



# **Manage CIFS services**

## **REST API reference**

NetApp

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# Manage CIFS services

## Manage CIFS services

### Overview

A CIFS server is necessary to provide SMB clients with access to the Storage Virtual Machine (SVM). Before you begin, the following prerequisites must be in place:

- At least one SVM LIF must exist on the SVM.
- The LIFs must be able to connect to the DNS servers configured on the SVM and to an Active Directory domain controller of the domain to which you want to join the CIFS server.
- The DNS servers must contain the service location records that are needed to locate the Active Directory domain services.
- The cluster time must be synchronized to within five minutes of the Active Directory domain controller.

### Performance monitoring

Performance of the SVM can be monitored by the `metric.*` and `statistics.*` properties. These show the performance of the SVM in terms of IOPS, latency and throughput. The `metric.*` properties denote an average whereas `statistics.*` properties denote a real-time monotonically increasing value aggregated across all nodes.

### Information on the CIFS server

You must keep the following in mind when creating the CIFS server:

- The CIFS server name might or might not be the same as the SVM name.
- The CIFS server name can be up to 15 characters in length.
- The following characters are not allowed: `@ # * ( ) = + [ ] \ | ; : " , < > \ / ?`
- You must use the FQDN when specifying the domain.
- The default is to add the CIFS server machine account to the Active Directory "CN=Computer" object.
- You can choose to add the CIFS server to a different organizational unit (OU) by specifying the "organizational\_unit" parameter. When specifying the OU, do not specify the domain portion of the distinguished name; only specify the OU or CN portion of the distinguished name. ONTAP appends the value provided for the required "-domain" parameter onto the value provided for the "-ou" parameter to create the Active Directory distinguished name, which is used when joining the Active Directory domain.
- You can optionally choose to add a text comment of up to 256 characters about the CIFS server. If there is a space in the comment text, you must enclose the entire string in quotation marks.
- You can optionally choose to add a comma-delimited list of one or more NetBIOS aliases for the CIFS server.
- The initial administrative status of the CIFS server is "up".
- The `<i>large-mtu</i>` and `<em>multichannel</em>` features are enabled for the new CIFS server.
- If LDAP is configured with the `use_start_tls` and `session_security` features, the new CIFS server will also have this property set.
- The `security.kdc_encryption` and `security.advertised_kdc_encryptions` fields are mutually exclusive. Use the

advertised\_kdc\_encryptions field to specify the encryption types to be advertised to the Key Distribution Center (KDC) server in the Active Directory domain.

## Examples

### Creating a CIFS server

To create a CIFS server, use the following API. Note the *return\_records=true* query parameter used to obtain the newly created entry in the response.

```
# The API:
POST /api/protocols/cifs/services

# The call:
curl -X POST "https://<mgmt-ip>/api/protocols/cifs/services?return_timeout=10&return_records=true" -H
"accept: application/json" -H "authorization: Basic <CREDENTIALS>" -H
"Content-Type: application/json" -d "{ \"ad_domain\": { \"fqdn\":
\"ontapavc.com\", \"organizational_unit\": \"CN=Computers\", \"password\":
\"<PASSWORD-FOR-USER>\", \"user\": \"administrator\" }, \"comment\":
\"This CIFS Server Belongs to CS Department\", \"default_unix_user\":
\"string\", \"enabled\": true, \"name\": \"CIFS1\", \"netbios\": {
\"aliases\": [ \"ALIAS_1\", \"ALIAS_2\", \"ALIAS_3\" ], \"enabled\":
false, \"wins_servers\": [ \"10.224.65.20\", \"10.224.65.21\" ] },
\"options\": { \"admin_to_root_mapping\": true, \"advanced_sparse_file\":
true, \"copy_offload\": true, \"fake_open\": true, \"fsctl_trim\": true,
\"junction_reparse\": true, \"large_mtu\": true, \"multichannel\": true,
\"null_user_windows_name\": \"string\", \"path_component_cache\": true,
\"referral\": false, \"smb_credits\": 128, \"widelink_reparse_versions\":
[ \"smb1\" ] }, \"security\": { \"encrypt_dc_connection\": false,
\"kdc_encryption\": false, \"restrict_anonymous\": \"no_enumeration\",
\"session_security\": \"none\", \"smb_encryption\": false,
\"smb_signing\": false, \"use_ldaps\": false, \"use_start_tls\": false },
\"svm\": { \"name\": \"vs1\", \"uuid\": \"e0c20d9c-96cd-11eb-97da-
0050568e684d\" } }"

# The response:
{
  "num_records": 1,
  "records": [
    {
      "svm": {
        "uuid": "e0c20d9c-96cd-11eb-97da-0050568e684d",
        "name": "vs1"
      },
    },
  ],
}
```

```

"name": "CIFS1",
"ad_domain": {
  "fqdn": "ONTAPAVC.COM",
  "organizational_unit": "CN=Computers"
},
"enabled": true,
"comment": "This CIFS Server Belongs to CS Department",
"security": {
  "restrict_anonymous": "no_enumeration",
  "smb_signing": false,
  "smb_encryption": false,
  "kdc_encryption": false,
  "aes_netlogon_enabled": false,
  "try_ldap_channel_binding": false,
  "referral_enabled": false,
  "lm_compatibility_level": "lm_ntlm_ntlmv2_krb",
  "encrypt_dc_connection": false,
  "use_start_tls": false,
  "session_security": "none",
  "use_ldaps": false
},
"netbios": {
  "aliases": [
    "ALIAS_1",
    "ALIAS_2",
    "ALIAS_3"
  ],
  "wins_servers": [
    "10.224.65.20",
    "10.224.65.21"
  ],
  "enabled": false
},
"default_unix_user": "string",
"options": {
  "advanced_sparse_file": true,
  "referral": false,
  "widelink_reparse_versions": [
    "smb1"
  ],
  "multichannel": true,
  "path_component_cache": true,
  "null_user_windows_name": "string",
  "junction_reparse": true,
  "fsctl_trim": true,
  "large_mtu": true,

```

```

        "fake_open": true,
        "smb_credits": 128,
        "admin_to_root_mapping": true,
        "copy_offload": true
    }
}
],
"job": {
    "uuid": "825a0b4b-9703-11eb-8cc1-0050568e684d",
    "_links": {
        "self": {
            "href": "/api/cluster/jobs/825a0b4b-9703-11eb-8cc1-0050568e684d"
        }
    }
}
}
}

```

## Creating a CIFS server when using AKV

```

# The API:
POST /api/protocols/cifs/services

# The call:
curl -X POST "https://<mgmt-
ip>/api/protocols/cifs/services?return_timeout=10&return_records=true" -H
"accept: application/json" -H "authorization: Basic <CREDENTIALS>" -H
"Content-Type: application/json" -d "{ \"key_vault_uri\":
\"https://testkv.vault.azure.net\", \"client_secret\": \"<CLIENT-SECRET-
ACCESS-KEY>\", \"authentication_method\": \"client_secret\",
\"tenant_id\": \"c9f32fcb-4ab7-40fe-af1b-1850d46cfbbe\", \"client_id\":
\"e959dlb5-5a63-4284-9268-851e30e3eceb\", \"ad_domain\": { \"fqdn\":
\"ontapavc.com\", \"organizational_unit\": \"CN=Computers\", \"user\":
\"administrator\" }, \"comment\": \"This CIFS Server Belongs to CS
Department\", \"default_unix_user\": \"string\", \"enabled\": true,
\"name\": \"CIFS1\", \"netbios\": { \"aliases\": [ \"ALIAS_1\",
\"ALIAS_2\", \"ALIAS_3\" ], \"enabled\": false, \"wins_servers\": [
\"10.224.65.20\", \"10.224.65.21\" ] }, \"options\": {
\"admin_to_root_mapping\": true, \"advanced_sparse_file\": true,
\"copy_offload\": true, \"fake_open\": true, \"fsctl_trim\": true,
\"junction_reparse\": true, \"large_mtu\": true, \"multichannel\": true,
\"null_user_windows_name\": \"string\", \"path_component_cache\": true,
\"referral\": false, \"smb_credits\": 128, \"widelink_reparse_versions\":

```

```
[ \\"smb1\\" ] }, \\"security\\": { \\"encrypt_dc_connection\\": false,
\\"kdc_encryption\\": false, \\"restrict_anonymous\\": \\"no_enumeration\\",
\\"session_security\\": \\"none\\", \\"smb_encryption\\": false,
\\"smb_signing\\": false, \\"use_ldaps\\": false, \\"use_start_tls\\": false },
\\"svm\\": { \\"name\\": \\"vs1\\", \\"uuid\\": \\"e0c20d9c-96cd-11eb-97da-0050568e684d\\" } }"
```

# The response:

```
{
  "num_records": 1,
  "records": [
    {
      "svm": {
        "uuid": "e0c20d9c-96cd-11eb-97da-0050568e684d",
        "name": "vs1"
      },
      "name": "CIFS1",
      "ad_domain": {
        "fqdn": "ONTAPAVC.COM",
        "organizational_unit": "CN=Computers"
      },
      "enabled": true,
      "comment": "This CIFS Server Belongs to CS Department",
      "security": {
        "restrict_anonymous": "no_enumeration",
        "smb_signing": false,
        "smb_encryption": false,
        "kdc_encryption": false,
        "aes_netlogon_enabled": false,
        "try_ldap_channel_binding": false,
        "referral_enabled": false,
        "lm_compatibility_level": "lm_ntlm_ntlmv2_krb",
        "encrypt_dc_connection": false,
        "use_start_tls": false,
        "session_security": "none",
        "use_ldaps": false
      },
      "netbios": {
        "aliases": [
          "ALIAS_1",
          "ALIAS_2",
          "ALIAS_3"
        ],
        "wins_servers": [
          "10.224.65.20",
          "10.224.65.21"
        ]
      }
    }
  ]
}
```

```

    ],
    "enabled": false
  },
  "default_unix_user": "string",
  "options": {
    "advanced_sparse_file": true,
    "referral": false,
    "widelink_reparse_versions": [
      "smb1"
    ],
    "multichannel": true,
    "path_component_cache": true,
    "null_user_windows_name": "string",
    "junction_reparse": true,
    "fsctl_trim": true,
    "large_mtu": true,
    "fake_open": true,
    "smb_credits": 128,
    "admin_to_root_mapping": true,
    "copy_offload": true
  }
},
"job": {
  "uuid": "825a0b4b-9703-11eb-8cc1-0050568e684d",
  "_links": {
    "self": {
      "href": "/api/cluster/jobs/825a0b4b-9703-11eb-8cc1-0050568e684d"
    }
  }
}
}
}

```

---

## Creating a CIFS server for Hybrid user

---

```

# The API:
POST /api/protocols/cifs/services

# The call:
curl -X POST "https://<mgmt-
ip>/api/protocols/cifs/services?return_timeout=10&return_records=true" -H
"accept: application/json" -H "authorization: Basic <CREDENTIALS>" -H
"Content-Type: application/json" -d "{ \"auth_user_type\":
\"hybrid_user\", \"client_certificate\": \"certificate added to azure
application\", \"authentication_method\": \"certificate\", \"tenant_id\":
\"c9f32fcb-4ab7-40fe-af1b-1850d46cfbbe\", \"client_id\": \"e959dlb5-5a63-
4284-9268-851e30e3eceb\", \"ad_domain\": { \"fqdn\": \"ontapavc.com\",
\"organizational_unit\": \"CN=Computers\" }, \"comment\": \"This CIFS
Server Belongs to CS Department\", \"enabled\": true, \"name\": \"CIFS1\",
\"svm\": { \"name\": \"vs1\", \"uuid\": \"e0c20d9c-96cd-11eb-97da-
0050568e684d\" } }"

# The response:
{
  "num_records": 1,
  "records": [
    {
      "svm": {
        "uuid": "e0c20d9c-96cd-11eb-97da-0050568e684d",
        "name": "vs1"
      },
      "name": "CIFS1",
      "ad_domain": {
        "fqdn": "ONTAPAVC.COM",
        "organizational_unit": "CN=Computers"
      },
      "enabled": true,
      "comment": "This CIFS Server Belongs to CS Department",
    }
  ],
  "job": {
    "uuid": "825a0b4b-9703-11eb-8cc1-0050568e684d",
    "_links": {
      "self": {
        "href": "/api/cluster/jobs/825a0b4b-9703-11eb-8cc1-0050568e684d"
      }
    }
  }
}

```

```
# The API:
POST /api/protocols/cifs/services

# The call:
curl -X POST "https://<mgmt-
ip>/api/protocols/cifs/services?return_timeout=120&return_records=true&for
ce=true" -H "accept: application/json" -H "authorization: Basic
<CREDENTIALS>" -H "Content-Type: application/json" -d "{ \"ad_domain\": {
\"fqdn\": \"testdomain.com\", \"organizational_unit\": \"CN=Computers\",
\"password\": \"<PASSWORD-FOR-USER>\", \"user\": \"administrator\" },
\"enabled\": true, \"name\": \"CIFS_server1\", \"security\": {
\"advertised_kdc_encryptions\": [ \"aes-128\" ] }, \"svm\": { \"name\":
\"testvs\", \"uuid\": \"508375d4-fb16-11ee-a792-005056a75b5c\" }}"

# The response:
{
  "num_records": 1,
  "records": [
    {
      "svm": {
        "uuid": "508375d4-fb16-11ee-a792-005056a75b5c",
        "name": "testvs"
      },
      "name": "CIFS_SERVER1",
      "domain_workgroup": "TESTDOMAIN",
      "ad_domain": {
        "fqdn": "TESTDOMAIN.COM",
        "organizational_unit": "CN=Computers",
        "default_site": ""
      },
      "enabled": true,
      "comment": "",
      "security": {
        "restrict_anonymous": "no_enumeration",
        "smb_signing": false,
        "smb_encryption": false,
        "kdc_encryption": true,
        "lm_compatibility_level": "lm_ntlm_ntlmv2_krb",
        "aes_netlogon_enabled": false,
        "try_ldap_channel_binding": true,
        "ldap_referral_enabled": false,
        "advertised_kdc_encryptions": [
```

```

    "aes_128"
  ],
  "encrypt_dc_connection": false,
  "use_start_tls": false,
  "session_security": "none",
  "use_ldaps": false
},
"netbios": {
  "wins_servers": [],
  "enabled": false
},
"default_unix_user": "pcuser",
"statistics": {
  "timestamp": "2024-04-16T15:17:41Z",
  "status": "ok",
  "throughput_raw": {
    "read": 0,
    "write": 0,
    "total": 0
  },
  "iops_raw": {
    "read": 0,
    "write": 0,
    "other": 0,
    "total": 0
  },
  "latency_raw": {
    "read": 0,
    "write": 0,
    "other": 0,
    "total": 0
  }
},
"options": {
  "advanced_sparse_file": true,
  "referral": false,
  "widelink_reparse_versions": [
    "smb1"
  ],
  "multichannel": true,
  "path_component_cache": true,
  "junction_reparse": true,
  "fsctl_trim": true,
  "large_mtu": true,
  "fake_open": true,
  "smb_credits": 512,

