



Manage FPolicy configuration

ONTAP 9.9.1 REST API reference

NetApp
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Manage FPolicy configuration

Protocols fpolicy endpoint overview

Overview

FPolicy is an infrastructure component of ONTAP that enables partner applications to connect to ONTAP in order to monitor and set file access permissions. Every time a client accesses a file from a storage system, based on the configuration of FPolicy, the partner application is notified about file access. This enables partners to set restrictions on files that are created or accessed on the storage system. FPolicy also allows you to create file policies that specify file operation permissions according to file type. For example, you can restrict certain file types, such as .jpeg and .mp3 files, from being stored on the storage system. FPolicy can monitor file access from CIFS and NFS clients.

As part of FPolicy configuration, you can specify an FPolicy engine which defines the external FPolicy server, FPolicy events, which defines the protocol and file operations to monitor and the FPolicy policy that acts as a container for the FPolicy engine and FPolicy events. It provides a way for policy management functions, such as policy enabling and disabling.

Examples

Creating an FPolicy configuration

To create an FPolicy for an SVM use the following API. Note that the *return_records=true* query parameter is used to obtain the newly created entry in the response.

```
# The API:
POST /protocols/fpolicy/

#The call:
curl -X POST "https://<mgmt-ip>/api/protocols/fpolicy?return_records=true"
-H "accept: application/json" -H "Content-Type: application/json" -d "{
  \"engines\": [ { \"name\": \"engine1\", \"port\": 9876,
  \"primary_servers\": [ \"10.132.145.22\", \"10.140.101.109\" ],
  \"secondary_servers\": [ \"10.132.145.20\", \"10.132.145.21\" ], \"type\":
  \"synchronous\" } ], \"events\": [ { \"file_operations\": { \"read\":
  true, \"write\": true }, \"filters\": { \"monitor_ads\": true }, \"name\":
  \"event_cifs\", \"protocol\": \"cifs\", \"volume_monitoring\": true } ],
  \"policies\": [ { \"engine\": { \"name\": \"engine1\" }, \"events\": [ {
  \"name\": \"event_cifs\" } ], \"mandatory\": true, \"name\": \"pol0\",
  \"priority\": 1, \"scope\": { \"include_volumes\": [ \"vol1\" ] } } ],
  \"svm\": { \"name\": \"vs1\", \"uuid\": \"b34f5e3d-01d0-11e9-8f63-
  0050568ea311\" } } }
```

```
# The response:
{
  \"num_records\": 1,
  \"records\": [
```

```

{
  "svm": {
    "uuid": "b34f5e3d-01d0-11e9-8f63-0050568ea311",
    "name": "vs1"
  },
  "engines": [
    {
      "name": "engine1",
      "primary_servers": [
        "10.132.145.22",
        "10.140.101.109"
      ],
      "secondary_servers": [
        "10.132.145.20",
        "10.132.145.21"
      ],
      "type": "synchronous",
      "port": 9876
    }
  ],
  "events": [
    {
      "name": "event_cifs",
      "protocol": "cifs",
      "volume_monitoring": true,
      "file_operations": {
        "read": true,
        "write": true
      },
      "filters": {
        "monitor_ads": true
      }
    }
  ],
  "policies": [
    {
      "name": "pol0",
      "priority": 1,
      "events": [
        {
          "name": "event_cifs"
        }
      ],
      "engine": {
        "name": "engine1"
      }
    }
  ],

```

```
    "scope": {
      "include_volumes": [
        "voll1"
      ]
    },
    "mandatory": true
  }
]
}
```

Retrieving the FPolicy configuration for all the SVMs in the cluster

```
# The API:
GET /protocols/fpolicy

# The call:
curl -X GET "https://<mgmt-
ip>/api/protocols/fpolicy?fields=*&return_records=true&return_timeout=15"
-H "accept: application/json"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "b34f5e3d-01d0-11e9-8f63-0050568ea311",
        "name": "vs1"
      },
      "engines": [
        {
          "name": "engine1",
          "primary_servers": [
            "10.132.145.22",
            "10.140.101.109"
          ],
          "secondary_servers": [
            "10.132.145.20",
            "10.132.145.21"
          ],
          "type": "synchronous",
```

```
    "port": 9876
  }
],
"events": [
  {
    "name": "event_cifs",
    "protocol": "cifs",
    "volume_monitoring": true,
    "file_operations": {
      "close": false,
      "create": false,
      "create_dir": false,
      "delete": false,
      "delete_dir": false,
      "getattr": false,
      "link": false,
      "lookup": false,
      "open": false,
      "read": true,
      "write": true,
      "rename": false,
      "rename_dir": false,
      "setattr": false,
      "symlink": false
    },
    "filters": {
      "monitor_ads": true,
      "close_with_modification": false,
      "close_without_modification": false,
      "close_with_read": false,
      "first_read": false,
      "first_write": false,
      "offline_bit": false,
      "open_with_delete_intent": false,
      "open_with_write_intent": false,
      "write_with_size_change": false,
      "setattr_with_owner_change": false,
      "setattr_with_group_change": false,
      "setattr_with_sacl_change": false,
      "setattr_with_dacl_change": false,
      "setattr_with_modify_time_change": false,
      "setattr_with_access_time_change": false,
      "setattr_with_creation_time_change": false,
      "setattr_with_mode_change": false,
      "setattr_with_size_change": false,
      "setattr_with_allocation_size_change": false,
    }
  }
]
```

```

        "exclude_directory": false
    }
}
],
"policies": [
{
    "name": "pol0",
    "enabled": true,
    "priority": 1,
    "events": [
        {
            "name": "event_cifs"
        }
    ],
    "engine": {
        "name": "engine1"
    },
    "scope": {
        "include_volumes": [
            "voll"
        ]
    },
    "mandatory": true
}
]
}
],
"num_records": 1
}

