency	resiliency	If all primary and secondary servers are down, or if no response is received from the FPolicy servers, file access events are stored inside the storage controller under the specified resiliency-directorypath.
secondary_servers	array[string]	
server_progress_timeout	string	Specifies the ISO-8601 timeout duration in which a throttled FPolicy server must complete at least one screen request. If no request is processed within the timeout, connection to the FPolicy server is terminated. The allowed range is between 0 to 100 seconds.

Name	Туре	Description
ssl_option	string	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.  • server_auth When set to "server_auth", only the FPolicy server is authenticated by the SVM. 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 SVM and the FPolicy server. This means authentication of the FPolicy server by the SVM along with authentication of the SVM by the FPolicy server. With this option, before creating the FPolicy external engine, the administrator must install the public certificate authority (CA) that signed the FPolicy server certificate and key file for authentication of the SVM.
status_request_interval	string	Specifies the ISO-8601 interval time for a storage appliance to query a status request from an FPolicy server. The allowed range is between 0 to 50 seconds.
svm	svm	

N	Name	Туре	Description
ţ	ype	string	The notification mode determines what ONTAP does after sending notifications to FPolicy servers. The possible values are:
			<ul> <li>synchronous - After sending a notification, wait for a response from the FPolicy server.</li> </ul>
			<ul> <li>asynchronous - After sending a notification, file request processing continues.</li> </ul>
			<ul> <li>Default value: 1</li> </ul>
			<ul><li>enum: ["synchronous", "asynchronous"]</li></ul>
			<ul><li>Introduced in: 9.6</li></ul>
			x-nullable: true

## error\_arguments

Name	Туре	Description
code	string	Argument code
message	string	Message argument

## returned\_error

Name	Туре	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

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