```

```

        "admin_to_root_mapping": true,
        "copy_offload": true,
        "shadowcopy": true,
        "shadowcopy_dir_depth": 5,
        "export_policy_enabled": false
    },
    "group_policy_object_enabled": false
}
],
"job": {
    "uuid": "73eec230-fc04-11ee-a792-005056a75b5c",
    "_links": {
        "self": {
            "href": "/api/cluster/jobs/73eec230-fc04-11ee-a792-005056a75b5c"
        }
    }
}
}
}

```

## Retrieving the full CIFS server configuration for all SVMs in the cluster

```

# The API:
GET /api/protocols/cifs/services

# The call:
curl -X GET "https://<mgmt-
ip>/api/protocols/cifs/services?fields=*&return_records=true&return_timeou
t=15" -H "accept: application/json" -H "authorization: Basic
<CREDENTIALS>"

# The response:
{
  "records": [
    {
      "svm": {
        "uuid": "e0c20d9c-96cd-11eb-97da-0050568e684d",
        "name": "vs1"
      },
      "name": "CIFS1",
      "ad_domain": {
        "fqdn": "ONTAPAVC.COM",
        "organizational_unit": "CN=Computers"
      }
    }
  ]
}

```

```

},
"enabled": true,
"comment": "This CIFS Server Belongs to CS Department",
"security": {
  "restrict_anonymous": "no_enumeration",
  "smb_signing": false,
  "smb_encryption": false,
  "kdc_encryption": false,
  "aes_netlogon_enabled": false,
  "try_ldap_channel_binding": false,
  "referral_enabled": false,
  "lm_compatibility_level": "lm_ntlm_ntlmv2_krb",
  "encrypt_dc_connection": false,
  "use_start_tls": false,
  "session_security": "none",
  "use_ldaps": false
},
"netbios": {
  "aliases": [
    "ALIAS_1",
    "ALIAS_2",
    "ALIAS_3"
  ],
  "wins_servers": [
    "10.224.65.20",
    "10.224.65.21"
  ],
  "enabled": false
},
"default_unix_user": "string",
"options": {
  "advanced_sparse_file": true,
  "referral": false,
  "widelink_reparse_versions": [
    "smb1"
  ],
  "multichannel": true,
  "path_component_cache": true,
  "null_user_windows_name": "string",
  "junction_reparse": true,
  "fsctl_trim": true,
  "large_mtu": true,
  "fake_open": true,
  "smb_credits": 128,
  "admin_to_root_mapping": true,
  "copy_offload": true
}

```

```
    }  
  }  
],  
"num_records": 1  
}
```

---

## Retrieving CIFS server configuration details for a specific SVM

---

```
# The API:  
GET /api/protocols/cifs/services/{svm.uuid}  
  
# The call:  
curl -X GET "https://<mgmt-ip>/api/protocols/cifs/services/e0c20d9c-96cd-11eb-97da-0050568e684d" -H "accept: application/json" -H "authorization: Basic <CREDENTIALS>"  
  
# The response:  
{  
  "svm": {  
    "uuid": "e0c20d9c-96cd-11eb-97da-0050568e684d",  
    "name": "vs1"  
  },  
  "name": "CIFS1",  
  "ad_domain": {  
    "fqdn": "ONTAPAVC.COM",  
    "organizational_unit": "CN=Computers"  
  },  
  "enabled": true,  
  "comment": "This CIFS Server Belongs to CS Department",  
  "security": {  
    "restrict_anonymous": "no_enumeration",  
    "smb_signing": false,  
    "smb_encryption": false,  
    "kdc_encryption": false,  
    "aes_netlogon_enabled": false,  
    "try_ldap_channel_binding": false,  
    "referral_enabled": false,  
    "lm_compatibility_level": "lm_ntlm_ntlmv2_krb",  
    "encrypt_dc_connection": false,  
    "use_start_tls": false,  
    "session_security": "none",  
    "use_ldaps": false  
  }  
}
```

```
},
"netbios": {
  "aliases": [
    "ALIAS_1",
    "ALIAS_2",
    "ALIAS_3"
  ],
  "wins_servers": [
    "10.224.65.20",
    "10.224.65.21"
  ],
  "enabled": false
},
"default_unix_user": "string",
"options": {
  "advanced_sparse_file": true,
  "referral": false,
  "widelink_reparse_versions": [
    "smb1"
  ],
  "multichannel": true,
  "path_component_cache": true,
  "null_user_windows_name": "string",
  "junction_reparse": true,
  "fsctl_trim": true,
  "large_mtu": true,
  "fake_open": true,
  "smb_credits": 128,
  "admin_to_root_mapping": true,
  "copy_offload": true
}
}
```

---

## Updating CIFS server properties for the specified SVM

---

```
# The API:
PATCH /api/protocols/cifs/services/{svm.uuid}

# The call:
curl -X PATCH "https://<mgmt-ip>/api/protocols/cifs/services/e0c20d9c-
96cd-11eb-97da-0050568e684d" -H "accept: application/json" -H
"authorization: Basic <CREDENTIALS>" -H "Content-Type: application/json"
-d "{ \"comment\": \"CIFS SERVER MODIFICATION\"}"
```

---

### Removing a CIFS server for a specific SVM

To delete a CIFS server, use the following API. This will delete the CIFS server along with other CIFS configurations such as CIFS share, share ACLs, homedir search-path, and so on.

---

```
# The API:
DELETE /api/protocols/cifs/services/{svm.uuid}

# The call:
curl -X DELETE "https://<mgmt-ip>/api/protocols/cifs/services/e0c20d9c-96cd-11eb-97da-0050568e684d" -H "accept: application/json" -H "authorization: Basic <CREDENTIALS>" -H "Content-Type: application/json" -d "{ \"ad_domain\": { \"fqdn\": \"ontapavc.com\", \"organizational_unit\": \"CN=Computers\", \"password\": \"<PASSWORD-FOR-USER>\", \"user\": \"administrator\" }, \"force\": true}"

# The call when using AKV:
curl -X DELETE "https://<mgmt-ip>/api/protocols/cifs/services/e0c20d9c-96cd-11eb-97da-0050568e684d" -H "accept: application/json" -H "authorization: Basic <CREDENTIALS>" -H "Content-Type: application/json" -d "{ \"key_vault_uri\": \"https://testkv.vault.azure.net\", \"client_secret\": \"<AWS-SECRET-ACCESS-KEY>\", \"authentication_method\": \"client_secret\", \"tenant_id\": \"c9f32fcb-4ab7-40fe-af1b-1850d46cfbbe\", \"client_id\": \"e959d1b5-5a63-4284-9268-851e30e3eceb\", \"ad_domain\": { \"fqdn\": \"ontapavc.com\", \"organizational_unit\": \"CN=Computers\" , \"user\": \"administrator\" }, \"force\": true}"

# The call when using EntraId:
curl -X DELETE "https://<mgmt-ip>/api/protocols/cifs/services/e0c20d9c-96cd-11eb-97da-0050568e684d" -H "accept: application/json" -H "authorization: Basic <CREDENTIALS>" -H "Content-Type: application/json" -d "{ \"auth_user_type\": \"hybrid-user\", \"client_certificate\": \"client_certificate_added_to_azure_application\", \"authentication_method\": \"certificate\", \"tenant_id\": \"c9f32fcb-4ab7-40fe-af1b-1850d46cfbbe\", \"client_id\": \"e959d1b5-5a63-4284-9268-851e30e3eceb\", \"ad_domain\": { \"fqdn\": \"ontapavc.com\", \"organizational_unit\": \"CN=Computers\"}, \"force\": true}"
```

## Retrieve CIFS servers

GET /protocols/cifs/services

**Introduced In:** 9.6

Retrieves CIFS servers.

### Expensive properties

There is an added computational cost to retrieving values for these properties. They are not included by default

in GET results and must be explicitly requested using the `fields` query parameter. See [Requesting specific fields](#) to learn more.

- `statistics.*`
- `metric.*`

## Related ONTAP commands

- `vserver cifs server show`
- `vserver cifs server options show`
- `vserver cifs server security show`

## Learn more

- [DOC /protocols/cifs/services](#)

## Parameters

| Name                           | Type    | In    | Required | Description                                                                                                   |
|--------------------------------|---------|-------|----------|---------------------------------------------------------------------------------------------------------------|
| <code>metric.iops.other</code> | integer | query | False    | Filter by <code>metric.iops.other</code> <ul style="list-style-type: none"><li>• Introduced in: 9.7</li></ul> |
| <code>metric.iops.total</code> | integer | query | False    | Filter by <code>metric.iops.total</code> <ul style="list-style-type: none"><li>• Introduced in: 9.7</li></ul> |
| <code>metric.iops.read</code>  | integer | query | False    | Filter by <code>metric.iops.read</code> <ul style="list-style-type: none"><li>• Introduced in: 9.7</li></ul>  |
| <code>metric.iops.write</code> | integer | query | False    | Filter by <code>metric.iops.write</code> <ul style="list-style-type: none"><li>• Introduced in: 9.7</li></ul> |
| <code>metric.status</code>     | string  | query | False    | Filter by <code>metric.status</code> <ul style="list-style-type: none"><li>• Introduced in: 9.7</li></ul>     |

| Name                    | Type    | In    | Required | Description                                                   |
|-------------------------|---------|-------|----------|---------------------------------------------------------------|
| metric.latency.other    | integer | query | False    | Filter by metric.latency.other<br><br>• Introduced in: 9.7    |
| metric.latency.total    | integer | query | False    | Filter by metric.latency.total<br><br>• Introduced in: 9.7    |
| metric.latency.read     | integer | query | False    | Filter by metric.latency.read<br><br>• Introduced in: 9.7     |
| metric.latency.write    | integer | query | False    | Filter by metric.latency.write<br><br>• Introduced in: 9.7    |
| metric.duration         | string  | query | False    | Filter by metric.duration<br><br>• Introduced in: 9.7         |
| metric.timestamp        | string  | query | False    | Filter by metric.timestamp<br><br>• Introduced in: 9.7        |
| metric.throughput.read  | integer | query | False    | Filter by metric.throughput.read<br><br>• Introduced in: 9.7  |
| metric.throughput.total | integer | query | False    | Filter by metric.throughput.total<br><br>• Introduced in: 9.7 |

| Name                          | Type    | In    | Required | Description                                                       |
|-------------------------------|---------|-------|----------|-------------------------------------------------------------------|
| metric.throughput.write       | integer | query | False    | Filter by metric.throughput.write<br><br>• Introduced in: 9.7     |
| proxy_username                | string  | query | False    | Filter by proxy_username<br><br>• Introduced in: 9.15             |
| ad_domain.organizational_unit | string  | query | False    | Filter by ad_domain.organizational_unit                           |
| ad_domain.default_site        | string  | query | False    | Filter by ad_domain.default_site<br><br>• Introduced in: 9.13     |
| ad_domain.fqdn                | string  | query | False    | Filter by ad_domain.fqdn                                          |
| comment                       | string  | query | False    | Filter by comment<br><br>• maxLength: 256<br>• minLength: 0       |
| netbios.enabled               | boolean | query | False    | Filter by netbios.enabled                                         |
| netbios.aliaes                | string  | query | False    | Filter by netbios.aliaes<br><br>• maxLength: 15<br>• minLength: 1 |
| netbios.wins_servers          | string  | query | False    | Filter by netbios.wins_servers                                    |

| Name                  | Type   | In    | Required | Description                                                                                                                            |
|-----------------------|--------|-------|----------|----------------------------------------------------------------------------------------------------------------------------------------|
| client_id             | string | query | False    | Filter by client_id <ul style="list-style-type: none"> <li>Introduced in: 9.15</li> </ul>                                              |
| oauth_host            | string | query | False    | Filter by oauth_host <ul style="list-style-type: none"> <li>Introduced in: 9.15</li> </ul>                                             |
| proxy_type            | string | query | False    | Filter by proxy_type <ul style="list-style-type: none"> <li>Introduced in: 9.15</li> </ul>                                             |
| svm.name              | string | query | False    | Filter by svm.name                                                                                                                     |
| svm.uuid              | string | query | False    | Filter by svm.uuid                                                                                                                     |
| auth_user_type        | string | query | False    | Filter by auth_user_type <ul style="list-style-type: none"> <li>Introduced in: 9.16</li> </ul>                                         |
| auth-style            | string | query | False    | Filter by auth-style <ul style="list-style-type: none"> <li>Introduced in: 9.15</li> </ul>                                             |
| workgroup             | string | query | False    | Filter by workgroup <ul style="list-style-type: none"> <li>Introduced in: 9.15</li> <li>maxLength: 15</li> <li>minLength: 1</li> </ul> |
| authentication_method | string | query | False    | Filter by authentication_method <ul style="list-style-type: none"> <li>Introduced in: 9.15</li> </ul>                                  |
| default_unix_user     | string | query | False    | Filter by default_unix_user                                                                                                            |

| Name                                       | Type    | In    | Required | Description                                                                                                                                        |
|--------------------------------------------|---------|-------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| key_vault_uri                              | string  | query | False    | Filter by key_vault_uri <ul style="list-style-type: none"> <li>Introduced in: 9.15</li> </ul>                                                      |
| options.max_same_tree_connect_per_session  | integer | query | False    | Filter by options.max_same_tree_connect_per_session <ul style="list-style-type: none"> <li>Introduced in: 9.16</li> </ul>                          |
| options.widelink_reparse_versions          | string  | query | False    | Filter by options.widelink_reparse_versions <ul style="list-style-type: none"> <li>Introduced in: 9.10</li> </ul>                                  |
| options.admin_to_root_mapping              | boolean | query | False    | Filter by options.admin_to_root_mapping <ul style="list-style-type: none"> <li>Introduced in: 9.10</li> </ul>                                      |
| options.shadowcopy                         | boolean | query | False    | Filter by options.shadowcopy <ul style="list-style-type: none"> <li>Introduced in: 9.11</li> </ul>                                                 |
| options.trusted_domain_enum_search_enabled | boolean | query | False    | Filter by options.trusted_domain_enum_search_enabled <ul style="list-style-type: none"> <li>Introduced in: 9.16</li> </ul>                         |
| options.smb_credits                        | integer | query | False    | Filter by options.smb_credits <ul style="list-style-type: none"> <li>Introduced in: 9.10</li> <li>Max value: 8192</li> <li>Min value: 2</li> </ul> |