```

Retrieving an FPolicy configuration for a particular SVM

```

# The API:
GET /protocols/fpolicy/{svm.uuid}

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/fpolicy/b34f5e3d-01d0-11e9-8f63-0050568ea311?fields=*&return_records=true&return_timeout=15" -H
"accept: application/json"

# The response:
{

```

```
"svm": {
  "uuid": "b34f5e3d-01d0-11e9-8f63-0050568ea311",
  "name": "vs1"
},
"engines": [
  {
    "name": "engine1",
    "primary_servers": [
      "10.132.145.22",
      "10.140.101.109"
    ],
    "secondary_servers": [
      "10.132.145.20",
      "10.132.145.21"
    ],
    "type": "synchronous",
    "port": 9876
  }
],
"events": [
  {
    "name": "event_cifs",
    "protocol": "cifs",
    "volume_monitoring": true,
    "file_operations": {
      "close": false,
      "create": false,
      "create_dir": false,
      "delete": false,
      "delete_dir": false,
      "getattr": false,
      "link": false,
      "lookup": false,
      "open": false,
      "read": true,
      "write": true,
      "rename": false,
      "rename_dir": false,
      "setattr": false,
      "symlink": false
    },
    "filters": {
      "monitor_ads": true,
      "close_with_modification": false,
      "close_without_modification": false,
      "close_with_read": false,

```



```
"first_read": false,
"first_write": false,
"offline_bit": false,
"open_with_delete_intent": false,
"open_with_write_intent": false,
"write_with_size_change": false,
"setattr_with_owner_change": false,
"setattr_with_group_change": false,
"setattr_with_sacl_change": false,
"setattr_with_dacl_change": false,
"setattr_with_modify_time_change": false,
"setattr_with_access_time_change": false,
"setattr_with_creation_time_change": false,
"setattr_with_mode_change": false,
"setattr_with_size_change": false,
"setattr_with_allocation_size_change": false,
"exclude_directory": false
}
}
],
"policies": [
{
  "name": "pol0",
  "enabled": true,
  "priority": 1,
  "events": [
    {
      "name": "event_cifs"
    }
  ],
  "engine": {
    "name": "engine1"
  },
  "scope": {
    "include_volumes": [
      "voll"
    ]
  },
  "mandatory": true
}
]
}
```

