Manage Vscan configuration

REST API reference

NetApp
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Protocols Vscan server-status endpoint overview

Overview

This API is used to display connection status information for the external virus-scanning servers or "Vscan servers".

Examples

Retrieving all fields for the Vscan server status

```
# The API:
/api/protocols/vscan/server_status/

# The call:
curl -X GET "https://<mgmt-ip>/api/protocols/vscan/server_status?fields=*"
-H "accept: application/hal+json"

# The response:
{
"records": [
  {
    "svm": {
      "uuid": "86fbc414-f140-11e8-8e22-0050568e0945",
      "name": "vs1",
      "_links": {
        "self": {
          "href": "/api/svm/svms/86fbc414-f140-11e8-8e22-0050568e0945"
        }
      }
    },
    "node": {
      "uuid": "fe696362-f138-11e8-8e22-0050568e0945",
      "name": "Cluster-01",
      "_links": {
        "self": {
          "href": "/api/cluster/nodes/fe696362-f138-11e8-8e22-
0050568e0945"
        }
      }
    },
    "ip": "10.141.46.173",
```

```
      "type": "primary",
      "state": "disconnected",
      "disconnected_reason": "unknown",
      "_links": {
        "self": {
          "href": "/api/protocols/vscan/server_status/86fbc414-f140-11e8-
8e22-0050568e0945/Cluster-01/10.141.46.173"
        }
      }
    },
    {
      "svm": {
        "uuid": "86fbc414-f140-11e8-8e22-0050568e0945",
        "name": "vs1",
        "_links": {
          "self": {
            "href": "/api/svm/svms/86fbc414-f140-11e8-8e22-0050568e0945"
          }
        }
      },
      "node": {
        "uuid": "fe696362-f138-11e8-8e22-0050568e0945",
        "name": "Cluster-01",
        "_links": {
          "self": {
            "href": "/api/cluster/nodes/fe696362-f138-11e8-8e22-
0050568e0945"
          }
        }
      },
      "ip": "fd20:8b1e:b255:5053::46:173",
      "type": "primary",
      "state": "disconnected",
      "disconnected_reason": "remote_closed",
      "_links": {
        "self": {
          "href": "/api/protocols/vscan/server_status/86fbc414-f140-11e8-
8e22-0050568e0945/Cluster-01/fd20%3A8b1e%3Ab255%3A5053%3A%3A46%3A173"
        }
      }
    }
  ],
  "num_records": 2,
  "_links": {
    "self": {
      "href": "/api/protocols/vscan/server_status?fields=*"
```

```
      }
    }
  }
```

Retrieving the server status information for the server with IP address 10.141.46.173

```
# The API:
/api/protocols/vscan/server_status

# The call:
curl -X GET "https://<mgmt-
ip>/api/protocols/vscan/server_status?ip=10.141.46.173&fields=*" -H
"accept: application/hal+json"

# The response:
{
"records": [
  {
    "svm": {
      "uuid": "86fbc414-f140-11e8-8e22-0050568e0945",
      "name": "vs1",
      "_links": {
        "self": {
          "href": "/api/svm/svms/86fbc414-f140-11e8-8e22-0050568e0945"
        }
      }
    },
    "node": {
      "uuid": "fe696362-f138-11e8-8e22-0050568e0945",
      "name": "Cluster-01",
      "_links": {
        "self": {
          "href": "/api/cluster/nodes/fe696362-f138-11e8-
0050568e0945"
        }
      }
    },
    "ip": "10.141.46.173",
    "type": "primary",
    "state": "connected",
    "update_time": "2018-12-19T08:03:40.988Z",
    "vendor": "XYZ",
```

```
     "version": "1.12.2",
     "_links": {
       "self": {
         "href": "/api/protocols/vscan/server_status/86fbc414-f140-11e8-
 8e22-0050568e0945/Cluster-01/10.141.46.173"
       }
   ],
   "num_records": 1,
   "_links": {
     "self": {
       "href": "/api/protocols/vscan/server_status?ip=10.141.46.173&fields=*"
     }
   }
   }
```

Retrieve Vscan server status

GET /protocols/vscan/server-status

Retrieves a Vscan server status.