| Name                                     | Type    | In    | Required | Description                                                                     |
|------------------------------------------|---------|-------|----------|---------------------------------------------------------------------------------|
| options.dac_enabled                      | boolean | query | False    | Filter by options.dac_enabled<br><br>• Introduced in: 9.15                      |
| options.fsctl_trim                       | boolean | query | False    | Filter by options.fsctl_trim<br><br>• Introduced in: 9.10                       |
| options.client_version_reporting_enabled | boolean | query | False    | Filter by options.client_version_reporting_enabled<br><br>• Introduced in: 9.16 |
| options.export_policy_enabled            | boolean | query | False    | Filter by options.export_policy_enabled<br><br>• Introduced in: 9.13            |
| options.backup_symlink_enabled           | boolean | query | False    | Filter by options.backup_symlink_enabled<br><br>• Introduced in: 9.15           |
| options.shadowcopy_dir_depth             | integer | query | False    | Filter by options.shadowcopy_dir_depth<br><br>• Introduced in: 9.11             |
| options.fake_open                        | boolean | query | False    | Filter by options.fake_open<br><br>• Introduced in: 9.10                        |

| Name                                 | Type    | In    | Required | Description                                                                 |
|--------------------------------------|---------|-------|----------|-----------------------------------------------------------------------------|
| options.multichannel                 | boolean | query | False    | Filter by options.multichannel<br><br>• Introduced in: 9.10                 |
| options.large_mtu                    | boolean | query | False    | Filter by options.large_mtu<br><br>• Introduced in: 9.10                    |
| options.path_component_cache         | boolean | query | False    | Filter by options.path_component_cache<br><br>• Introduced in: 9.10         |
| options.max_watches_set_per_tree     | integer | query | False    | Filter by options.max_watches_set_per_tree<br><br>• Introduced in: 9.16     |
| options.client_dup_detection_enabled | boolean | query | False    | Filter by options.client_dup_detection_enabled<br><br>• Introduced in: 9.16 |
| options.null_user_windows_name       | string  | query | False    | Filter by options.null_user_windows_name<br><br>• Introduced in: 9.10       |
| options.max_opens_same_file_per_tree | integer | query | False    | Filter by options.max_opens_same_file_per_tree<br><br>• Introduced in: 9.16 |

| Name                                          | Type    | In    | Required | Description                                                                                                       |
|-----------------------------------------------|---------|-------|----------|-------------------------------------------------------------------------------------------------------------------|
| options.max_same_user_sessions_per_connection | integer | query | False    | Filter by options.max_same_user_sessions_per_connection<br><br>• Introduced in: 9.16                              |
| options.referral                              | boolean | query | False    | Filter by options.referral<br><br>• Introduced in: 9.10                                                           |
| options.junction_reparse                      | boolean | query | False    | Filter by options.junction_reparse<br><br>• Introduced in: 9.10                                                   |
| options.copy_offload                          | boolean | query | False    | Filter by options.copy_offload<br><br>• Introduced in: 9.10                                                       |
| options.max_connections_per_session           | integer | query | False    | Filter by options.max_connections_per_session<br><br>• Introduced in: 9.16<br>• Max value: 1024<br>• Min value: 2 |
| options.max_lifs_per_session                  | integer | query | False    | Filter by options.max_lifs_per_session<br><br>• Introduced in: 9.16<br>• Max value: 256<br>• Min value: 1         |

| Name                             | Type    | In    | Required | Description                                                                   |
|----------------------------------|---------|-------|----------|-------------------------------------------------------------------------------|
| options.advanced_s<br>parse_file | boolean | query | False    | Filter by<br>options.advanced_s<br>parse_file<br><br>• Introduced in:<br>9.10 |
| enabled                          | boolean | query | False    | Filter by enabled                                                             |
| proxy_port                       | integer | query | False    | Filter by proxy_port<br><br>• Introduced in:<br>9.15                          |
| proxy_host                       | string  | query | False    | Filter by proxy_host<br><br>• Introduced in:<br>9.15                          |
| tenant_id                        | string  | query | False    | Filter by tenant_id<br><br>• Introduced in:<br>9.15                           |
| statistics.latency_ra<br>w.other | integer | query | False    | Filter by<br>statistics.latency_ra<br>w.other<br><br>• Introduced in:<br>9.7  |
| statistics.latency_ra<br>w.total | integer | query | False    | Filter by<br>statistics.latency_ra<br>w.total<br><br>• Introduced in:<br>9.7  |
| statistics.latency_ra<br>w.read  | integer | query | False    | Filter by<br>statistics.latency_ra<br>w.read<br><br>• Introduced in:<br>9.7   |

| Name                            | Type    | In    | Required | Description                                                           |
|---------------------------------|---------|-------|----------|-----------------------------------------------------------------------|
| statistics.latency_raw.write    | integer | query | False    | Filter by statistics.latency_raw.write<br><br>• Introduced in: 9.7    |
| statistics.throughput_raw.read  | integer | query | False    | Filter by statistics.throughput_raw.read<br><br>• Introduced in: 9.7  |
| statistics.throughput_raw.total | integer | query | False    | Filter by statistics.throughput_raw.total<br><br>• Introduced in: 9.7 |
| statistics.throughput_raw.write | integer | query | False    | Filter by statistics.throughput_raw.write<br><br>• Introduced in: 9.7 |
| statistics.iops_raw.other       | integer | query | False    | Filter by statistics.iops_raw.other<br><br>• Introduced in: 9.7       |
| statistics.iops_raw.total       | integer | query | False    | Filter by statistics.iops_raw.total<br><br>• Introduced in: 9.7       |
| statistics.iops_raw.read        | integer | query | False    | Filter by statistics.iops_raw.read<br><br>• Introduced in: 9.7        |

| Name                           | Type    | In    | Required | Description                                                          |
|--------------------------------|---------|-------|----------|----------------------------------------------------------------------|
| statistics.iops_raw.write      | integer | query | False    | Filter by statistics.iops_raw.write<br><br>• Introduced in: 9.7      |
| statistics.status              | string  | query | False    | Filter by statistics.status<br><br>• Introduced in: 9.7              |
| statistics.timestamp           | string  | query | False    | Filter by statistics.timestamp<br><br>• Introduced in: 9.7           |
| name                           | string  | query | False    | Filter by name<br><br>• maxLength: 15<br>• minLength: 1              |
| timeout                        | integer | query | False    | Filter by timeout<br><br>• Introduced in: 9.15                       |
| security.encrypt_dc_connection | boolean | query | False    | Filter by security.encrypt_dc_connection<br><br>• Introduced in: 9.8 |
| security.kdc_encryption        | boolean | query | False    | Filter by security.kdc_encryption                                    |
| security.use_ldaps             | boolean | query | False    | Filter by security.use_ldaps<br><br>• Introduced in: 9.10            |

| Name                              | Type    | In    | Required | Description                                                              |
|-----------------------------------|---------|-------|----------|--------------------------------------------------------------------------|
| security.smb_signing              | boolean | query | False    | Filter by security.smb_signing                                           |
| security.aes_netlogon_enabled     | boolean | query | False    | Filter by security.aes_netlogon_enabled<br><br>• Introduced in: 9.10     |
| security.restrict_anonymous       | string  | query | False    | Filter by security.restrict_anonymous                                    |
| security.try_ldap_channel_binding | boolean | query | False    | Filter by security.try_ldap_channel_binding<br><br>• Introduced in: 9.10 |
| security.smb_encryption           | boolean | query | False    | Filter by security.smb_encryption                                        |
| security.use_start_tls            | boolean | query | False    | Filter by security.use_start_tls<br><br>• Introduced in: 9.10            |
| security.ldap_referral_enabled    | boolean | query | False    | Filter by security.ldap_referral_enabled<br><br>• Introduced in: 9.10    |
| security.lm_compatibility_level   | string  | query | False    | Filter by security.lm_compatibility_level<br><br>• Introduced in: 9.8    |

| Name                                | Type          | In    | Required | Description                                                                                                                                                        |
|-------------------------------------|---------------|-------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| security.advertised_kdc_encryptions | string        | query | False    | Filter by security.advertised_kdc_encryptions <ul style="list-style-type: none"> <li>• Introduced in: 9.12</li> </ul>                                              |
| security.session_security           | string        | query | False    | Filter by security.session_security <ul style="list-style-type: none"> <li>• Introduced in: 9.10</li> </ul>                                                        |
| group_policy_object_enabled         | boolean       | query | False    | Filter by group_policy_object_enabled <ul style="list-style-type: none"> <li>• Introduced in: 9.12</li> </ul>                                                      |
| verify_host                         | boolean       | query | False    | Filter by verify_host <ul style="list-style-type: none"> <li>• Introduced in: 9.15</li> </ul>                                                                      |
| 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. <ul style="list-style-type: none"> <li>• Default value: 1</li> </ul> |

| Name           | Type          | In    | Required | Description                                                                                                                                                                                                                                                                                                                                           |
|----------------|---------------|-------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| return_timeout | integer       | query | False    | <p>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.</p> <ul style="list-style-type: none"> <li>• Max value: 120</li> <li>• Min value: 0</li> <li>• Default value: 15</li> </ul> |
| order_by       | array[string] | query | False    | Order results by specified fields and optional [asc                                                                                                                                                                                                                                                                                                   |

## Response

Status: 200, Ok

| Name        | Type                   | Description       |
|-------------|------------------------|-------------------|
| _links      | <a href="#">_links</a> |                   |
| num_records | integer                | Number of records |
| records     | array[cifs_service]    |                   |

## Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "ad_domain": {
        "default_site": "string",
        "fqdn": "example.com",
        "organizational_unit": "string"
      },
      "auth-style": "domain",
      "auth_user_type": "string",
      "authentication_method": "string",
      "client_id": "e959dlb5-5a63-4284-9268-851e30e3eceb",
      "comment": "This CIFS Server Belongs to CS Department",
      "default_unix_user": "string",
      "key_vault_uri": "https://kmip-akv-keyvault.vault.azure.net/",
      "metric": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        }
      },
      "duration": "PT15S",
      "iops": {
        "read": 200,
        "total": 1000,
        "write": 100
      },
      "latency": {
        "read": 200,
        "total": 1000,
```

```

        "write": 100
    },
    "status": "ok",
    "throughput": {
        "read": 200,
        "total": 1000,
        "write": 100
    },
    "timestamp": "2017-01-25 06:20:13 -0500"
},
"name": "CIFS1",
"netbios": {
    "aliases": [
        "ALIAS_1",
        "ALIAS_2",
        "ALIAS_3"
    ],
    "wins_servers": [
        "10.224.65.20",
        "10.224.65.21"
    ]
},
"oauth_host": "login.microsoftonline.com",
"options": {
    "max_connections_per_session": 32,
    "max_lifs_per_session": 256,
    "max_opens_same_file_per_tree": 1000,
    "max_same_tree_connect_per_session": 5000,
    "max_same_user_sessions_per_connection": 2500,
    "max_watches_set_per_tree": 500,
    "null_user_windows_name": "string",
    "smb_credits": 128,
    "widelink_reparse_versions": [
        "smb1"
    ]
},
"proxy_host": "proxy.eng.com",
"proxy_port": 1234,
"proxy_type": "string",
"proxy_username": "proxyuser",
"security": {
    "advertised_kdc_encryptions": [
        "string"
    ],
    "lm_compatibility_level": "string",
    "restrict_anonymous": "string",

```