Deleting an FPolicy configuration for a particular SVM

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

# The call:
curl -X DELETE "https://<mgmt-ip>/api/protocols/fpolicy/b34f5e3d-01d0-11e9-8f63-0050568ea311" -H "accept: application/json"
```

Retrieve an FPolicy configuration

GET /protocols/fpolicy

Introduced In: 9.6

Retrieves an FPolicy configuration.

Related ONTAP commands

- `fpolicy show`
- `fpolicy policy show`
- `fpolicy policy scope show`
- `fpolicy policy event show`
- `fpolicy policy external-engine show`

Learn more

- [DOC /protocols/fpolicy](#)

Parameters

| Name | Type | In | Required | Description |
|---------------------------|--------|-------|----------|-------------------------------------|
| svm.uuid | string | query | False | Filter by svm.uuid |
| svm.name | string | query | False | Filter by svm.name |
| engines.secondary_servers | string | query | False | Filter by engines.secondary_servers |

| Name | Type | In | Required | Description |
|-----------------------------------|-------------|-----------|-----------------|---|
| engines.type | string | query | False | Filter by engines.type |
| engines.primary_servers | string | query | False | Filter by engines.primary_servers |
| engines.port | integer | query | False | Filter by engines.port |
| engines.name | string | query | False | Filter by engines.name |
| events.file_operations.read | boolean | query | False | Filter by events.file_operations.read |
| events.file_operations.rename | boolean | query | False | Filter by events.file_operations.rename |
| events.file_operations.close | boolean | query | False | Filter by events.file_operations.close |
| events.file_operations.symlink | boolean | query | False | Filter by events.file_operations.symlink |
| events.file_operations.write | boolean | query | False | Filter by events.file_operations.write |
| events.file_operations.link | boolean | query | False | Filter by events.file_operations.link |
| events.file_operations.delete_dir | boolean | query | False | Filter by events.file_operations.delete_dir |
| events.file_operations.lookup | boolean | query | False | Filter by events.file_operations.lookup |

| Name | Type | In | Required | Description |
|--|-------------|-----------|-----------------|---|
| events.file_operation s.rename_dir | boolean | query | False | Filter by events.file_operation s.rename_dir |
| events.file_operation s.getattr | boolean | query | False | Filter by events.file_operation s.getattr |
| events.file_operation s.setattr | boolean | query | False | Filter by events.file_operation s.setattr |
| events.file_operation s.create_dir | boolean | query | False | Filter by events.file_operation s.create_dir |
| events.file_operation s.delete | boolean | query | False | Filter by events.file_operation s.delete |
| events.file_operation s.open | boolean | query | False | Filter by events.file_operation s.open |
| events.file_operation s.create | boolean | query | False | Filter by events.file_operation s.create |
| events.protocol | string | query | False | Filter by events.protocol |
| events.volume_moni toring | boolean | query | False | Filter by events.volume_moni toring |
| events.filters.setattr_ with_access_time_c hange | boolean | query | False | Filter by events.filters.setattr_ with_access_time_c hange |
| events.filters.setattr_ with_sacl_change | boolean | query | False | Filter by events.filters.setattr_ with_sacl_change |
| events.filters.setattr_ with_size_change | boolean | query | False | Filter by events.filters.setattr_ with_size_change |

| Name | Type | In | Required | Description |
|--|---------|-------|----------|--|
| events.filters.setattr_with_allocation_size_change | boolean | query | False | Filter by events.filters.setattr_with_allocation_size_change |
| events.filters.setattr_with_modify_time_change | boolean | query | False | Filter by events.filters.setattr_with_modify_time_change |
| events.filters.write_with_size_change | boolean | query | False | Filter by events.filters.write_with_size_change |
| events.filters.setattr_with_mode_change | boolean | query | False | Filter by events.filters.setattr_with_mode_change |
| events.filters.monitor_ads | boolean | query | False | Filter by events.filters.monitor_ads |
| events.filters.close_with_modification | boolean | query | False | Filter by events.filters.close_with_modification |
| events.filters.first_read | boolean | query | False | Filter by events.filters.first_read |
| events.filters.setattr_with_owner_change | boolean | query | False | Filter by events.filters.setattr_with_owner_change |
| events.filters.first_write | boolean | query | False | Filter by events.filters.first_write |
| events.filters.setattr_with_creation_time_change | boolean | query | False | Filter by events.filters.setattr_with_creation_time_change |
| events.filters.setattr_with_dacl_change | boolean | query | False | Filter by events.filters.setattr_with_dacl_change |

| Name | Type | In | Required | Description |
|---|---------|-------|----------|---|
| events.filters.exclude_directory | boolean | query | False | Filter by events.filters.exclude_directory |
| events.filters.offline_bit | boolean | query | False | Filter by events.filters.offline_bit |
| events.filters.open_with_write_intent | boolean | query | False | Filter by events.filters.open_with_write_intent |
| events.filters.setattr_with_group_change | boolean | query | False | Filter by events.filters.setattr_with_group_change |
| events.filters.close_without_modification | boolean | query | False | Filter by events.filters.close_without_modification |
| events.filters.close_with_read | boolean | query | False | Filter by events.filters.close_with_read |
| events.filters.open_with_delete_intent | boolean | query | False | Filter by events.filters.open_with_delete_intent |
| events.name | string | query | False | Filter by events.name |
| policies.enabled | boolean | query | False | Filter by policies.enabled |
| policies.scope.exclude_volumes | string | query | False | Filter by policies.scope.exclude_volumes |
| policies.scope.include_export_policies | string | query | False | Filter by policies.scope.include_export_policies |
| policies.scope.exclude_shares | string | query | False | Filter by policies.scope.exclude_shares |

| Name | Type | In | Required | Description |
|--|---------------|-------|----------|--|
| policies.scope.include_volumes | string | query | False | Filter by policies.scope.include_volumes |
| policies.scope.include_extension | string | query | False | Filter by policies.scope.include_extension |
| policies.scope.exclude_extension | string | query | False | Filter by policies.scope.exclude_extension |
| policies.scope.exclude_export_policies | string | query | False | Filter by policies.scope.exclude_export_policies |
| policies.scope.include_shares | string | query | False | Filter by policies.scope.include_shares |
| policies.priority | integer | query | False | Filter by policies.priority |
| policies.events.name | string | query | False | Filter by policies.events.name |
| policies.engine.name | string | query | False | Filter by policies.engine.name |
| policies.mandatory | boolean | query | False | Filter by policies.mandatory |
| policies.name | string | query | False | Filter by policies.name |
| fields | array[string] | query | False | Specify the fields to return. |
| max_records | integer | query | False | Limit the number of records returned. |

| Name | Type | 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • Default value: 1 • Max value: 120 • Min value: 0 |
| order_by | array[string] | query | False | Order results by specified fields and optional [asc |

Response

Status: 200, Ok

| Name | Type | Description |
|-------------|----------------------------------|-------------------|
| _links | _links | |
| num_records | integer | Number of records |
| records | array[fpolicy] | |

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "engines": {
      "name": "fp_ex_eng",
      "port": "9876",
      "primary_servers": [
        "10.132.145.20",
        "10.140.101.109"
      ],
      "secondary_servers": [
        "10.132.145.20",
        "10.132.145.21"
      ],
      "type": "synchronous"
    },
    "events": {
      "name": "event_nfs_close",
      "protocol": "cifs"
    },
    "policies": {
      "engine": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        }
      }
    },
    "events": [
      "event_nfs_close",
      "event_open"
    ],
  },
}
```

```

"name": "fp_policy_1",
"scope": {
  "exclude_export_policies": {
  },
  "exclude_extension": {
  },
  "exclude_shares": {
  },
  "exclude_volumes": [
    "voll",
    "vol_svm1",
    "*"
  ],
  "include_export_policies": {
  },
  "include_extension": {
  },
  "include_shares": [
    "sh1",
    "share_cifs"
  ],
  "include_volumes": [
    "voll",
    "vol_svm1"
  ]
},
},
"svm": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
},
"name": "svm1",
"uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
}
}
}

```

Error

Status: Default, Error

| Name | Type | Description |
|-------|-------|-------------|
| error | error | |