Related ONTAP commands

• `vserver vscan connection-status show-all`

Learn more

• [DOC /protocols/vscan/server-status](#)

Parameters

Name	Type	In	Required	Description
vendor	string	query	False	Filter by vendor
version	string	query	False	Filter by version
state	string	query	False	Filter by state
ip	string	query	False	Filter by ip
type	string	query	False	Filter by type
svm.uuid	string	query	False	Filter by svm.uuid

Name	Type	In	Required	Description
svm.name	string	query	False	Filter by svm.name
node.uuid	string	query	False	Filter by node.uuid
node.name	string	query	False	Filter by node.name
disconnected_reason	string	query	False	Filter by disconnected_reason
update_time	string	query	False	Filter by update_time
fields	array[string]	query	False	Specify the fields to return.
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned.
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.
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[vscan_server_status]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": [
    {
      "disconnected_reason": "string",
      "ip": "string",
      "node": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "node1",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
      "state": "string",
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      },
      "type": "string",
      "update_time": "string",
      "vendor": "string",
      "version": "string"
    }
  ]
}
```

Error

```
Status: Default, Error
```

Name	Type	Description
error	error	

Example error

```json
{
  "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	

node

Name	Type	Description
_links	_links	
name	string	
uuid	string	

svm

SVM, applies only to SVM-scoped objects.

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

vscan_server_status

Displays the connection status information of the external virus-scanning servers.

Name	Type	Description
disconnected_reason	string	Specifies the server disconnected reason. The following is a list of the possible reasons: • unknown - Disconnected, unknown reason. • vscan_disabled - Disconnected, Vscan is disabled on the SVM. • no_data_lif - Disconnected, SVM does not have data LIF. • session_uninitialized - Disconnected, session is not initialized. • remote_closed - Disconnected, server has closed the connection. • invalid_protocol_msg - Disconnected, invalid protocol message received. • invalid_session_id - Disconnected, invalid session ID received. • inactive_connection - Disconnected, no activity on connection. • invalid_user - Connection request by an invalid user. • server_removed - Disconnected, server has been removed from the active Scanners List. enum: • unknown • vscan_disabled • no_data_lif • session_uninitialized • remote_closed • invalid_protocol_msg • invalid_session_id • inactive_connection • invalid_user • server_removed

Name	Type	Description
ip	string	IP address of the Vscan server.
node	node	
state	string	Specifies the server connection state indicating if it is in the connected or disconnected state. The following is a list of the possible states: • connected - Connected • disconnected - Disconnected enum: • connected • disconnected
svm	svm	SVM, applies only to SVM-scoped objects.
type	string	Server type. The possible values are: • primary - Primary server • backup - Backup server
update_time	string	Specifies the time the server is in the connected or disconnected state.
vendor	string	Name of the connected virus-scanner vendor.
version	string	Version of the connected virus-scanner.

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 a Vscan configuration

DELETE /protocols/vscan/{svm.uuid}

Deletes a Vscan configuration.

Important notes:

- The Vscan DELETE endpoint deletes all of the Vscan configuration of an SVM. It first disables the Vscan and then deletes all of the SVM scanner-pools, On-Access policies, and On-Demand policies.
- Disable the active Vscan On-Access policy on an SVM before performing the Vscan delete operation on that SVM.

Related ONTAP commands

- `vserver vscan scanner-pool delete`
- `vserver vscan on-access-policy delete`
- `vserver vscan on-demand-policy delete`

Learn more

- DOC /protocols/vscan
- DOC /protocols/vscan/{svm.uuid}/scanner-pools

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
10027259	A scanner-pool, an On-Access policy, or an On-Demand policy might fail to get deleted due to either a systematic error or some hardware failure. The error code returned details the failure along with the reason for the failure. For example, "Failed to delete On-Access policy "sp1". Reason: "Failed to delete policy. Reason: policy must be disabled before being deleted.". Retry the operation."