```

    "session_security": "string"
  },
  "statistics": {
    "iops_raw": {
      "read": 200,
      "total": 1000,
      "write": 100
    },
    "latency_raw": {
      "read": 200,
      "total": 1000,
      "write": 100
    },
    "status": "ok",
    "throughput_raw": {
      "read": 200,
      "total": 1000,
      "write": 100
    },
    "timestamp": "2017-01-25 06:20:13 -0500"
  },
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "tenant_id": "c9f32fcb-4ab7-40fe-af1b-1850d46cfbbe",
  "timeout": 25,
  "workgroup": "workgrp1"
}
]
}

```

## Error

Status: Default, Error

| Name  | Type                           | Description |
|-------|--------------------------------|-------------|
| error | <a href="#">returned_error</a> |             |

### 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 | <a href="#">href</a> |             |
| self | <a href="#">href</a> |             |

\_links

| Name | Type                 | Description |
|------|----------------------|-------------|
| self | <a href="#">href</a> |             |

ad\_domain

| Name                | Type   | Description                                                                                                                                                                                                       |
|---------------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| default_site        | string | The default site used by LIFs that do not have a site membership.                                                                                                                                                 |
| fqdn                | string | The fully qualified domain name of the Windows Active Directory to which this CIFS server belongs. A CIFS server appears as a member of Windows server object in the Active Directory store. POST and PATCH only. |
| organizational_unit | string | Specifies the organizational unit within the Active Directory domain to associate with the CIFS server. POST and PATCH only.                                                                                      |

iops

The rate of I/O operations observed at the storage object.

| Name  | Type    | Description                                                                                                                        |
|-------|---------|------------------------------------------------------------------------------------------------------------------------------------|
| other | integer | Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on. |
| read  | integer | Performance metric for read I/O operations.                                                                                        |
| total | integer | Performance metric aggregated over all types of I/O operations.                                                                    |
| write | integer | Performance metric for write I/O operations.                                                                                       |

#### latency

The round trip latency in microseconds observed at the storage object.

| Name  | Type    | Description                                                                                                                        |
|-------|---------|------------------------------------------------------------------------------------------------------------------------------------|
| other | integer | Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on. |
| read  | integer | Performance metric for read I/O operations.                                                                                        |
| total | integer | Performance metric aggregated over all types of I/O operations.                                                                    |
| write | integer | Performance metric for write I/O operations.                                                                                       |

#### throughput

The rate of throughput bytes per second observed at the storage object.

| Name  | Type    | Description                                                     |
|-------|---------|-----------------------------------------------------------------|
| read  | integer | Performance metric for read I/O operations.                     |
| total | integer | Performance metric aggregated over all types of I/O operations. |

| Name  | Type    | Description                                  |
|-------|---------|----------------------------------------------|
| write | integer | Performance metric for write I/O operations. |

metric

Performance numbers, such as IOPS latency and throughput, for SVM protocols.

| Name     | Type                    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| _links   | <a href="#">_links</a>  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| duration | string                  | The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| iops     | <a href="#">iops</a>    | The rate of I/O operations observed at the storage object.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| latency  | <a href="#">latency</a> | The round trip latency in microseconds observed at the storage object.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| status   | string                  | Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data. |

| Name       | Type       | Description                                                             |
|------------|------------|-------------------------------------------------------------------------|
| throughput | throughput | The rate of throughput bytes per second observed at the storage object. |
| timestamp  | string     | The timestamp of the performance data.                                  |

#### cifs\_netbios

| Name         | Type          | Description                                                                                                                                                                |
|--------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| aliases      | array[string] |                                                                                                                                                                            |
| enabled      | boolean       | Specifies whether NetBios name service (NBNS) is enabled for the CIFS. If this service is enabled, the CIFS server will start sending the broadcast for name registration. |
| wins_servers | array[string] |                                                                                                                                                                            |

#### cifs\_service\_options

| Name                             | Type    | Description                                                                                                                                                                                                             |
|----------------------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| admin_to_root_mapping            | boolean | Specifies whether or not Administrator can be mapped to the UNIX user "root".                                                                                                                                           |
| advanced_sparse_file             | boolean | Specifies whether or not the CIFS server supports the advanced sparse file capabilities. This allows CIFS clients to query the allocated ranges of a file and to write zeroes or free data blocks for ranges of a file. |
| backup_symlink_enabled           | boolean | Specifies whether or not to preserve UNIX symlinks during backup through SMB.                                                                                                                                           |
| client_dup_detection_enabled     | boolean | Specifies whether or not client duplicate session detection is enabled for CIFS.                                                                                                                                        |
| client_version_reporting_enabled | boolean | Specifies whether or not client version reporting is enabled for CIFS.                                                                                                                                                  |

| Name                  | Type    | Description                                                                                                                                                                                                                                                                                                             |
|-----------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| copy_offload          | boolean | <p>Specifies whether or not to enable the Copy Offload feature. This feature enables direct data transfers within or between compatible storage devices without transferring the data through the host computer.</p> <p>Note that this will also enable/disable the direct copy feature accordingly.</p>                |
| dac_enabled           | boolean | Specifies whether or not the Dynamic Access Control (DAC) feature is enabled for the CIFS server.                                                                                                                                                                                                                       |
| export_policy_enabled | boolean | Specifies whether or not export policies are enabled for CIFS.                                                                                                                                                                                                                                                          |
| fake_open             | boolean | Specifies whether or not fake open support is enabled. This parameter allows you to optimize the open and close requests coming from SMB 2 clients.                                                                                                                                                                     |
| fsctl_trim            | boolean | Specifies whether or not the trim requests (FSCTL_FILE_LEVEL_TRIM) are supported on the CIFS server.                                                                                                                                                                                                                    |
| junction_reparse      | boolean | Specifies whether or not the reparse point support is enabled. When enabled the CIFS server exposes junction points to Windows clients as reparse points. This parameter is only active if the client has negotiated use of the SMB 2 or SMB 3 protocol. This parameter is not supported for SVMs with Infinite Volume. |
| large_mtu             | boolean | Specifies whether or not SMB clients can send reads up to 1 MB in size.                                                                                                                                                                                                                                                 |

| Name                                  | Type    | Description                                                                                                                                                                                |
|---------------------------------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| max_connections_per_session           | integer | Specifies the maximum number of connections allowed per multichannel session.                                                                                                              |
| max_lifs_per_session                  | integer | Specifies the maximum number of LIFs advertised per multichannel session.                                                                                                                  |
| max_opens_same_file_per_tree          | integer | Specifies the maximum number of opens on the same file per tree.                                                                                                                           |
| max_same_tree_connect_per_session     | integer | Specifies the maximum number of same tree connections per session.                                                                                                                         |
| max_same_user_sessions_per_connection | integer | Specifies the maximum number of same user sessions per connection.                                                                                                                         |
| max_watches_set_per_tree              | integer | Specifies the maximum number of watches set per tree.                                                                                                                                      |
| multichannel                          | boolean | Specifies whether or not the CIFS server supports Multichannel.                                                                                                                            |
| null_user_windows_name                | string  | Specifies a Windows User or Group name that should be mapped in case of a NULL user value.                                                                                                 |
| path_component_cache                  | boolean | Specifies whether or not the path component cache is enabled on the CIFS server.                                                                                                           |
| referral                              | boolean | Specifies whether or not to refer clients to more optimal LIFs. When enabled, it automatically refers clients to a data LIF local to the node which hosts the root of the requested share. |

| Name                               | Type          | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| shadowcopy                         | boolean       | Specifies whether or not to enable the Shadowcopy Feature. This feature enables to take share-based backup copies of data that is in a data-consistent state at a specific point in time where the data is accessed over SMB 3.0 shares.                                                                                                                                                                                                                                                                                                          |
| shadowcopy_dir_depth               | integer       | Specifies the maximum level of subdirectories on which ONTAP should create shadow copies. <ul style="list-style-type: none"> <li>• Default value: 5</li> <li>• Introduced in: 9.11</li> <li>• x-nullable: true</li> </ul>                                                                                                                                                                                                                                                                                                                         |
| smb_credits                        | integer       | Specifies the maximum number of outstanding requests on a CIFS connection.                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| trusted_domain_enum_search_enabled | boolean       | Specifies whether or not to enable trusted domain search. <ul style="list-style-type: none"> <li>• If this parameter is set to true, it displays CIFS options only for CIFS servers that support enumeration of bidirectional trusted domains and that support searching in all bidirectional trusted domains when performing Windows user lookups for UNIX user to Windows user name mapping.</li> <li>• If set to false, it displays CIFS options for CIFS servers that do not support enumeration of bidirectional trusted domains.</li> </ul> |
| widelink_reparse_versions          | array[string] | Specifies the CIFS protocol versions for which the widelink is reported as reparse point.                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

cifs\_service\_security

| Name                       | Type          | Description                                                                      |
|----------------------------|---------------|----------------------------------------------------------------------------------|
| advertised_kdc_encryptions | array[string] |                                                                                  |
| aes_netlogon_enabled       | boolean       | Specifies whether or not an AES session key is enabled for the Netlogon channel. |
| encrypt_dc_connection      | boolean       | Specifies whether encryption is required for domain controller connections.      |

| Name           | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| kdc_encryption | boolean | <p>This attribute has been deprecated. Use "security.advertised_kdc_encryptions" to specify the encryption type to use. Specifies whether AES-128 and AES-256 encryption is enabled for all Kerberos-based communication with the Active Directory KDC. To take advantage of the strongest security with Kerberos-based communication, AES-256 and AES-128 encryption can be enabled on the CIFS server. Kerberos-related communication for CIFS is used during CIFS server creation on the SVM, as well as during the SMB session setup phase. The CIFS server supports the following encryption types for Kerberos communication:</p> <ul style="list-style-type: none"> <li>• RC4-HMAC</li> <li>• DES</li> <li>• AES When the CIFS server is created, the domain controller creates a computer machine account in Active Directory. After a newly created machine account authenticates, the KDC and the CIFS server negotiates encryption types. At this time, the KDC becomes aware of the encryption capabilities of the particular machine account and uses those</li> </ul> |

| Name                   | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ldap_referral_enabled  | boolean | Specifies whether or not LDAP referral chasing is enabled for AD LDAP connections.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| lm_compatibility_level | string  | <p>It is CIFS server minimum security level, also known as the LMCompatibilityLevel. The minimum security level is the minimum level of the security tokens that the CIFS server accepts from SMB clients. The available values are:</p> <ul style="list-style-type: none"> <li>• lm_ntlm_ntlmv2_krb Accepts LM, NTLM, NTLMv2 and Kerberos</li> <li>• ntlm_ntlmv2_krb Accepts NTLM, NTLMv2 and Kerberos</li> <li>• ntlmv2_krb Accepts NTLMv2 and Kerberos</li> <li>• krb Accepts Kerberos only</li> </ul>                                                                                                                                                                                     |
| restrict_anonymous     | string  | <p>Specifies what level of access an anonymous user is granted. An anonymous user (also known as a "null user") can list or enumerate certain types of system information from Windows hosts on the network, including user names and details, account policies, and share names. Access for the anonymous user can be controlled by specifying one of three access restriction settings. The available values are:</p> <ul style="list-style-type: none"> <li>• no_restriction - No access restriction for an anonymous user.</li> <li>• no_enumeration - Enumeration is restricted for an anonymous user.</li> <li>• no_access - All access is restricted for an anonymous user.</li> </ul> |

| Name                     | Type    | Description                                                                                                                                                                                                                                              |
|--------------------------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| session_security         | string  | Specifies client session security for AD LDAP connections. The available values are: <ul style="list-style-type: none"> <li>• none - No Signing or Sealing.</li> <li>• sign - Sign LDAP traffic.</li> <li>• seal - Seal and Sign LDAP traffic</li> </ul> |
| smb_encryption           | boolean | Specifies whether encryption is required for incoming CIFS traffic.                                                                                                                                                                                      |
| smb_signing              | boolean | Specifies whether signing is required for incoming CIFS traffic. SMB signing helps to ensure that network traffic between the CIFS server and the client is not compromised.                                                                             |
| try_ldap_channel_binding | boolean | Specifies whether or not channel binding is attempted in the case of TLS/LDAPS.                                                                                                                                                                          |
| use_ldaps                | boolean | Specifies whether or not to use use LDAPS for secure Active Directory LDAP connections by using the TLS/SSL protocols.                                                                                                                                   |
| use_start_tls            | boolean | Specifies whether or not to use SSL/TLS for allowing secure LDAP communication with Active Directory LDAP servers.                                                                                                                                       |

#### iops\_raw

The number of I/O operations observed at the storage object. This should be used along with delta time to calculate the rate of I/O operations per unit of time.

| Name  | Type    | Description                                                                                                                        |
|-------|---------|------------------------------------------------------------------------------------------------------------------------------------|
| other | integer | Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on. |

| Name  | Type    | Description                                                     |
|-------|---------|-----------------------------------------------------------------|
| read  | integer | Performance metric for read I/O operations.                     |
| total | integer | Performance metric aggregated over all types of I/O operations. |
| write | integer | Performance metric for write I/O operations.                    |

#### latency\_raw

The raw latency in microseconds observed at the storage object. This should be divided by the raw IOPS value to calculate the average latency per I/O operation.

| Name  | Type    | Description                                                                                                                        |
|-------|---------|------------------------------------------------------------------------------------------------------------------------------------|
| other | integer | Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on. |
| read  | integer | Performance metric for read I/O operations.                                                                                        |
| total | integer | Performance metric aggregated over all types of I/O operations.                                                                    |
| write | integer | Performance metric for write I/O operations.                                                                                       |

#### throughput\_raw

Throughput bytes observed at the storage object. This should be used along with delta time to calculate the rate of throughput bytes per unit of time.

| Name  | Type    | Description                                                     |
|-------|---------|-----------------------------------------------------------------|
| read  | integer | Performance metric for read I/O operations.                     |
| total | integer | Performance metric aggregated over all types of I/O operations. |
| write | integer | Performance metric for write I/O operations.                    |

## statistics

These are raw performance numbers, such as IOPS latency and throughput for SVM protocols. These numbers are aggregated across all nodes in the cluster and increase with the uptime of the cluster.

| Name           | Type                           | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| iops_raw       | <a href="#">iops_raw</a>       | The number of I/O operations observed at the storage object. This should be used along with delta time to calculate the rate of I/O operations per unit of time.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| latency_raw    | <a href="#">latency_raw</a>    | The raw latency in microseconds observed at the storage object. This should be divided by the raw IOPS value to calculate the average latency per I/O operation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| status         | string                         | Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data".<br>"Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated.<br>"Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data. |
| throughput_raw | <a href="#">throughput_raw</a> | Throughput bytes observed at the storage object. This should be used along with delta time to calculate the rate of throughput bytes per unit of time.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

| Name      | Type   | Description                            |
|-----------|--------|----------------------------------------|
| timestamp | string | The timestamp of the performance data. |

svm

SVM, applies only to SVM-scoped objects.

| Name   | Type                   | Description                                                                         |
|--------|------------------------|-------------------------------------------------------------------------------------|
| _links | <a href="#">_links</a> |                                                                                     |
| name   | string                 | The name of the SVM. This field cannot be specified in a PATCH method.              |
| uuid   | string                 | The unique identifier of the SVM. This field cannot be specified in a PATCH method. |

cifs\_service

| Name                  | Type                      | Description                                                                                                                                                                                                                                                                                            |
|-----------------------|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| _links                | <a href="#">_links</a>    |                                                                                                                                                                                                                                                                                                        |
| ad_domain             | <a href="#">ad_domain</a> |                                                                                                                                                                                                                                                                                                        |
| auth-style            | string                    | Authentication type.                                                                                                                                                                                                                                                                                   |
| auth_user_type        | string                    | Specifies the type of user who can access the SMB Volume. The default is domain_user. In the case of a hybrid-user, ONTAP won't contact on-premise ADDS. <ul style="list-style-type: none"> <li>enum: ["domain_user", "hybrid_user"]</li> <li>Introduced in: 9.16</li> <li>x-nullable: true</li> </ul> |
| authentication_method | string                    | Specifies the authentication method. The available values are: <ul style="list-style-type: none"> <li>client_secret</li> <li>certificate</li> </ul>                                                                                                                                                    |

| Name                        | Type                                 | Description                                                                                                                                                                                                                                                                                                               |
|-----------------------------|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| client_id                   | string                               | Application client ID of the deployed Azure application with appropriate access to an AKV or EntraID.                                                                                                                                                                                                                     |
| comment                     | string                               | A descriptive text comment for the CIFS server. SMB clients can see the CIFS server comment when browsing servers on the network. If there is a space in the comment, you must enclose the entire string in quotation marks.                                                                                              |
| default_unix_user           | string                               | Specifies the UNIX user to which any authenticated CIFS user is mapped to, if the normal user mapping rules fails.                                                                                                                                                                                                        |
| enabled                     | boolean                              | Specifies if the CIFS service is administratively enabled.                                                                                                                                                                                                                                                                |
| group_policy_object_enabled | boolean                              | If set to true, group policies will be applied to the SVM.                                                                                                                                                                                                                                                                |
| key_vault_uri               | string                               | <p>URI of the deployed AKV that is used by ONTAP for storing keys.</p> <ul style="list-style-type: none"> <li>• example: <a href="https://kmip-akv-keyvault.vault.azure.net/">https://kmip-akv-keyvault.vault.azure.net/</a></li> <li>• format: uri</li> <li>• Introduced in: 9.15</li> <li>• x-nullable: true</li> </ul> |
| metric                      | <a href="#">metric</a>               | Performance numbers, such as IOPS latency and throughput, for SVM protocols.                                                                                                                                                                                                                                              |
| name                        | string                               | The name of the CIFS server.                                                                                                                                                                                                                                                                                              |
| netbios                     | <a href="#">cifs_netbios</a>         |                                                                                                                                                                                                                                                                                                                           |
| oauth_host                  | string                               | Open authorization server host name.                                                                                                                                                                                                                                                                                      |
| options                     | <a href="#">cifs_service_options</a> |                                                                                                                                                                                                                                                                                                                           |
| proxy_host                  | string                               | Proxy host.                                                                                                                                                                                                                                                                                                               |

| Name           | Type                                  | Description                                                                                                                                                                                         |
|----------------|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| proxy_port     | integer                               | Proxy port.                                                                                                                                                                                         |
| proxy_type     | string                                | Proxy type.                                                                                                                                                                                         |
| proxy_username | string                                | Proxy username.                                                                                                                                                                                     |
| security       | <a href="#">cifs_service_security</a> |                                                                                                                                                                                                     |
| statistics     | <a href="#">statistics</a>            | These are raw performance numbers, such as IOPS latency and throughput for SVM protocols. These numbers are aggregated across all nodes in the cluster and increase with the uptime of the cluster. |
| svm            | <a href="#">svm</a>                   | SVM, applies only to SVM-scoped objects.                                                                                                                                                            |
| tenant_id      | string                                | Directory (tenant) ID of the deployed Azure application with appropriate access to an AKV or EntraId.                                                                                               |
| timeout        | integer                               | AKV connection timeout, in seconds. The allowed range is between 0 to 30 seconds.                                                                                                                   |
| verify_host    | boolean                               | Verify the identity of the AKV host name. By default, verify_host is set to true.                                                                                                                   |
| workgroup      | string                                | The workgroup name.                                                                                                                                                                                 |

#### error\_arguments

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

#### returned\_error

| Name      | Type                                     | Description       |
|-----------|------------------------------------------|-------------------|
| arguments | array[ <a href="#">error_arguments</a> ] | Message arguments |

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

## Create a CIFS server

POST /protocols/cifs/services

**Introduced In:** 9.6

Creates a CIFS server. Each SVM can have one CIFS server.

### Important notes

- The CIFS server name might or might not be the same as the SVM name.
- The CIFS server name can contain up to 15 characters.
- The CIFS server name does not support the following characters: @ # \* ( ) = + [ ] \ | ; : " , < > / ?

### Required properties when creating CIFS server with Windows Active Directory domain

- `svm.uuid` or `svm.name` - Existing SVM in which to create the CIFS server.
- `name` - Name of the CIFS server.
- `ad_domain.fqdn` - Fully qualified domain name of the Windows Active Directory to which this CIFS server belongs.
- `ad_domain.user` - User account with the access to add the CIFS server to the Active Directory.
- `ad_domain.password` - Account password used to add this CIFS server to the Active Directory.

### Required properties when creating CIFS server in Workgroup mode

- `svm.uuid` or `svm.name` - Existing SVM in which to create the CIFS server.
- `name` - Name of the CIFS server.
- `workgroup` - Name of the workgroup to which this CIFS server belongs.

### Required properties when using AKV for authentication (ANF platform)

- `svm.uuid` or `svm.name` - Existing SVM in which to create the CIFS server.
- `name` - Name of the CIFS server.
- `ad_domain.user` - User account with the access to add the CIFS server to the Active Directory.

- `ad_domain.fqdn` - Fully qualified domain name of the Windows Active Directory to which this CIFS server belongs.
- `client_id` - Application client ID of the deployed Azure application with appropriate access to an AKV or EntraId.
- `tenant_id` - Directory (tenant) ID of the deployed Azure application with appropriate access to an AKV or EntraId.
- `key_vault_uri` - URI of the deployed AKV that is used by ONTAP for storing keys.
- `authentication_method` - Authentication method used by the application to prove its identity to AKV or EntraId. It can be either "client\_secret" or "certificate".
- `auth_user_type` - Type of user who can access the SMB Volume. It can be either "domain\_user" or "hybrid\_user". The default is domain\_user. In the case of a hybrid-user, ONTAP cannot access on-premise ADDS.
- `client_secret` - Secret used by the application to prove its identity to AKV.
- `client_certificate` - Base64 encoded PKCS12 certificate used by the application to prove its identity to AKV.

## Recommended optional properties

- `comment` - Add a text comment of up to 256 characters about the CIFS server.
- `netbios.aliases` - Add a comma-delimited list of one or more NetBIOS aliases for the CIFS server.
- `netbios.wins_servers` - Add a list of Windows Internet Name Server (WINS) addresses that manage and map the NetBIOS name of the CIFS server to their network IP addresses. The IP addresses must be IPv4 addresses.

## Default property values

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

- `ad_domain.organizational_unit` - *CN=Computers*
- `enabled` - *true*
- `security.restrict_anonymous` - *no\_enumeration*
- `security.smb_signing` - *false*
- `security.smb_encryption` - *false*
- `security.encrypt_dc_connection` - *false*
- `default_unix_user` - *pcuser*
- `netbios.enabled` - *false* However, if either "netbios.wins-server" or "netbios.aliases" is set during POST and if netbios.enabled is not specified then netbios.enabled is set to true.
- `security.aes_netlogon_enabled` - *false*
- `security.try_ldap_channel_binding` - *true*
- `security.ldap_referral_enabled` - *false*

## Related ONTAP commands

- `vserver cifs server create`
- `vserver cifs server options modify`
- `vserver cifs security modify`
- `vserver cifs server add-netbios-aliases`

## Learn more

- [DOC /protocols/cifs/services](#)

## Parameters

| Name  | Type    | In    | Required | Description                                                                                                                                                                                                                                                      |
|-------|---------|-------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| force | boolean | query | False    | <p>If this is set and a machine account with the same name as specified in 'cifs-server name' exists in the Active Directory, existing machine account will be overwritten and reused.</p> <ul style="list-style-type: none"><li>• Introduced in: 9.11</li></ul> |

| Name           | Type    | In    | Required | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------|---------|-------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| return_timeout | integer | query | False    | <p>The number of seconds to allow the call to execute before returning. When doing a POST, PATCH, or DELETE operation on a single record, the default is 0 seconds. This means that if an asynchronous operation is started, the server immediately returns HTTP code 202 (Accepted) along with a link to the job. If a non-zero value is specified for POST, PATCH, or DELETE operations, ONTAP waits that length of time to see if the job completes so it can return something other than 202.</p> <ul style="list-style-type: none"> <li>• Default value: 0</li> <li>• Max value: 120</li> <li>• Min value: 0</li> </ul> |
| return_records | boolean | query | False    | <p>The default is false. If set to true, the records are returned.</p> <ul style="list-style-type: none"> <li>• Default value:</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

## Request Body

| Name       | Type                      | Description          |
|------------|---------------------------|----------------------|
| ad_domain  | <a href="#">ad_domain</a> |                      |
| auth-style | string                    | Authentication type. |

| Name                  | Type    | Description                                                                                                                                                                                                                                                                                                   |
|-----------------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| auth_user_type        | string  | <p>Specifies the type of user who can access the SMB Volume. The default is domain_user. In the case of a hybrid-user, ONTAP won't contact on-premise ADDS.</p> <ul style="list-style-type: none"> <li>enum: ["domain_user", "hybrid_user"]</li> <li>Introduced in: 9.16</li> <li>x-nullable: true</li> </ul> |
| authentication_method | string  | <p>Specifies the authentication method. The available values are:</p> <ul style="list-style-type: none"> <li>client_secret</li> <li>certificate</li> </ul>                                                                                                                                                    |
| client_certificate    | string  | PKCS12 certificate used by the application to prove its identity to AKV.                                                                                                                                                                                                                                      |
| client_id             | string  | Application client ID of the deployed Azure application with appropriate access to an AKV or EntraId.                                                                                                                                                                                                         |
| client_secret         | string  | Secret used by the application to prove its identity to AKV.                                                                                                                                                                                                                                                  |
| comment               | string  | A descriptive text comment for the CIFS server. SMB clients can see the CIFS server comment when browsing servers on the network. If there is a space in the comment, you must enclose the entire string in quotation marks.                                                                                  |
| default_unix_user     | string  | Specifies the UNIX user to which any authenticated CIFS user is mapped to, if the normal user mapping rules fails.                                                                                                                                                                                            |
| enabled               | boolean | Specifies if the CIFS service is administratively enabled.                                                                                                                                                                                                                                                    |

| Name           | Type                                  | Description                                                                                                                                                                                                                                                                                                               |
|----------------|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| key_vault_uri  | string                                | <p>URI of the deployed AKV that is used by ONTAP for storing keys.</p> <ul style="list-style-type: none"> <li>• example: <a href="https://kmip-akv-keyvault.vault.azure.net/">https://kmip-akv-keyvault.vault.azure.net/</a></li> <li>• format: uri</li> <li>• Introduced in: 9.15</li> <li>• x-nullable: true</li> </ul> |
| name           | string                                | The name of the CIFS server.                                                                                                                                                                                                                                                                                              |
| netbios        | <a href="#">cifs_netbios</a>          |                                                                                                                                                                                                                                                                                                                           |
| oauth_host     | string                                | Open authorization server host name.                                                                                                                                                                                                                                                                                      |
| options        | <a href="#">cifs_service_options</a>  |                                                                                                                                                                                                                                                                                                                           |
| proxy_host     | string                                | Proxy host.                                                                                                                                                                                                                                                                                                               |
| proxy_password | string                                | Proxy password. Password is not audited.                                                                                                                                                                                                                                                                                  |
| proxy_port     | integer                               | Proxy port.                                                                                                                                                                                                                                                                                                               |
| proxy_type     | string                                | Proxy type.                                                                                                                                                                                                                                                                                                               |
| proxy_username | string                                | Proxy username.                                                                                                                                                                                                                                                                                                           |
| security       | <a href="#">cifs_service_security</a> |                                                                                                                                                                                                                                                                                                                           |
| svm            | <a href="#">svm</a>                   | SVM, applies only to SVM-scoped objects.                                                                                                                                                                                                                                                                                  |
| tenant_id      | string                                | Directory (tenant) ID of the deployed Azure application with appropriate access to an AKV or EntraId.                                                                                                                                                                                                                     |
| timeout        | integer                               | AKV connection timeout, in seconds. The allowed range is between 0 to 30 seconds.                                                                                                                                                                                                                                         |
| verify_host    | boolean                               | Verify the identity of the AKV host name. By default, verify_host is set to true.                                                                                                                                                                                                                                         |

| Name      | Type   | Description         |
|-----------|--------|---------------------|
| workgroup | string | The workgroup name. |

## Example request