Example error

```
{
  "error": {
    "arguments": {
      "code": "string",
      "message": "string"
    },
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

| Name | Type | Description |
|------|--------|-------------|
| href | string | |

_links

| Name | Type | Description |
|------|----------------------|-------------|
| next | href | |
| self | href | |

_links

| Name | Type | Description |
|------|----------------------|-------------|
| self | href | |

fpolicy_engine

The engine defines how ONTAP makes and manages connections to external FPolicy servers.

| Name | Type | Description |
|-------------------|---------------|--|
| 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] | |
| secondary_servers | array[string] | |

| Name | Type | Description |
|------|--------|---|
| type | string | <p>The notification mode determines what ONTAP does after sending notifications to FPolicy servers. The possible values are:</p> <ul style="list-style-type: none"> • synchronous - After sending a notification, wait for a response from the FPolicy server. • asynchronous - After sending a notification, file request processing continues. <ul style="list-style-type: none"> ◦ Default value: 1 ◦ enum: ["synchronous", "asynchronous"] ◦ Introduced in: 9.6 |

file_operations

Specifies the file operations for the FPolicy event. You must specify a valid protocol in the protocol parameter. The event will check the operations specified from all client requests using the protocol.

| Name | Type | Description |
|------------|---------|-----------------------------|
| close | boolean | File close operations |
| create | boolean | File create operations |
| create_dir | boolean | Directory create operations |
| delete | boolean | File delete operations |
| delete_dir | boolean | Directory delete operations |
| getattr | boolean | Get attribute operations |
| link | boolean | Link operations |
| lookup | boolean | Lookup operations |
| open | boolean | File open operations |
| read | boolean | File read operations |
| rename | boolean | File rename operations |

| Name | Type | Description |
|------------|---------|-----------------------------|
| rename_dir | boolean | Directory rename operations |
| setattr | boolean | Set attribute operations |
| symlink | boolean | Symbolic link operations |
| write | boolean | File write operations |

filters

Specifies the list of filters for a given file operation for the specified protocol. When you specify the filters, you must specify the valid protocols and a valid file operations.

| Name | Type | Description |
|----------------------------|---------|--|
| close_with_modification | boolean | Filter the client request for close with modification. |
| close_with_read | boolean | Filter the client request for close with read. |
| close_without_modification | boolean | Filter the client request for close without modification. |
| exclude_directory | boolean | Filter the client requests for directory operations. When this filter is specified directory operations are not monitored. |
| first_read | boolean | Filter the client requests for the first-read. |
| first_write | boolean | Filter the client requests for the first-write. |
| monitor_ads | boolean | Filter the client request for alternate data stream. |
| offline_bit | boolean | Filter the client request for offline bit set. FPolicy server receives notification only when offline files are accessed. |
| open_with_delete_intent | boolean | Filter the client request for open with delete intent. |

| Name | Type | Description |
|-------------------------------------|-------------|---|
| open_with_write_intent | boolean | Filter the client request for open with write intent. |
| setattr_with_access_time_change | boolean | Filter the client setattr requests for changing the access time of a file or directory. |
| setattr_with_allocation_size_change | boolean | Filter the client setattr requests for changing the allocation size of a file. |
| setattr_with_creation_time_change | boolean | Filter the client setattr requests for changing the creation time of a file or directory. |
| setattr_with_dacl_change | boolean | Filter the client setattr requests for changing dacl on a file or directory. |
| setattr_with_group_change | boolean | Filter the client setattr requests for changing group of a file or directory. |
| setattr_with_mode_change | boolean | Filter the client setattr requests for changing the mode bits on a file or directory. |
| setattr_with_modify_time_change | boolean | Filter the client setattr requests for changing the modification time of a file or directory. |
| setattr_with_owner_change | boolean | Filter the client setattr requests for changing owner of a file or directory. |
| setattr_with_sacl_change | boolean | Filter the client setattr requests for changing sacl on a file or directory. |
| setattr_with_size_change | boolean | Filter the client setattr requests for changing the size of a file. |
| write_with_size_change | boolean | Filter the client request for write with size change. |

fpolicy_event

The information that a FPolicy process needs to determine what file access operations to monitor and for which of the monitored events notifications should be sent to the external FPolicy server.

| Name | Type | Description |
|-------------------|---------------------------------|---|
| file_operations | file_operations | Specifies the file operations for the FPolicy event. You must specify a valid protocol in the protocol parameter. The event will check the operations specified from all client requests using the protocol. |
| filters | filters | Specifies the list of filters for a given file operation for the specified protocol. When you specify the filters, you must specify the valid protocols and a valid file operations. |
| name | string | Specifies the name of the FPolicy event. |
| protocol | string | Protocol for which event is created. If you specify protocol, then you must also specify a valid value for the file operation parameters. The value of this parameter must be one of the following: <ul style="list-style-type: none"> • cifs - for the CIFS protocol. • nfsv3 - for the NFSv3 protocol. • nfsv4 - for the NFSv4 protocol. |
| volume_monitoring | boolean | Specifies whether volume operation monitoring is required. |

fpolicy_engine_reference

FPolicy external engine

| Name | Type | Description |
|--------|------------------------|--|
| _links | _links | |
| name | string | The name of the FPolicy external engine. |

fpolicy_event_reference

FPolicy events

| Name | Type | Description |
|--------|------------------------|-------------|
| _links | _links | |
| name | string | |

scope

| Name | Type | Description |
|-------------------------|---------------|-------------|
| exclude_export_policies | array[string] | |
| exclude_extension | array[string] | |
| exclude_shares | array[string] | |
| exclude_volumes | array[string] | |
| include_export_policies | array[string] | |
| include_extension | array[string] | |
| include_shares | array[string] | |
| include_volumes | array[string] | |

fpolicy_policy

| Name | Type | Description |
|-----------|--|--|
| enabled | boolean | Specifies if the policy is enabled on the SVM or not. If no value is mentioned for this field but priority is set, then this policy will be enabled. |
| engine | fpolicy_engine_reference | FPolicy external engine |
| events | array[fpolicy_event_reference] | |
| mandatory | boolean | 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. |
| name | string | Specifies the name of the policy. |

| Name | Type | Description |
|----------|-----------------------|---|
| priority | integer | Specifies the priority that is assigned to this policy. |
| scope | scope | |

svm

| Name | Type | Description |
|------------------------|------------------------|-----------------------------------|
| _links | _links | |
| name | string | The name of the SVM. |
| uuid | string | The unique identifier of the SVM. |

fpolicy

FPolicy is an infrastructure component of ONTAP that enables partner applications connected to your storage systems to monitor and set file access permissions. Every time a client accesses a file from a storage system, based on the configuration of FPolicy, the partner application is notified about file access.

| Name | Type | Description |
|------------------------|---|-------------|
| _links | _links | |
| engines | array[fpolicy_engine] | |
| events | array[fpolicy_event] | |
| policies | array[fpolicy_policy] | |
| svm | svm | |

error_arguments

| Name | Type | Description |
|---------|--------|------------------|
| code | string | Argument code |
| message | string | Message argument |

error

| Name | Type | Description |
|-----------|--|-------------------|
| arguments | array[error_arguments] | Message arguments |
| code | string | Error code |
| message | string | Error message |

| Name | Type | Description |
|--------|--------|---|
| target | string | The target parameter that caused the error. |

Create an FPolicy configuration

POST /protocols/fpolicy

Introduced In: 9.6

Creates an FPolicy configuration.

Required properties

- `svm.uuid` or `svm.name` - Existing SVM in which to create the FPolicy configuration.

Recommended optional properties

- `engines` - External server to which the notifications will be sent.
- `events` - File operations to monitor.
- `policies` - Policy configuration which acts as a container for FPolicy event and FPolicy engine.
- `scope` - Scope of the policy. Can be limited to exports, volumes, shares or file extensions.

Default property values

If not specified in POST, the following default property values are assigned:

- `engines.type` - *synchronous*
- `policies.engine` - *native*
- `policies.mandatory` - *true*
- `events.volume_monitoring` - *false*
- `events.file_operations.*` - *false*
- `events.filters.*` - *false*

Related ONTAP commands

- `fpolicy policy event create`
- `fpolicy policy external-engine create`
- `fpolicy policy create`
- `fpolicy policy scope create`
- `fpolicy enable`

Learn more

- [DOC /protocols/fpolicy](#)

Parameters

| Name | Type | In | Required | Description |
|----------------|---------|-------|----------|---|
| return_records | boolean | query | False | The default is false. If set to true, the records are returned. <ul style="list-style-type: none">• Default value: |

Request Body

| Name | Type | Description |
|----------|---|-------------|
| _links | _links | |
| engines | array[fpolicy_engine] | |
| events | array[fpolicy_event] | |
| policies | array[fpolicy_policy] | |
| svm | svm | |

Example request

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "engines": {
    "name": "fp_ex_eng",
    "port": "9876",
    "primary_servers": [
      "10.132.145.20",
      "10.140.101.109"
    ],
    "secondary_servers": [
      "10.132.145.20",
      "10.132.145.21"
    ],
    "type": "synchronous"
  },
  "events": {
    "name": "event_nfs_close",
    "protocol": "cifs"
  },
  "policies": {
    "engine": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      }
    }
  },
  "events": [
    "event_nfs_close",
    "event_open"
  ],
  "name": "fp_policy_1",
  "scope": {
    "exclude_export_policies": {
    },
    "exclude_extension": {
    },
    "exclude_shares": {
    },
    "exclude_volumes": [