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 Vscan configuration for an SVM

GET `/protocols/vscan/{svm.uuid}`

Retrieves the Vscan configuration for a specified SVM. This includes scanner-pools, On-Access policies, On-Demand policies, and information about whether a Vscan is enabled or disabled on an SVM.

Important note:

• You can enable only one Vscan configuration at a time for an SVM.

Related ONTAP commands

• `vserver vscan show`

• `vserver vscan scanner-pool show`

• `vserver vscan scanner-pool servers show`

• `vserver vscan scanner-pool privileged-users show`

• `vserver vscan scanner-pool show-active`

• `vserver vscan on-access-policy show`

• `vserver vscan on-access-policy file-ext-to-exclude show`

• `vserver vscan on-access-policy file-ext-to-include show`

- `vserver vscan on-access-policy paths-to-exclude show`

- `vserver vscan on-demand-task show`

Learn more

- [DOC /protocols/vscan](#)

- [DOC /protocols/vscan/{svm.uuid}/scanner-pools](#)

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
_links	_links	
cache_clear	boolean	Discards the cached information of the files that have been successfully scanned. Once the cache is cleared, files are scanned again when they are accessed. PATCH only
enabled	boolean	Specifies whether or not Vscan is enabled on the SVM.
on_access_policies	array[vscan_on_access]	
on_demand_policies	array[vscan_on_demand]	
scanner_pools	array[vscan_scanner_pool]	
svm	svm	SVM, applies only to SVM-scoped objects.

Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "on_access_policies": [
    {
      "name": "on-access-test",
      "scope": {
        "exclude_extensions": [
          "mp*",
          "txt"
        ],
        "exclude_paths": [
          "\\dir1\\dir2\\name",
          "\\vol\\a b",
          "\\vol\\a,b\\"
        ],
        "include_extensions": [
          "mp*",
          "txt"
        ],
        "max_file_size": 2147483648
      }
    }
  ],
  "on_demand_policies": [
    {
      "log_path": "/vol0/report_dir",
      "name": "task-1",
      "scan_paths": [
        "/vol1/",
        "/vol2/cifs/"
      ],
      "schedule": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "weekly",
        "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
      },
```

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```json
        "scope": {
          "exclude_extensions": [
            "mp3",
            "mp4"
          ],
          "exclude_paths": [
            "/vol1/cold-files/",
            "/vol1/cifs/names"
          ],
          "include_extensions": [
            "vmdk",
            "mp*"
          ],
          "max_file_size": 10737418240
        }
      }
    ],
    "scanner_pools": [
      {
        "cluster": {
          "_links": {
            "self": {
              "href": "/api/resourcelink"
            }
          },
          "name": "cluster1",
          "uuid": "1cd8a442-86d1-11e0-ae1c-123478563412"
        },
        "name": "scanner-1",
        "privileged_users": [
          "cifs\\u1",
          "cifs\\u2"
        ],
        "role": "string",
        "servers": [
          "1.1.1.1",
          "10.72.204.27",
          "vmwin204-27.fsct.nb"
        ]
      }
    ],
    "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	

scope

Name	Type	Description
exclude_extensions	array[string]	List of file extensions for which scanning is not performed.
exclude_paths	array[string]	List of file paths for which scanning must not be performed.
include_extensions	array[string]	List of file extensions to be scanned.
max_file_size	integer	Maximum file size, in bytes, allowed for scanning.
only_execute_access	boolean	Scan only files opened with execute-access.
scan_readonly_volumes	boolean	Specifies whether or not read-only volume can be scanned.
scan_without_extension	boolean	Specifies whether or not files without any extension can be scanned.

vscan_on_access

An On-Access policy that defines the scope of an On-Access scan. Use On-Access scanning to check for viruses when clients open, read, rename, or close files over CIFS. By default, ONTAP creates an On-Access policy named "default_CIFS" and enables it for all the SVMs in a cluster.

Name	Type	Description
enabled	boolean	Status of the On-Access Vscan policy

Name	Type	Description
mandatory	boolean	Specifies if scanning is mandatory. File access is denied if there are no external virus-scanning servers available for virus scanning.
name	string	On-Access policy ame
scope	scope	

schedule

Schedule of the task.

Name	Type	Description
_links	_links	
name	string	Job schedule name
uuid	string	Job schedule UUID

scope

Name	Type	Description
exclude_extensions	array[string]	List of file extensions for which scanning is not performed.
exclude_paths	array[string]	List of file paths for which scanning must not be performed.
include_extensions	array[string]	List of file extensions to be scanned.
max_file_size	integer	Maximum file size, in bytes, allowed for scanning.
scan_without_extension	boolean	Specifies whether or not files without any extension can be scanned.

vscan_on_demand

Use On-Demand scanning to check files for viruses on a schedule. An On-Demand policy defines the scope of an On-Demand scan.

Name	Type	Description
log_path	string	The path from the Vserver root where the task report is created.
name	string	On-Demand task name
scan_paths	array[string]	List of paths that need to be scanned.
schedule	schedule	Schedule of the task.
scope	scope	

cluster_reference

Name	Type	Description
_links	_links	
name	string	
uuid	string	

vscan_scanner_pool

Scanner pool is a set of attributes which are used to validate and manage connections between clustered ONTAP and external virus-scanning server, or "Vscan server".

Name	Type	Description
cluster	cluster_reference	
name	string	Specifies the name of the scanner pool. Scanner pool name can be up to 256 characters long and is a string that can only contain any combination of ASCII-range alphanumeric characters a-z, A-Z, 0-9), "_", "-" and ".".

Name	Type	Description
privileged_users	array[string]	Specifies a list of privileged users. A valid form of privileged user-name is "domain-name\user-name". Privileged user-names are stored and treated as case-insensitive strings. Virus scanners must use one of the registered privileged users for connecting to clustered Data ONTAP for exchanging virus-scanning protocol messages and to access file for scanning, remedying and quarantining operations. • example: ["cifs\u1", "cifs\u2"]
role	string	Specifies the role of the scanner pool. The possible values are: • primary - Always active. • secondary - Active only when none of the primary external virus-scanning servers are connected. • idle - Always inactive.
servers	array[string]	Specifies a list of IP addresses or FQDN for each Vscan server host names which are allowed to connect to clustered ONTAP. • example: ["1.1.1.1", "10.72.204.27", "vmwin204-27.fsct.nb"]

svm

SVM, applies only to SVM-scoped objects.

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.

Update the Vscan configuration for an SVM

PATCH /protocols/vscan/{svm.uuid}

Updates the Vscan configuration of an SVM. Allows you to either enable or disable a Vscan, and allows you to clear the Vscan cache that stores the past scanning data for an SVM.

Important note:

- The Vscan PATCH endpoint does not allow you to modify scanner-pools, On-Demand policies or On-Access policies. Those modifications can only be done through their respective endpoints.

Related ONTAP commands

- `vserver vscan enable`
- `vserver vscan disable`
- `vserver vscan reset`

Learn more

- DOC /protocols/vscan
- DOC /protocols/vscan/{svm.uuid}/scanner-pools

Parameters

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

Request Body

Name	Type	Description
_links	_links	
cache_clear	boolean	Discards the cached information of the files that have been successfully scanned. Once the cache is cleared, files are scanned again when they are accessed. PATCH only
enabled	boolean	Specifies whether or not Vscan is enabled on the SVM.

Example request

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  }
}
```

Response

```
Status: 200, Ok
```

Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
10027015	Attempting to enable a Vscan but no active scanner-pool exists for the specified SVM
10027011	Attempting to enable a Vscan for an SVM for which no CIFS server exists
10027023	Attempting to enable a Vscan for an SVM for which no active Vscan On-Access policy exists