```
{
  "ad_domain": {
    "default_site": "string",
    "fqdn": "example.com",
    "organizational_unit": "string",
    "password": "string",
    "user": "string"
  },
  "auth-style": "domain",
  "auth_user_type": "string",
  "authentication_method": "string",
  "client_certificate": "PEM Cert",
  "client_id": "e959d1b5-5a63-4284-9268-851e30e3e3eb",
  "client_secret": "<APPLICATION-CLIENT-SECRET-FOR-AKV>",
  "comment": "This CIFS Server Belongs to CS Department",
  "default_unix_user": "string",
  "group_policy_object_enabled": true,
  "key_vault_uri": "https://kmip-akv-keyvault.vault.azure.net/",
  "name": "CIFS1",
  "netbios": {
    "aliases": [
      "ALIAS_1",
      "ALIAS_2",
      "ALIAS_3"
    ],
    "wins_servers": [
      "10.224.65.20",
      "10.224.65.21"
    ]
  },
  "oauth_host": "login.microsoftonline.com",
  "options": {
    "max_connections_per_session": 32,
    "max_lifs_per_session": 256,
    "max_opens_same_file_per_tree": 1000,
    "max_same_tree_connect_per_session": 5000,
    "max_same_user_sessions_per_connection": 2500,
    "max_watches_set_per_tree": 500,
    "null_user_windows_name": "string",
    "smb_credits": 128,
    "widelink_reparse_versions": [
      "smb1"
    ]
  }
},
```

```

"proxy_host": "proxy.eng.com",
"proxy_password": "proxypassword",
"proxy_port": 1234,
"proxy_type": "string",
"proxy_username": "proxyuser",
"security": {
  "advertised_kdc_encryptions": [
    "string"
  ],
  "restrict_anonymous": "string",
  "session_security": "string"
},
"svm": {
  "name": "svm1",
  "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
},
"tenant_id": "c9f32fcb-4ab7-40fe-af1b-1850d46cfbbe",
"timeout": 25,
"workgroup": "workgrp1"
}

```

## Response

Status: 202, Accepted

| Name | Type                     | Description |
|------|--------------------------|-------------|
| job  | <a href="#">job_link</a> |             |

## Example response