```

```

        "vol1",
        "vol_svm1",
        "*"
    ],
    "include_export_policies": {
    },
    "include_extension": {
    },
    "include_shares": [
        "sh1",
        "share_cifs"
    ],
    "include_volumes": [
        "vol1",
        "vol_svm1"
    ]
    }
},
"svm": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "name": "svm1",
  "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
}
}

```

Response

Status: 201, Created

| Name | Type | Description |
|-------------|----------------------------------|-------------------|
| _links | _links | |
| num_records | integer | Number of records |
| records | array[fpolicy] | |

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "engines": {
      "name": "fp_ex_eng",
      "port": "9876",
      "primary_servers": [
        "10.132.145.20",
        "10.140.101.109"
      ],
      "secondary_servers": [
        "10.132.145.20",
        "10.132.145.21"
      ],
      "type": "synchronous"
    },
    "events": {
      "name": "event_nfs_close",
      "protocol": "cifs"
    },
    "policies": {
      "engine": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        }
      }
    },
    "events": [
      "event_nfs_close",
      "event_open"
    ],
  },
}
```

```

"name": "fp_policy_1",
"scope": {
  "exclude_export_policies": {
  },
  "exclude_extension": {
  },
  "exclude_shares": {
  },
  "exclude_volumes": [
    "voll",
    "vol_svm1",
    "*"
  ],
  "include_export_policies": {
  },
  "include_extension": {
  },
  "include_shares": [
    "sh1",
    "share_cifs"
  ],
  "include_volumes": [
    "voll",
    "vol_svm1"
  ]
},
},
"svm": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
},
"name": "svm1",
"uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
}
}
}

```

Error

Status: Default

ONTAP Error Response Codes

| Error Code | Description |
|------------|--|
| 9765032 | The FPolicy engine, FPolicy event or FPolicy policy specified already exists |
| 9765031 | If any of the FPolicy engine, FPolicy event, or FPolicy policy creation fails due to a systematic error or hardware failure, the cause of the failure is detailed in the error message |
| 2621706 | The SVM UUID specified belongs to different SVM |
| 2621462 | The SVM name specified does not exist |

| Name | Type | Description |
|-------|-------|-------------|
| error | error | |

Example error