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	

scope

Name	Type	Description
exclude_extensions	array[string]	List of file extensions for which scanning is not performed.
exclude_paths	array[string]	List of file paths for which scanning must not be performed.
include_extensions	array[string]	List of file extensions to be scanned.
max_file_size	integer	Maximum file size, in bytes, allowed for scanning.
only_execute_access	boolean	Scan only files opened with execute-access.
scan_readonly_volumes	boolean	Specifies whether or not read-only volume can be scanned.
scan_without_extension	boolean	Specifies whether or not files without any extension can be scanned.

vscan_on_access

An On-Access policy that defines the scope of an On-Access scan. Use On-Access scanning to check for viruses when clients open, read, rename, or close files over CIFS. By default, ONTAP creates an On-Access policy named "default_CIFS" and enables it for all the SVMs in a cluster.

Name	Type	Description
enabled	boolean	Status of the On-Access Vscan policy

Name	Type	Description
mandatory	boolean	Specifies if scanning is mandatory. File access is denied if there are no external virus-scanning servers available for virus scanning.
scope	scope	

schedule

Schedule of the task.

Name	Type	Description
_links	_links	
name	string	Job schedule name
uuid	string	Job schedule UUID

scope

Name	Type	Description
exclude_extensions	array[string]	List of file extensions for which scanning is not performed.
exclude_paths	array[string]	List of file paths for which scanning must not be performed.
include_extensions	array[string]	List of file extensions to be scanned.
max_file_size	integer	Maximum file size, in bytes, allowed for scanning.
scan_without_extension	boolean	Specifies whether or not files without any extension can be scanned.

vscan_on_demand

Use On-Demand scanning to check files for viruses on a schedule. An On-Demand policy defines the scope of an On-Demand scan.

Name	Type	Description
log_path	string	The path from the Vserver root where the task report is created.
scan_paths	array[string]	List of paths that need to be scanned.
schedule	schedule	Schedule of the task.
scope	scope	

cluster_reference

Name	Type	Description
_links	_links	
name	string	
uuid	string	

vscan_scanner_pool

Scanner pool is a set of attributes which are used to validate and manage connections between clustered ONTAP and external virus-scanning server, or "Vscan server".

Name	Type	Description
cluster	cluster_reference	
privileged_users	array[string]	Specifies a list of privileged users. A valid form of privileged user-name is "domain-name\user-name". Privileged user-names are stored and treated as case-insensitive strings. Virus scanners must use one of the registered privileged users for connecting to clustered Data ONTAP for exchanging virus-scanning protocol messages and to access file for scanning, remedying and quarantining operations. • example: ["cifs\u1", "cifs\u2"]

Name	Type	Description
role	string	Specifies the role of the scanner pool. The possible values are: • primary - Always active. • secondary - Active only when none of the primary external virus-scanning servers are connected. • idle - Always inactive.
servers	array[string]	Specifies a list of IP addresses or FQDN for each Vscan server host names which are allowed to connect to clustered ONTAP. • example: ["1.1.1.1", "10.72.204.27", "vmwin204-27.fsct.nb"]

svm

SVM, applies only to SVM-scoped objects.

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

vscan

Vscan can be used to protect data from being compromised by viruses or other malicious code. This combines best-in-class third-party antivirus software with ONTAP features that give you the flexibility you need to control which files get scanned and when. Storage systems offload scanning operations to external servers hosting antivirus software from thirdparty vendors. An Antivirus Connector on the external server handles communications between the storage system and the antivirus software.

Name	Type	Description
_links	_links	
cache_clear	boolean	Discards the cached information of the files that have been successfully scanned. Once the cache is cleared, files are scanned again when they are accessed. PATCH only

Name	Type	Description
enabled	boolean	Specifies whether or not Vscan is enabled on 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.