```

{
  "job": {
    "uuid": "string"
  }
}

```

## Headers

| Name     | Description                               | Type   |
|----------|-------------------------------------------|--------|
| Location | Useful for tracking the resource location | string |

## Response

Status: 201, Created

## Error

Status: Default

### ONTAP Error Response Codes

| Error Code | Description                                                                                                                                                                                                                                           |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1115127    | The cluster lacks a valid CIFS license.                                                                                                                                                                                                               |
| 3735751    | Failed to authenticate and retrieve the access token from the Azure OAuth host.                                                                                                                                                                       |
| 3735752    | Failed to extract the private key from the Azure Key Vault certificate.                                                                                                                                                                               |
| 3735753    | Unsupported content_type in the Azure secrets response.                                                                                                                                                                                               |
| 3735754    | Failed to parse the JSON response from Azure Key Vault.                                                                                                                                                                                               |
| 3735755    | REST API call to Azure failed.                                                                                                                                                                                                                        |
| 3735756    | Invalid client certificate.                                                                                                                                                                                                                           |
| 3735757    | Failed to generate client assertion.                                                                                                                                                                                                                  |
| 3735762    | The provided Azure Key Vault configuration is incorrect.                                                                                                                                                                                              |
| 3735763    | The provided Azure Key Vault configuration is incomplete.                                                                                                                                                                                             |
| 3735764    | Request to Azure failed. Reason - Azure error code and Azure error message.                                                                                                                                                                           |
| 655388     | Failed to create the CIFS server. Failure can occur due to multiple reasons. For example: STARTTLS and LDAPS cannot be used together or a password update failed or error from LDAP server or Kerberos Error: KDC has no support for encryption type. |
| 655524     | CIFS server creation failed.                                                                                                                                                                                                                          |
| 655538     | CIFS server creation failed because a server with the same name already exists.                                                                                                                                                                       |
| 655562     | NetBIOS name is longer than 15 characters.                                                                                                                                                                                                            |
| 655563     | NetBIOS name contains characters that are not allowed.                                                                                                                                                                                                |

| Error Code | Description                                                                                                                 |
|------------|-----------------------------------------------------------------------------------------------------------------------------|
| 655771     | The number of NetBIOS aliases cannot exceed the maximum supported number of '200'.                                          |
| 655914     | Failed to create the Active Directory machine account.                                                                      |
| 655923     | Retrieving credentials from AKV is not supported because the effective cluster version is not ONTAP 9.15.0 or later.        |
| 656464     | Failed to create the Active Directory machine account.<br>Reason: Invalid Credentials.                                      |
| 656465     | Failed to create the Active Directory machine account.<br>Reason: Account with same name already exists.                    |
| 656466     | Failed to create the Active Directory machine account.<br>Reason: Domain Controller is not reachable or does not exist.     |
| 656467     | Failed to create the Active Directory machine account.<br>Reason: Organizational-Unit not found.                            |
| 656473     | Fields security.kdc_encryption and security.advertised_kdc_encryptions are mutually exclusive. Specify only one of the two. |
| 655477     | Only one CIFS server is supported per SVM.                                                                                  |
| 656487     | Missing fields when doing CIFS operation with hybrid auth user type.                                                        |

## Definitions

## See Definitions

href

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

\_links

ad\_domain

| Name                | Type   | Description                                                                                                                                                                                                       |
|---------------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| default_site        | string | The default site used by LIFs that do not have a site membership.                                                                                                                                                 |
| fqdn                | string | The fully qualified domain name of the Windows Active Directory to which this CIFS server belongs. A CIFS server appears as a member of Windows server object in the Active Directory store. POST and PATCH only. |
| organizational_unit | string | Specifies the organizational unit within the Active Directory domain to associate with the CIFS server. POST and PATCH only.                                                                                      |
| password            | string | The account password used to add this CIFS server to the Active Directory. This is not audited.                                                                                                                   |
| user                | string | The user account used to add this CIFS server to the Active Directory.                                                                                                                                            |

iops

The rate of I/O operations observed at the storage object.

| Name  | Type    | Description                                                                                                                        |
|-------|---------|------------------------------------------------------------------------------------------------------------------------------------|
| other | integer | Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on. |

| Name  | Type    | Description                                                     |
|-------|---------|-----------------------------------------------------------------|
| read  | integer | Performance metric for read I/O operations.                     |
| total | integer | Performance metric aggregated over all types of I/O operations. |
| write | integer | Performance metric for write I/O operations.                    |

#### latency

The round trip latency in microseconds observed at the storage object.

| Name  | Type    | Description                                                                                                                        |
|-------|---------|------------------------------------------------------------------------------------------------------------------------------------|
| other | integer | Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on. |
| read  | integer | Performance metric for read I/O operations.                                                                                        |
| total | integer | Performance metric aggregated over all types of I/O operations.                                                                    |
| write | integer | Performance metric for write I/O operations.                                                                                       |

#### throughput

The rate of throughput bytes per second observed at the storage object.

| Name  | Type    | Description                                                     |
|-------|---------|-----------------------------------------------------------------|
| read  | integer | Performance metric for read I/O operations.                     |
| total | integer | Performance metric aggregated over all types of I/O operations. |
| write | integer | Performance metric for write I/O operations.                    |

#### metric

Performance numbers, such as IOPS latency and throughput, for SVM protocols.

| Name       | Type                       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| duration   | string                     | The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| iops       | <a href="#">iops</a>       | The rate of I/O operations observed at the storage object.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| latency    | <a href="#">latency</a>    | The round trip latency in microseconds observed at the storage object.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| status     | string                     | Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data. |
| throughput | <a href="#">throughput</a> | The rate of throughput bytes per second observed at the storage object.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| timestamp  | string                     | The timestamp of the performance data.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

cifs\_netbios

| Name         | Type          | Description                                                                                                                                                                |
|--------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| aliases      | array[string] |                                                                                                                                                                            |
| enabled      | boolean       | Specifies whether NetBios name service (NBNS) is enabled for the CIFS. If this service is enabled, the CIFS server will start sending the broadcast for name registration. |
| wins_servers | array[string] |                                                                                                                                                                            |

#### cifs\_service\_options

| Name                             | Type    | Description                                                                                                                                                                                                             |
|----------------------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| admin_to_root_mapping            | boolean | Specifies whether or not Administrator can be mapped to the UNIX user "root".                                                                                                                                           |
| advanced_sparse_file             | boolean | Specifies whether or not the CIFS server supports the advanced sparse file capabilities. This allows CIFS clients to query the allocated ranges of a file and to write zeroes or free data blocks for ranges of a file. |
| backup_symlink_enabled           | boolean | Specifies whether or not to preserve UNIX symlinks during backup through SMB.                                                                                                                                           |
| client_dup_detection_enabled     | boolean | Specifies whether or not client duplicate session detection is enabled for CIFS.                                                                                                                                        |
| client_version_reporting_enabled | boolean | Specifies whether or not client version reporting is enabled for CIFS.                                                                                                                                                  |

| Name                  | Type    | Description                                                                                                                                                                                                                                                                                                             |
|-----------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| copy_offload          | boolean | <p>Specifies whether or not to enable the Copy Offload feature. This feature enables direct data transfers within or between compatible storage devices without transferring the data through the host computer.</p> <p>Note that this will also enable/disable the direct copy feature accordingly.</p>                |
| dac_enabled           | boolean | Specifies whether or not the Dynamic Access Control (DAC) feature is enabled for the CIFS server.                                                                                                                                                                                                                       |
| export_policy_enabled | boolean | Specifies whether or not export policies are enabled for CIFS.                                                                                                                                                                                                                                                          |
| fake_open             | boolean | Specifies whether or not fake open support is enabled. This parameter allows you to optimize the open and close requests coming from SMB 2 clients.                                                                                                                                                                     |
| fsctl_trim            | boolean | Specifies whether or not the trim requests (FSCTL_FILE_LEVEL_TRIM) are supported on the CIFS server.                                                                                                                                                                                                                    |
| junction_reparse      | boolean | Specifies whether or not the reparse point support is enabled. When enabled the CIFS server exposes junction points to Windows clients as reparse points. This parameter is only active if the client has negotiated use of the SMB 2 or SMB 3 protocol. This parameter is not supported for SVMs with Infinite Volume. |
| large_mtu             | boolean | Specifies whether or not SMB clients can send reads up to 1 MB in size.                                                                                                                                                                                                                                                 |

| Name                                  | Type    | Description                                                                                                                                                                                |
|---------------------------------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| max_connections_per_session           | integer | Specifies the maximum number of connections allowed per multichannel session.                                                                                                              |
| max_lifs_per_session                  | integer | Specifies the maximum number of LIFs advertised per multichannel session.                                                                                                                  |
| max_opens_same_file_per_tree          | integer | Specifies the maximum number of opens on the same file per tree.                                                                                                                           |
| max_same_tree_connect_per_session     | integer | Specifies the maximum number of same tree connections per session.                                                                                                                         |
| max_same_user_sessions_per_connection | integer | Specifies the maximum number of same user sessions per connection.                                                                                                                         |
| max_watches_set_per_tree              | integer | Specifies the maximum number of watches set per tree.                                                                                                                                      |
| multichannel                          | boolean | Specifies whether or not the CIFS server supports Multichannel.                                                                                                                            |
| null_user_windows_name                | string  | Specifies a Windows User or Group name that should be mapped in case of a NULL user value.                                                                                                 |
| path_component_cache                  | boolean | Specifies whether or not the path component cache is enabled on the CIFS server.                                                                                                           |
| referral                              | boolean | Specifies whether or not to refer clients to more optimal LIFs. When enabled, it automatically refers clients to a data LIF local to the node which hosts the root of the requested share. |

| Name                               | Type          | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| shadowcopy                         | boolean       | Specifies whether or not to enable the Shadowcopy Feature. This feature enables to take share-based backup copies of data that is in a data-consistent state at a specific point in time where the data is accessed over SMB 3.0 shares.                                                                                                                                                                                                                                                                                                          |
| shadowcopy_dir_depth               | integer       | Specifies the maximum level of subdirectories on which ONTAP should create shadow copies. <ul style="list-style-type: none"> <li>• Default value: 5</li> <li>• Introduced in: 9.11</li> <li>• x-nullable: true</li> </ul>                                                                                                                                                                                                                                                                                                                         |
| smb_credits                        | integer       | Specifies the maximum number of outstanding requests on a CIFS connection.                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| trusted_domain_enum_search_enabled | boolean       | Specifies whether or not to enable trusted domain search. <ul style="list-style-type: none"> <li>• If this parameter is set to true, it displays CIFS options only for CIFS servers that support enumeration of bidirectional trusted domains and that support searching in all bidirectional trusted domains when performing Windows user lookups for UNIX user to Windows user name mapping.</li> <li>• If set to false, it displays CIFS options for CIFS servers that do not support enumeration of bidirectional trusted domains.</li> </ul> |
| widelink_reparse_versions          | array[string] | Specifies the CIFS protocol versions for which the widelink is reported as reparse point.                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

cifs\_service\_security

| Name                       | Type          | Description                                                                      |
|----------------------------|---------------|----------------------------------------------------------------------------------|
| advertised_kdc_encryptions | array[string] |                                                                                  |
| aes_netlogon_enabled       | boolean       | Specifies whether or not an AES session key is enabled for the Netlogon channel. |
| encrypt_dc_connection      | boolean       | Specifies whether encryption is required for domain controller connections.      |

| Name           | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| kdc_encryption | boolean | <p>This attribute has been deprecated. Use "security.advertised_kdc_encryptions" to specify the encryption type to use. Specifies whether AES-128 and AES-256 encryption is enabled for all Kerberos-based communication with the Active Directory KDC. To take advantage of the strongest security with Kerberos-based communication, AES-256 and AES-128 encryption can be enabled on the CIFS server. Kerberos-related communication for CIFS is used during CIFS server creation on the SVM, as well as during the SMB session setup phase. The CIFS server supports the following encryption types for Kerberos communication:</p> <ul style="list-style-type: none"> <li>• RC4-HMAC</li> <li>• DES</li> <li>• AES When the CIFS server is created, the domain controller creates a computer machine account in Active Directory. After a newly created machine account authenticates, the KDC and the CIFS server negotiates encryption types. At this time, the KDC becomes aware of the encryption capabilities of the particular machine account and uses those</li> </ul> |

| Name                  | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ldap_referral_enabled | boolean | Specifies whether or not LDAP referral chasing is enabled for AD LDAP connections.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| restrict_anonymous    | string  | <p>Specifies what level of access an anonymous user is granted. An anonymous user (also known as a "null user") can list or enumerate certain types of system information from Windows hosts on the network, including user names and details, account policies, and share names. Access for the anonymous user can be controlled by specifying one of three access restriction settings. The available values are:</p> <ul style="list-style-type: none"> <li>• no_restriction - No access restriction for an anonymous user.</li> <li>• no_enumeration - Enumeration is restricted for an anonymous user.</li> <li>• no_access - All access is restricted for an anonymous user.</li> </ul> |
| session_security      | string  | <p>Specifies client session security for AD LDAP connections. The available values are:</p> <ul style="list-style-type: none"> <li>• none - No Signing or Sealing.</li> <li>• sign - Sign LDAP traffic.</li> <li>• seal - Seal and Sign LDAP traffic</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                               |
| smb_encryption        | boolean | Specifies whether encryption is required for incoming CIFS traffic.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| smb_signing           | boolean | Specifies whether signing is required for incoming CIFS traffic. SMB signing helps to ensure that network traffic between the CIFS server and the client is not compromised.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

| Name                     | Type    | Description                                                                                                            |
|--------------------------|---------|------------------------------------------------------------------------------------------------------------------------|
| try_ldap_channel_binding | boolean | Specifies whether or not channel binding is attempted in the case of TLS/LDAPS.                                        |
| use_ldaps                | boolean | Specifies whether or not to use use LDAPS for secure Active Directory LDAP connections by using the TLS/SSL protocols. |
| use_start_tls            | boolean | Specifies whether or not to use SSL/TLS for allowing secure LDAP communication with Active Directory LDAP servers.     |

#### iops\_raw

The number of I/O operations observed at the storage object. This should be used along with delta time to calculate the rate of I/O operations per unit of time.

| Name  | Type    | Description                                                                                                                        |
|-------|---------|------------------------------------------------------------------------------------------------------------------------------------|
| other | integer | Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on. |
| read  | integer | Performance metric for read I/O operations.                                                                                        |
| total | integer | Performance metric aggregated over all types of I/O operations.                                                                    |
| write | integer | Performance metric for write I/O operations.                                                                                       |

#### latency\_raw

The raw latency in microseconds observed at the storage object. This should be divided by the raw IOPS value to calculate the average latency per I/O operation.

| Name  | Type    | Description                                                                                                                        |
|-------|---------|------------------------------------------------------------------------------------------------------------------------------------|
| other | integer | Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on. |

| Name  | Type    | Description                                                     |
|-------|---------|-----------------------------------------------------------------|
| read  | integer | Performance metric for read I/O operations.                     |
| total | integer | Performance metric aggregated over all types of I/O operations. |
| write | integer | Performance metric for write I/O operations.                    |

#### throughput\_raw

Throughput bytes observed at the storage object. This should be used along with delta time to calculate the rate of throughput bytes per unit of time.

| Name  | Type    | Description                                                     |
|-------|---------|-----------------------------------------------------------------|
| read  | integer | Performance metric for read I/O operations.                     |
| total | integer | Performance metric aggregated over all types of I/O operations. |
| write | integer | Performance metric for write I/O operations.                    |

#### statistics

These are raw performance numbers, such as IOPS latency and throughput for SVM protocols. These numbers are aggregated across all nodes in the cluster and increase with the uptime of the cluster.

| Name        | Type                        | Description                                                                                                                                                      |
|-------------|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| iops_raw    | <a href="#">iops_raw</a>    | The number of I/O operations observed at the storage object. This should be used along with delta time to calculate the rate of I/O operations per unit of time. |
| latency_raw | <a href="#">latency_raw</a> | The raw latency in microseconds observed at the storage object. This should be divided by the raw IOPS value to calculate the average latency per I/O operation. |

| Name           | Type           | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| status         | string         | Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data".<br>"Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated.<br>"Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data. |
| throughput_raw | throughput_raw | Throughput bytes observed at the storage object. This should be used along with delta time to calculate the rate of throughput bytes per unit of time.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| timestamp      | string         | The timestamp of the performance data.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

svm

SVM, applies only to SVM-scoped objects.

| Name | Type   | Description                                                                         |
|------|--------|-------------------------------------------------------------------------------------|
| name | string | The name of the SVM. This field cannot be specified in a PATCH method.              |
| uuid | string | The unique identifier of the SVM. This field cannot be specified in a PATCH method. |

cifs\_service

| Name                  | Type                      | Description                                                                                                                                                                                                                                                                                                   |
|-----------------------|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ad_domain             | <a href="#">ad_domain</a> |                                                                                                                                                                                                                                                                                                               |
| auth-style            | string                    | Authentication type.                                                                                                                                                                                                                                                                                          |
| auth_user_type        | string                    | <p>Specifies the type of user who can access the SMB Volume. The default is domain_user. In the case of a hybrid-user, ONTAP won't contact on-premise ADDS.</p> <ul style="list-style-type: none"> <li>enum: ["domain_user", "hybrid_user"]</li> <li>Introduced in: 9.16</li> <li>x-nullable: true</li> </ul> |
| authentication_method | string                    | <p>Specifies the authentication method. The available values are:</p> <ul style="list-style-type: none"> <li>client_secret</li> <li>certificate</li> </ul>                                                                                                                                                    |
| client_certificate    | string                    | PKCS12 certificate used by the application to prove its identity to AKV.                                                                                                                                                                                                                                      |
| client_id             | string                    | Application client ID of the deployed Azure application with appropriate access to an AKV or EntraId.                                                                                                                                                                                                         |
| client_secret         | string                    | Secret used by the application to prove its identity to AKV.                                                                                                                                                                                                                                                  |
| comment               | string                    | A descriptive text comment for the CIFS server. SMB clients can see the CIFS server comment when browsing servers on the network. If there is a space in the comment, you must enclose the entire string in quotation marks.                                                                                  |
| default_unix_user     | string                    | Specifies the UNIX user to which any authenticated CIFS user is mapped to, if the normal user mapping rules fails.                                                                                                                                                                                            |

| Name           | Type                                  | Description                                                                                                                                                                                                                                                                                                               |
|----------------|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| enabled        | boolean                               | Specifies if the CIFS service is administratively enabled.                                                                                                                                                                                                                                                                |
| key_vault_uri  | string                                | <p>URI of the deployed AKV that is used by ONTAP for storing keys.</p> <ul style="list-style-type: none"> <li>• example: <a href="https://kmip-akv-keyvault.vault.azure.net/">https://kmip-akv-keyvault.vault.azure.net/</a></li> <li>• format: uri</li> <li>• Introduced in: 9.15</li> <li>• x-nullable: true</li> </ul> |
| name           | string                                | The name of the CIFS server.                                                                                                                                                                                                                                                                                              |
| netbios        | <a href="#">cifs_netbios</a>          |                                                                                                                                                                                                                                                                                                                           |
| oauth_host     | string                                | Open authorization server host name.                                                                                                                                                                                                                                                                                      |
| options        | <a href="#">cifs_service_options</a>  |                                                                                                                                                                                                                                                                                                                           |
| proxy_host     | string                                | Proxy host.                                                                                                                                                                                                                                                                                                               |
| proxy_password | string                                | Proxy password. Password is not audited.                                                                                                                                                                                                                                                                                  |
| proxy_port     | integer                               | Proxy port.                                                                                                                                                                                                                                                                                                               |
| proxy_type     | string                                | Proxy type.                                                                                                                                                                                                                                                                                                               |
| proxy_username | string                                | Proxy username.                                                                                                                                                                                                                                                                                                           |
| security       | <a href="#">cifs_service_security</a> |                                                                                                                                                                                                                                                                                                                           |
| svm            | <a href="#">svm</a>                   | SVM, applies only to SVM-scoped objects.                                                                                                                                                                                                                                                                                  |
| tenant_id      | string                                | Directory (tenant) ID of the deployed Azure application with appropriate access to an AKV or EntraId.                                                                                                                                                                                                                     |
| timeout        | integer                               | AKV connection timeout, in seconds. The allowed range is between 0 to 30 seconds.                                                                                                                                                                                                                                         |

| Name        | Type    | Description                                                                       |
|-------------|---------|-----------------------------------------------------------------------------------|
| verify_host | boolean | Verify the identity of the AKV host name. By default, verify_host is set to true. |
| workgroup   | string  | The workgroup name.                                                               |

job\_link

| Name | Type   | Description                                                                               |
|------|--------|-------------------------------------------------------------------------------------------|
| uuid | string | The UUID of the asynchronous job that is triggered by a POST, PATCH, or DELETE operation. |

error\_arguments

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

returned\_error

| Name      | Type                                     | Description                                 |
|-----------|------------------------------------------|---------------------------------------------|
| arguments | array[ <a href="#">error_arguments</a> ] | Message arguments                           |
| code      | string                                   | Error code                                  |
| message   | string                                   | Error message                               |
| target    | string                                   | The target parameter that caused the error. |

## Delete a CIFS server and related configurations