```

{
  "error": {
    "arguments": {
      "code": "string",
      "message": "string"
    },
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}

```

Definitions

See Definitions

href

| Name | Type | Description |
|------|--------|-------------|
| href | string | |

_links

| Name | Type | Description |
|------|----------------------|-------------|
| self | href | |

fpolicy_engine

The engine defines how ONTAP makes and manages connections to external FPolicy servers.

| Name | Type | Description |
|-------------------|---------------|--|
| 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] | |
| secondary_servers | array[string] | |
| type | string | <p>The notification mode determines what ONTAP does after sending notifications to FPolicy servers. The possible values are:</p> <ul style="list-style-type: none">• synchronous - After sending a notification, wait for a response from the FPolicy server.• asynchronous - After sending a notification, file request processing continues.<ul style="list-style-type: none">◦ Default value: 1◦ enum: ["synchronous", "asynchronous"]◦ Introduced in: 9.6 |

file_operations

Specifies the file operations for the FPolicy event. You must specify a valid protocol in the protocol parameter. The event will check the operations specified from all client requests using the protocol.

| Name | Type | Description |
|------------|---------|-----------------------------|
| close | boolean | File close operations |
| create | boolean | File create operations |
| create_dir | boolean | Directory create operations |
| delete | boolean | File delete operations |
| delete_dir | boolean | Directory delete operations |
| getattr | boolean | Get attribute operations |
| link | boolean | Link operations |
| lookup | boolean | Lookup operations |
| open | boolean | File open operations |
| read | boolean | File read operations |
| rename | boolean | File rename operations |
| rename_dir | boolean | Directory rename operations |
| setattr | boolean | Set attribute operations |
| symlink | boolean | Symbolic link operations |
| write | boolean | File write operations |

filters

Specifies the list of filters for a given file operation for the specified protocol. When you specify the filters, you must specify the valid protocols and a valid file operations.

| Name | Type | Description |
|-------------------------|---------|--|
| close_with_modification | boolean | Filter the client request for close with modification. |
| close_with_read | boolean | Filter the client request for close with read. |

| Name | Type | Description |
|-------------------------------------|-------------|--|
| close_without_modification | boolean | Filter the client request for close without modification. |
| exclude_directory | boolean | Filter the client requests for directory operations. When this filter is specified directory operations are not monitored. |
| first_read | boolean | Filter the client requests for the first-read. |
| first_write | boolean | Filter the client requests for the first-write. |
| monitor_ads | boolean | Filter the client request for alternate data stream. |
| offline_bit | boolean | Filter the client request for offline bit set. FPolicy server receives notification only when offline files are accessed. |
| open_with_delete_intent | boolean | Filter the client request for open with delete intent. |
| open_with_write_intent | boolean | Filter the client request for open with write intent. |
| setattr_with_access_time_change | boolean | Filter the client setattr requests for changing the access time of a file or directory. |
| setattr_with_allocation_size_change | boolean | Filter the client setattr requests for changing the allocation size of a file. |
| setattr_with_creation_time_change | boolean | Filter the client setattr requests for changing the creation time of a file or directory. |
| setattr_with_dacl_change | boolean | Filter the client setattr requests for changing dacl on a file or directory. |
| setattr_with_group_change | boolean | Filter the client setattr requests for changing group of a file or directory. |

| Name | Type | Description |
|---------------------------------|---------|---|
| setattr_with_mode_change | boolean | Filter the client setattr requests for changing the mode bits on a file or directory. |
| setattr_with_modify_time_change | boolean | Filter the client setattr requests for changing the modification time of a file or directory. |
| setattr_with_owner_change | boolean | Filter the client setattr requests for changing owner of a file or directory. |
| setattr_with_sacl_change | boolean | Filter the client setattr requests for changing sacl on a file or directory. |
| setattr_with_size_change | boolean | Filter the client setattr requests for changing the size of a file. |
| write_with_size_change | boolean | Filter the client request for write with size change. |

fpolicy_event

The information that a FPolicy process needs to determine what file access operations to monitor and for which of the monitored events notifications should be sent to the external FPolicy server.

| Name | Type | Description |
|-----------------|---------------------------------|--|
| file_operations | file_operations | Specifies the file operations for the FPolicy event. You must specify a valid protocol in the protocol parameter. The event will check the operations specified from all client requests using the protocol. |
| filters | filters | Specifies the list of filters for a given file operation for the specified protocol. When you specify the filters, you must specify the valid protocols and a valid file operations. |
| name | string | Specifies the name of the FPolicy event. |

| Name | Type | Description |
|-------------------|---------|---|
| protocol | string | Protocol for which event is created. If you specify protocol, then you must also specify a valid value for the file operation parameters. The value of this parameter must be one of the following: <ul style="list-style-type: none"> • cifs - for the CIFS protocol. • nfsv3 - for the NFSv3 protocol. • nfsv4 - for the NFSv4 protocol. |
| volume_monitoring | boolean | Specifies whether volume operation monitoring is required. |

fpolicy_engine_reference

FPolicy external engine

| Name | Type | Description |
|--------|------------------------|--|
| _links | _links | |
| name | string | The name of the FPolicy external engine. |

fpolicy_event_reference

FPolicy events

| Name | Type | Description |
|--------|------------------------|-------------|
| _links | _links | |
| name | string | |

scope

| Name | Type | Description |
|-------------------------|---------------|-------------|
| exclude_export_policies | array[string] | |
| exclude_extension | array[string] | |
| exclude_shares | array[string] | |
| exclude_volumes | array[string] | |
| include_export_policies | array[string] | |

| Name | Type | Description |
|-------------------|---------------|-------------|
| include_extension | array[string] | |
| include_shares | array[string] | |
| include_volumes | array[string] | |

fpolicy_policy

| Name | Type | Description |
|-----------|--|--|
| enabled | boolean | Specifies if the policy is enabled on the SVM or not. If no value is mentioned for this field but priority is set, then this policy will be enabled. |
| engine | fpolicy_engine_reference | FPolicy external engine |
| events | array[fpolicy_event_reference] | |
| mandatory | boolean | 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. |
| name | string | Specifies the name of the policy. |
| priority | integer | Specifies the priority that is assigned to this policy. |
| scope | scope | |

svm

| Name | Type | Description |
|--------|------------------------|-----------------------------------|
| _links | _links | |
| name | string | The name of the SVM. |
| uuid | string | The unique identifier of the SVM. |

fpolicy

FPolicy is an infrastructure component of ONTAP that enables partner applications connected to your

storage systems to monitor and set file access permissions. Every time a client accesses a file from a storage system, based on the configuration of FPolicy, the partner application is notified about file access.

| Name | Type | Description |
|----------|---|-------------|
| _links | _links | |
| engines | array[fpolicy_engine] | |
| events | array[fpolicy_event] | |
| policies | array[fpolicy_policy] | |
| svm | svm | |

_links

| Name | Type | Description |
|------|----------------------|-------------|
| next | href | |
| self | href | |

error_arguments

| Name | Type | Description |
|---------|--------|------------------|
| code | string | Argument code |
| message | string | Message argument |

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. |

Delete the FPolicy configuration for an SVM