```
DELETE /protocols/cifs/services/{svm.uuid}
```

**Introduced In:** 9.6

Deletes a CIFS server and related CIFS configurations.

Important notes:

- The default value for the "force" field is false.
- If the "force" field is set along with user login credentials, the local CIFS configuration will be deleted irrespective of any communication errors.
- If the "force" field alone is set without passing the user login credentials, the local CIFS configuration will be deleted by not making any request to Active Directory.

## Related ONTAP commands

- `vserver cifs server delete`
- `vserver cifs remove-netbios-aliases`

## Learn more

- [DOC /protocols/cifs/services](#)

## Parameters

| Name  | Type    | In    | Required | Description                                                                                                                                                                                                       |
|-------|---------|-------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| force | boolean | query | False    | <p>When set, the local CIFS configuration is deleted irrespective of any communication errors. Default value for this field is false.</p> <ul style="list-style-type: none"> <li>• Introduced in: 9.11</li> </ul> |

| Name           | Type    | In    | Required | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------|---------|-------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| return_timeout | integer | query | False    | <p>The number of seconds to allow the call to execute before returning. When doing a POST, PATCH, or DELETE operation on a single record, the default is 0 seconds. This means that if an asynchronous operation is started, the server immediately returns HTTP code 202 (Accepted) along with a link to the job. If a non-zero value is specified for POST, PATCH, or DELETE operations, ONTAP waits that length of time to see if the job completes so it can return something other than 202.</p> <ul style="list-style-type: none"> <li>• Default value: 0</li> <li>• Max value: 120</li> <li>• Min value: 0</li> </ul> |
| svm.uuid       | string  | path  | True     | UUID of the SVM to which this object belongs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

## Request Body

| Name      | Type                             | Description |
|-----------|----------------------------------|-------------|
| ad_domain | <a href="#">ad_domain_delete</a> |             |

| Name                  | Type   | Description                                                                                                                                                                                                                                                                                                       |
|-----------------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| auth_user_type        | string | <p>Specifies the type of user who can access the SMB Volume. The default is domain_user. In the case of a hybrid-user, ONTAP won't contact on-premise ADDS.</p> <ul style="list-style-type: none"> <li>enum: ["domain_user", "hybrid_user"]</li> <li>Introduced in: 9.16</li> <li>x-nullable: true</li> </ul>     |
| authentication_method | string | <p>Specifies the authentication method. The available values are:</p> <ul style="list-style-type: none"> <li>client_secret</li> <li>certificate</li> </ul>                                                                                                                                                        |
| client_certificate    | string | <p>PKCS12 certificate used by the application to prove its identity to AKV.</p>                                                                                                                                                                                                                                   |
| client_id             | string | <p>Application client ID of the deployed Azure application with appropriate access to an AKV or EntraId.</p>                                                                                                                                                                                                      |
| client_secret         | string | <p>Secret used by the application to prove its identity to AKV.</p>                                                                                                                                                                                                                                               |
| key_vault_uri         | string | <p>URI of the deployed AKV that is used by ONTAP for storing keys.</p> <ul style="list-style-type: none"> <li>example: <a href="https://kmip-akv-keyvault.vault.azure.net/">https://kmip-akv-keyvault.vault.azure.net/</a></li> <li>format: uri</li> <li>Introduced in: 9.15</li> <li>x-nullable: true</li> </ul> |
| oauth_host            | string | <p>Open authorization server host name.</p>                                                                                                                                                                                                                                                                       |
| proxy_host            | string | <p>Proxy host.</p>                                                                                                                                                                                                                                                                                                |
| proxy_password        | string | <p>Proxy password. Password is not audited.</p>                                                                                                                                                                                                                                                                   |

| Name           | Type    | Description                                                                                           |
|----------------|---------|-------------------------------------------------------------------------------------------------------|
| proxy_port     | integer | Proxy port.                                                                                           |
| proxy_type     | string  | Proxy type.                                                                                           |
| proxy_username | string  | Proxy username.                                                                                       |
| tenant_id      | string  | Directory (tenant) ID of the deployed Azure application with appropriate access to an AKV or EntraId. |
| timeout        | integer | AKV connection timeout, in seconds. The allowed range is between 0 to 30 seconds.                     |
| verify_host    | boolean | Verify the identity of the AKV host name. By default, verify_host is set to true.                     |
| workgroup      | string  | The workgroup name.                                                                                   |

## Example request

```
{
  "ad_domain": {
    "fqdn": "example.com",
    "organizational_unit": "string",
    "password": "string",
    "user": "string"
  },
  "auth_user_type": "string",
  "authentication_method": "string",
  "client_certificate": "PEM Cert",
  "client_id": "e959d1b5-5a63-4284-9268-851e30e3eceb",
  "client_secret": "<APPLICATION-CLIENT-SECRET-FOR-AKV>",
  "key_vault_uri": "https://kmip-akv-keyvault.vault.azure.net/",
  "oauth_host": "login.microsoftonline.com",
  "proxy_host": "proxy.eng.com",
  "proxy_password": "proxypassword",
  "proxy_port": 1234,
  "proxy_type": "string",
  "proxy_username": "proxyuser",
  "tenant_id": "c9f32fcb-4ab7-40fe-af1b-1850d46cfbbe",
  "timeout": 25,
  "workgroup": "workgrp1"
}
```

## Response

Status: 200, Ok

| Name | Type                     | Description |
|------|--------------------------|-------------|
| job  | <a href="#">job_link</a> |             |

## Example response