```
DELETE /protocols/fpolicy/{svm.uuid}
```

Introduced In: 9.6

Deletes the FPolicy configuration for the specified SVM. Before deleting the FPolicy configuration, ensure that all policies belonging to the SVM are disabled.

Related ONTAP commands

- `fpolicy delete`
- `fpolicy policy scope delete`
- `fpolicy policy delete`
- `fpolicy policy event delete`
- `fpolicy policy external-engine delete`

Learn more

- [DOC /protocols/fpolicy](#)

Parameters

| Name | Type | In | Required | Description |
|----------|--------|------|----------|---|
| 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 |
|------------|--|
| 9765030 | Cannot delete an FPolicy configuration if any of the policy is enabled |
| 9765031 | If any of the FPolicy engine, FPolicy event or FPolicy policy deletion fails due to a systemic error or hardware failure, the cause of the failure is detailed in the error message. |

| Name | Type | Description |
|-------|-----------------------|-------------|
| error | error | |

Example error

```
{
  "error": {
    "arguments": {
      "code": "string",
      "message": "string"
    },
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

error_arguments

| Name | Type | Description |
|---------|--------|------------------|
| code | string | Argument code |
| message | string | Message argument |

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. |

Retrieve the FPolicy configuration for an SVM

GET /protocols/fpolicy/{svm.uuid}

Introduced In: 9.6

Retrieves an FPolicy configuration of an SVM.

Related ONTAP commands

- `fpolicy show`
- `fpolicy policy show`
- `fpolicy policy scope show`
- `fpolicy policy event show`
- `fpolicy policy external-engine show`

Learn more

- [DOC /protocols/fpolicy](#)

Parameters

| Name | Type | 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 | Type | Description |
|-----------------------|--|-------------|
| <code>_links</code> | <code>_links</code> | |
| <code>engines</code> | <code>array[fpolicy_engine]</code> | |
| <code>events</code> | <code>array[fpolicy_event]</code> | |
| <code>policies</code> | <code>array[fpolicy_policy]</code> | |
| <code>svm</code> | <code>svm</code> | |

Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "engines": {
    "name": "fp_ex_eng",
    "port": "9876",
    "primary_servers": [
      "10.132.145.20",
      "10.140.101.109"
    ],
    "secondary_servers": [
      "10.132.145.20",
      "10.132.145.21"
    ],
    "type": "synchronous"
  },
  "events": {
    "name": "event_nfs_close",
    "protocol": "cifs"
  },
  "policies": {
    "engine": {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      }
    }
  },
  "events": [
    "event_nfs_close",
    "event_open"
  ],
  "name": "fp_policy_1",
  "scope": {
    "exclude_export_policies": {
    },
    "exclude_extension": {
    },
    "exclude_shares": {
    },
    "exclude_volumes": [

```

```

        "vol1",
        "vol_svm1",
        "*"
    ],
    "include_export_policies": {
    },
    "include_extension": {
    },
    "include_shares": [
        "sh1",
        "share_cifs"
    ],
    "include_volumes": [
        "vol1",
        "vol_svm1"
    ]
    }
},
"svm": {
    "_links": {
        "self": {
            "href": "/api/resourcelink"
        }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
}
}

```

Error

Status: Default, Error

| Name | Type | Description |
|-------|-------|-------------|
| error | error | |

Example error

```
{
  "error": {
    "arguments": {
      "code": "string",
      "message": "string"
    },
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

| Name | Type | Description |
|------|--------|-------------|
| href | string | |

_links

| Name | Type | Description |
|------|----------------------|-------------|
| self | href | |

fpolicy_engine

The engine defines how ONTAP makes and manages connections to external FPolicy servers.

| Name | Type | Description |
|-------------------|---------------|--|
| 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] | |
| secondary_servers | array[string] | |
| type | string | <p>The notification mode determines what ONTAP does after sending notifications to FPolicy servers. The possible values are:</p> <ul style="list-style-type: none">• synchronous - After sending a notification, wait for a response from the FPolicy server.• asynchronous - After sending a notification, file request processing continues.<ul style="list-style-type: none">◦ Default value: 1◦ enum: ["synchronous", "asynchronous"]◦ Introduced in: 9.6 |

file_operations

Specifies the file operations for the FPolicy event. You must specify a valid protocol in the protocol parameter. The event will check the operations specified from all client requests using the protocol.

| Name | Type | Description |
|-------------|-------------|-----------------------------|
| close | boolean | File close operations |
| create | boolean | File create operations |
| create_dir | boolean | Directory create operations |
| delete | boolean | File delete operations |
| delete_dir | boolean | Directory delete operations |
| getattr | boolean | Get attribute operations |
| link | boolean | Link operations |
| lookup | boolean | Lookup operations |
| open | boolean | File open operations |
| read | boolean | File read operations |
| rename | boolean | File rename operations |
| rename_dir | boolean | Directory rename operations |
| setattr | boolean | Set attribute operations |
| symlink | boolean | Symbolic link operations |
| write | boolean | File write operations |

filters

Specifies the list of filters for a given file operation for the specified protocol. When you specify the filters, you must specify the valid protocols and a valid file operations.

| Name | Type | Description |
|-------------------------|-------------|--|
| close_with_modification | boolean | Filter the client request for close with modification. |
| close_with_read | boolean | Filter the client request for close with read. |

| Name | Type | Description |
|-------------------------------------|-------------|--|
| close_without_modification | boolean | Filter the client request for close without modification. |
| exclude_directory | boolean | Filter the client requests for directory operations. When this filter is specified directory operations are not monitored. |
| first_read | boolean | Filter the client requests for the first-read. |
| first_write | boolean | Filter the client requests for the first-write. |
| monitor_ads | boolean | Filter the client request for alternate data stream. |
| offline_bit | boolean | Filter the client request for offline bit set. FPolicy server receives notification only when offline files are accessed. |
| open_with_delete_intent | boolean | Filter the client request for open with delete intent. |
| open_with_write_intent | boolean | Filter the client request for open with write intent. |
| setattr_with_access_time_change | boolean | Filter the client setattr requests for changing the access time of a file or directory. |
| setattr_with_allocation_size_change | boolean | Filter the client setattr requests for changing the allocation size of a file. |
| setattr_with_creation_time_change | boolean | Filter the client setattr requests for changing the creation time of a file or directory. |
| setattr_with_dacl_change | boolean | Filter the client setattr requests for changing dacl on a file or directory. |
| setattr_with_group_change | boolean | Filter the client setattr requests for changing group of a file or directory. |

| Name | Type | Description |
|---------------------------------|---------|---|
| setattr_with_mode_change | boolean | Filter the client setattr requests for changing the mode bits on a file or directory. |
| setattr_with_modify_time_change | boolean | Filter the client setattr requests for changing the modification time of a file or directory. |
| setattr_with_owner_change | boolean | Filter the client setattr requests for changing owner of a file or directory. |
| setattr_with_sacl_change | boolean | Filter the client setattr requests for changing sacl on a file or directory. |
| setattr_with_size_change | boolean | Filter the client setattr requests for changing the size of a file. |
| write_with_size_change | boolean | Filter the client request for write with size change. |

fpolicy_event

The information that a FPolicy process needs to determine what file access operations to monitor and for which of the monitored events notifications should be sent to the external FPolicy server.

| Name | Type | Description |
|-----------------|---------------------------------|--|
| file_operations | file_operations | Specifies the file operations for the FPolicy event. You must specify a valid protocol in the protocol parameter. The event will check the operations specified from all client requests using the protocol. |
| filters | filters | Specifies the list of filters for a given file operation for the specified protocol. When you specify the filters, you must specify the valid protocols and a valid file operations. |
| name | string | Specifies the name of the FPolicy event. |

| Name | Type | Description |
|-------------------|---------|---|
| protocol | string | Protocol for which event is created. If you specify protocol, then you must also specify a valid value for the file operation parameters. The value of this parameter must be one of the following: <ul style="list-style-type: none"> • cifs - for the CIFS protocol. • nfsv3 - for the NFSv3 protocol. • nfsv4 - for the NFSv4 protocol. |
| volume_monitoring | boolean | Specifies whether volume operation monitoring is required. |

fpolicy_engine_reference

FPolicy external engine

| Name | Type | Description |
|--------|------------------------|--|
| _links | _links | |
| name | string | The name of the FPolicy external engine. |

fpolicy_event_reference

FPolicy events

| Name | Type | Description |
|--------|------------------------|-------------|
| _links | _links | |
| name | string | |

scope

| Name | Type | Description |
|-------------------------|---------------|-------------|
| exclude_export_policies | array[string] | |
| exclude_extension | array[string] | |
| exclude_shares | array[string] | |
| exclude_volumes | array[string] | |
| include_export_policies | array[string] | |

| Name | Type | Description |
|-------------------|---------------|-------------|
| include_extension | array[string] | |
| include_shares | array[string] | |
| include_volumes | array[string] | |

fpolicy_policy

| Name | Type | Description |
|-----------|--|--|
| enabled | boolean | Specifies if the policy is enabled on the SVM or not. If no value is mentioned for this field but priority is set, then this policy will be enabled. |
| engine | fpolicy_engine_reference | FPolicy external engine |
| events | array[fpolicy_event_reference] | |
| mandatory | boolean | 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. |
| name | string | Specifies the name of the policy. |
| priority | integer | Specifies the priority that is assigned to this policy. |
| scope | scope | |

svm

| Name | Type | Description |
|--------|------------------------|-----------------------------------|
| _links | _links | |
| name | string | The name of the SVM. |
| uuid | string | The unique identifier of the SVM. |

error_arguments

| Name | Type | Description |
|---------|--------|------------------|
| code | string | Argument code |
| message | string | Message argument |

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. |

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