```
{
  "job": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "uuid": "string"
  }
}
```

## Response

Status: 202, Accepted

## Error

Status: Default

### ONTAP Error Response Codes

| Error Code | Description                                                                                                                                                        |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 655525     | In order to delete an Active Directory machine account for the CIFS server, you must supply the name and password of a Windows account with sufficient privileges. |
| 3735751    | Failed to authenticate and retrieve the access token from the Azure OAuth host.                                                                                    |
| 3735752    | Failed to extract the private key from the Azure Key Vault certificate.                                                                                            |
| 3735753    | Unsupported content_type in the Azure secrets response.                                                                                                            |
| 3735754    | Failed to parse the JSON response from Azure Key Vault.                                                                                                            |
| 3735755    | REST API call to Azure failed.                                                                                                                                     |
| 3735756    | Invalid client certificate.                                                                                                                                        |
| 3735757    | Failed to generate client assertion.                                                                                                                               |

| Error Code | Description                                                                                                          |
|------------|----------------------------------------------------------------------------------------------------------------------|
| 3735762    | The provided Azure Key Vault configuration is incorrect.                                                             |
| 3735763    | The provided Azure Key Vault configuration is incomplete.                                                            |
| 3735764    | Request to Azure failed. Reason - Azure error code and Azure error message.                                          |
| 655563     | NetBIOS name contains characters that are not allowed.                                                               |
| 655562     | NetBIOS name is longer than 15 characters.                                                                           |
| 655923     | Retrieving credentials from AKV is not supported because the effective cluster version is not ONTAP 9.15.0 or later. |
| 656487     | Missing fields when doing CIFS operation with hybrid auth user type.                                                 |

| Name  | Type                           | Description |
|-------|--------------------------------|-------------|
| error | <a href="#">returned_error</a> |             |

### Example error

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

## Definitions

## See Definitions

### ad\_domain\_delete

| Name                | Type   | Description                                                                                                                                                                                                       |
|---------------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| fqdn                | string | The fully qualified domain name of the Windows Active Directory to which this CIFS server belongs. A CIFS server appears as a member of Windows server object in the Active Directory store. POST and PATCH only. |
| organizational_unit | string | Specifies the organizational unit within the Active Directory domain to associate with the CIFS server. POST and PATCH only.                                                                                      |
| password            | string | The account password used to add this CIFS server to the Active Directory. This is not audited.                                                                                                                   |
| user                | string | The user account used to add this CIFS server to the Active Directory.                                                                                                                                            |

### cifs\_service\_delete

| Name                  | Type                             | Description                                                                                                                                                                                                                                                                                               |
|-----------------------|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ad_domain             | <a href="#">ad_domain_delete</a> |                                                                                                                                                                                                                                                                                                           |
| auth_user_type        | string                           | <p>Specifies the type of user who can access the SMB Volume. The default is domain_user. In the case of a hybrid-user, ONTAP won't contact on-premise ADDS.</p> <ul style="list-style-type: none"><li>enum: ["domain_user", "hybrid_user"]</li><li>Introduced in: 9.16</li><li>x-nullable: true</li></ul> |
| authentication_method | string                           | <p>Specifies the authentication method. The available values are:</p> <ul style="list-style-type: none"><li>client_secret</li><li>certificate</li></ul>                                                                                                                                                   |

| Name               | Type    | Description                                                                                                                                                                                                                                                                                                               |
|--------------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| client_certificate | string  | PKCS12 certificate used by the application to prove its identity to AKV.                                                                                                                                                                                                                                                  |
| client_id          | string  | Application client ID of the deployed Azure application with appropriate access to an AKV or EntraId.                                                                                                                                                                                                                     |
| client_secret      | string  | Secret used by the application to prove its identity to AKV.                                                                                                                                                                                                                                                              |
| key_vault_uri      | string  | <p>URI of the deployed AKV that is used by ONTAP for storing keys.</p> <ul style="list-style-type: none"> <li>• example: <a href="https://kmip-akv-keyvault.vault.azure.net/">https://kmip-akv-keyvault.vault.azure.net/</a></li> <li>• format: uri</li> <li>• Introduced in: 9.15</li> <li>• x-nullable: true</li> </ul> |
| oauth_host         | string  | Open authorization server host name.                                                                                                                                                                                                                                                                                      |
| proxy_host         | string  | Proxy host.                                                                                                                                                                                                                                                                                                               |
| proxy_password     | string  | Proxy password. Password is not audited.                                                                                                                                                                                                                                                                                  |
| proxy_port         | integer | Proxy port.                                                                                                                                                                                                                                                                                                               |
| proxy_type         | string  | Proxy type.                                                                                                                                                                                                                                                                                                               |
| proxy_username     | string  | Proxy username.                                                                                                                                                                                                                                                                                                           |
| tenant_id          | string  | Directory (tenant) ID of the deployed Azure application with appropriate access to an AKV or EntraId.                                                                                                                                                                                                                     |
| timeout            | integer | AKV connection timeout, in seconds. The allowed range is between 0 to 30 seconds.                                                                                                                                                                                                                                         |

| Name        | Type    | Description                                                                       |
|-------------|---------|-----------------------------------------------------------------------------------|
| verify_host | boolean | Verify the identity of the AKV host name. By default, verify_host is set to true. |
| workgroup   | string  | The workgroup name.                                                               |

href

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

\_links

| Name | Type                 | Description |
|------|----------------------|-------------|
| self | <a href="#">href</a> |             |

job\_link

| Name   | Type                   | Description                                                                               |
|--------|------------------------|-------------------------------------------------------------------------------------------|
| _links | <a href="#">_links</a> |                                                                                           |
| uuid   | string                 | The UUID of the asynchronous job that is triggered by a POST, PATCH, or DELETE operation. |

error\_arguments

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

returned\_error

| Name      | Type                                     | Description       |
|-----------|------------------------------------------|-------------------|
| arguments | array[ <a href="#">error_arguments</a> ] | Message arguments |
| code      | string                                   | Error code        |
| message   | string                                   | Error message     |

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

## Retrieve a CIFS server

GET /protocols/cifs/services/{svm.uuid}

**Introduced In:** 9.6

Retrieves a CIFS server.

### Related ONTAP commands

- `vserver cifs server show`
- `vserver cifs server options show`
- `vserver cifs server security show`

### Learn more

- [DOC /protocols/cifs/services](#)

### Parameters

| Name     | Type          | In    | Required | Description                   |
|----------|---------------|-------|----------|-------------------------------|
| svm.uuid | string        | path  | True     |                               |
| fields   | array[string] | query | False    | Specify the fields to return. |

### Response

Status: 200, Ok

| Name       | Type                      | Description          |
|------------|---------------------------|----------------------|
| _links     | <a href="#">_links</a>    |                      |
| ad_domain  | <a href="#">ad_domain</a> |                      |
| auth-style | string                    | Authentication type. |

| Name                        | Type    | Description                                                                                                                                                                                                                                                                                                   |
|-----------------------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| auth_user_type              | string  | <p>Specifies the type of user who can access the SMB Volume. The default is domain_user. In the case of a hybrid-user, ONTAP won't contact on-premise ADDS.</p> <ul style="list-style-type: none"> <li>enum: ["domain_user", "hybrid_user"]</li> <li>Introduced in: 9.16</li> <li>x-nullable: true</li> </ul> |
| authentication_method       | string  | <p>Specifies the authentication method. The available values are:</p> <ul style="list-style-type: none"> <li>client_secret</li> <li>certificate</li> </ul>                                                                                                                                                    |
| client_id                   | string  | <p>Application client ID of the deployed Azure application with appropriate access to an AKV or EntraId.</p>                                                                                                                                                                                                  |
| comment                     | string  | <p>A descriptive text comment for the CIFS server. SMB clients can see the CIFS server comment when browsing servers on the network. If there is a space in the comment, you must enclose the entire string in quotation marks.</p>                                                                           |
| default_unix_user           | string  | <p>Specifies the UNIX user to which any authenticated CIFS user is mapped to, if the normal user mapping rules fails.</p>                                                                                                                                                                                     |
| enabled                     | boolean | <p>Specifies if the CIFS service is administratively enabled.</p>                                                                                                                                                                                                                                             |
| group_policy_object_enabled | boolean | <p>If set to true, group policies will be applied to the SVM.</p>                                                                                                                                                                                                                                             |

| Name           | Type                                  | Description                                                                                                                                                                                                                                                                                                               |
|----------------|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| key_vault_uri  | string                                | <p>URI of the deployed AKV that is used by ONTAP for storing keys.</p> <ul style="list-style-type: none"> <li>• example: <a href="https://kmip-akv-keyvault.vault.azure.net/">https://kmip-akv-keyvault.vault.azure.net/</a></li> <li>• format: uri</li> <li>• Introduced in: 9.15</li> <li>• x-nullable: true</li> </ul> |
| metric         | <a href="#">metric</a>                | Performance numbers, such as IOPS latency and throughput, for SVM protocols.                                                                                                                                                                                                                                              |
| name           | string                                | The name of the CIFS server.                                                                                                                                                                                                                                                                                              |
| netbios        | <a href="#">cifs_netbios</a>          |                                                                                                                                                                                                                                                                                                                           |
| oauth_host     | string                                | Open authorization server host name.                                                                                                                                                                                                                                                                                      |
| options        | <a href="#">cifs_service_options</a>  |                                                                                                                                                                                                                                                                                                                           |
| proxy_host     | string                                | Proxy host.                                                                                                                                                                                                                                                                                                               |
| proxy_port     | integer                               | Proxy port.                                                                                                                                                                                                                                                                                                               |
| proxy_type     | string                                | Proxy type.                                                                                                                                                                                                                                                                                                               |
| proxy_username | string                                | Proxy username.                                                                                                                                                                                                                                                                                                           |
| security       | <a href="#">cifs_service_security</a> |                                                                                                                                                                                                                                                                                                                           |
| statistics     | <a href="#">statistics</a>            | <p>These are raw performance numbers, such as IOPS latency and throughput for SVM protocols. These numbers are aggregated across all nodes in the cluster and increase with the uptime of the cluster.</p>                                                                                                                |
| svm            | <a href="#">svm</a>                   | SVM, applies only to SVM-scoped objects.                                                                                                                                                                                                                                                                                  |
| tenant_id      | string                                | Directory (tenant) ID of the deployed Azure application with appropriate access to an AKV or EntraId.                                                                                                                                                                                                                     |

| Name        | Type    | Description                                                                       |
|-------------|---------|-----------------------------------------------------------------------------------|
| timeout     | integer | AKV connection timeout, in seconds. The allowed range is between 0 to 30 seconds. |
| verify_host | boolean | Verify the identity of the AKV host name. By default, verify_host is set to true. |
| workgroup   | string  | The workgroup name.                                                               |

## Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "ad_domain": {
    "default_site": "string",
    "fqdn": "example.com",
    "organizational_unit": "string"
  },
  "auth-style": "domain",
  "auth_user_type": "string",
  "authentication_method": "string",
  "client_id": "e959d1b5-5a63-4284-9268-851e30e3eceb",
  "comment": "This CIFS Server Belongs to CS Department",
  "default_unix_user": "string",
  "key_vault_uri": "https://kmip-akv-keyvault.vault.azure.net/",
  "metric": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    }
  },
  "duration": "PT15S",
  "iops": {
    "read": 200,
    "total": 1000,
    "write": 100
  },
  "latency": {
    "read": 200,
    "total": 1000,
    "write": 100
  },
  "status": "ok",
  "throughput": {
    "read": 200,
    "total": 1000,
    "write": 100
  },
  "timestamp": "2017-01-25 06:20:13 -0500"
},
"name": "CIFS1",
```

```

"netbios": {
  "aliases": [
    "ALIAS_1",
    "ALIAS_2",
    "ALIAS_3"
  ],
  "wins_servers": [
    "10.224.65.20",
    "10.224.65.21"
  ]
},
"oauth_host": "login.microsoftonline.com",
"options": {
  "max_connections_per_session": 32,
  "max_lifs_per_session": 256,
  "max_opens_same_file_per_tree": 1000,
  "max_same_tree_connect_per_session": 5000,
  "max_same_user_sessions_per_connection": 2500,
  "max_watches_set_per_tree": 500,
  "null_user_windows_name": "string",
  "smb_credits": 128,
  "widelink_reparse_versions": [
    "smb1"
  ]
},
"proxy_host": "proxy.eng.com",
"proxy_port": 1234,
"proxy_type": "string",
"proxy_username": "proxyuser",
"security": {
  "advertised_kdc_encryptions": [
    "string"
  ],
  "lm_compatibility_level": "string",
  "restrict_anonymous": "string",
  "session_security": "string"
},
"statistics": {
  "iops_raw": {
    "read": 200,
    "total": 1000,
    "write": 100
  },
  "latency_raw": {
    "read": 200,
    "total": 1000,

```

```

    "write": 100
  },
  "status": "ok",
  "throughput_raw": {
    "read": 200,
    "total": 1000,
    "write": 100
  },
  "timestamp": "2017-01-25 06:20:13 -0500"
},
"svm": {
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "name": "svm1",
  "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
},
"tenant_id": "c9f32fcb-4ab7-40fe-af1b-1850d46cfbbe",
"timeout": 25,
"workgroup": "workgrp1"
}

```

## Error

Status: Default, Error

| Name  | Type                           | Description |
|-------|--------------------------------|-------------|
| error | <a href="#">returned_error</a> |             |

### 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 | <a href="#">href</a> |             |

ad\_domain

| Name                | Type   | Description                                                                                                                                                                                                       |
|---------------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| default_site        | string | The default site used by LIFs that do not have a site membership.                                                                                                                                                 |
| fqdn                | string | The fully qualified domain name of the Windows Active Directory to which this CIFS server belongs. A CIFS server appears as a member of Windows server object in the Active Directory store. POST and PATCH only. |
| organizational_unit | string | Specifies the organizational unit within the Active Directory domain to associate with the CIFS server. POST and PATCH only.                                                                                      |

iops

The rate of I/O operations observed at the storage object.

| Name  | Type    | Description                                                                                                                        |
|-------|---------|------------------------------------------------------------------------------------------------------------------------------------|
| other | integer | Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on. |
| read  | integer | Performance metric for read I/O operations.                                                                                        |

| Name  | Type    | Description                                                     |
|-------|---------|-----------------------------------------------------------------|
| total | integer | Performance metric aggregated over all types of I/O operations. |
| write | integer | Performance metric for write I/O operations.                    |

#### latency

The round trip latency in microseconds observed at the storage object.

| Name  | Type    | Description                                                                                                                        |
|-------|---------|------------------------------------------------------------------------------------------------------------------------------------|
| other | integer | Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on. |
| read  | integer | Performance metric for read I/O operations.                                                                                        |
| total | integer | Performance metric aggregated over all types of I/O operations.                                                                    |
| write | integer | Performance metric for write I/O operations.                                                                                       |

#### throughput

The rate of throughput bytes per second observed at the storage object.

| Name  | Type    | Description                                                     |
|-------|---------|-----------------------------------------------------------------|
| read  | integer | Performance metric for read I/O operations.                     |
| total | integer | Performance metric aggregated over all types of I/O operations. |
| write | integer | Performance metric for write I/O operations.                    |

#### metric

Performance numbers, such as IOPS latency and throughput, for SVM protocols.

| Name       | Type                       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| _links     | <a href="#">_links</a>     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| duration   | string                     | The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| iops       | <a href="#">iops</a>       | The rate of I/O operations observed at the storage object.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| latency    | <a href="#">latency</a>    | The round trip latency in microseconds observed at the storage object.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| status     | string                     | Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data. |
| throughput | <a href="#">throughput</a> | The rate of throughput bytes per second observed at the storage object.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| timestamp  | string                     | The timestamp of the performance data.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

cifs\_netbios

| Name         | Type          | Description                                                                                                                                                                |
|--------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| aliases      | array[string] |                                                                                                                                                                            |
| enabled      | boolean       | Specifies whether NetBios name service (NBNS) is enabled for the CIFS. If this service is enabled, the CIFS server will start sending the broadcast for name registration. |
| wins_servers | array[string] |                                                                                                                                                                            |

#### cifs\_service\_options

| Name                             | Type    | Description                                                                                                                                                                                                             |
|----------------------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| admin_to_root_mapping            | boolean | Specifies whether or not Administrator can be mapped to the UNIX user "root".                                                                                                                                           |
| advanced_sparse_file             | boolean | Specifies whether or not the CIFS server supports the advanced sparse file capabilities. This allows CIFS clients to query the allocated ranges of a file and to write zeroes or free data blocks for ranges of a file. |
| backup_symlink_enabled           | boolean | Specifies whether or not to preserve UNIX symlinks during backup through SMB.                                                                                                                                           |
| client_dup_detection_enabled     | boolean | Specifies whether or not client duplicate session detection is enabled for CIFS.                                                                                                                                        |
| client_version_reporting_enabled | boolean | Specifies whether or not client version reporting is enabled for CIFS.                                                                                                                                                  |

| Name                  | Type    | Description                                                                                                                                                                                                                                                                                                             |
|-----------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| copy_offload          | boolean | <p>Specifies whether or not to enable the Copy Offload feature. This feature enables direct data transfers within or between compatible storage devices without transferring the data through the host computer.</p> <p>Note that this will also enable/disable the direct copy feature accordingly.</p>                |
| dac_enabled           | boolean | Specifies whether or not the Dynamic Access Control (DAC) feature is enabled for the CIFS server.                                                                                                                                                                                                                       |
| export_policy_enabled | boolean | Specifies whether or not export policies are enabled for CIFS.                                                                                                                                                                                                                                                          |
| fake_open             | boolean | Specifies whether or not fake open support is enabled. This parameter allows you to optimize the open and close requests coming from SMB 2 clients.                                                                                                                                                                     |
| fsctl_trim            | boolean | Specifies whether or not the trim requests (FSCTL_FILE_LEVEL_TRIM) are supported on the CIFS server.                                                                                                                                                                                                                    |
| junction_reparse      | boolean | Specifies whether or not the reparse point support is enabled. When enabled the CIFS server exposes junction points to Windows clients as reparse points. This parameter is only active if the client has negotiated use of the SMB 2 or SMB 3 protocol. This parameter is not supported for SVMs with Infinite Volume. |
| large_mtu             | boolean | Specifies whether or not SMB clients can send reads up to 1 MB in size.                                                                                                                                                                                                                                                 |

| Name                                  | Type    | Description                                                                                                                                                                                |
|---------------------------------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| max_connections_per_session           | integer | Specifies the maximum number of connections allowed per multichannel session.                                                                                                              |
| max_lifs_per_session                  | integer | Specifies the maximum number of LIFs advertised per multichannel session.                                                                                                                  |
| max_opens_same_file_per_tree          | integer | Specifies the maximum number of opens on the same file per tree.                                                                                                                           |
| max_same_tree_connect_per_session     | integer | Specifies the maximum number of same tree connections per session.                                                                                                                         |
| max_same_user_sessions_per_connection | integer | Specifies the maximum number of same user sessions per connection.                                                                                                                         |
| max_watches_set_per_tree              | integer | Specifies the maximum number of watches set per tree.                                                                                                                                      |
| multichannel                          | boolean | Specifies whether or not the CIFS server supports Multichannel.                                                                                                                            |
| null_user_windows_name                | string  | Specifies a Windows User or Group name that should be mapped in case of a NULL user value.                                                                                                 |
| path_component_cache                  | boolean | Specifies whether or not the path component cache is enabled on the CIFS server.                                                                                                           |
| referral                              | boolean | Specifies whether or not to refer clients to more optimal LIFs. When enabled, it automatically refers clients to a data LIF local to the node which hosts the root of the requested share. |

| Name                               | Type          | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| shadowcopy                         | boolean       | Specifies whether or not to enable the Shadowcopy Feature. This feature enables to take share-based backup copies of data that is in a data-consistent state at a specific point in time where the data is accessed over SMB 3.0 shares.                                                                                                                                                                                                                                                                                                          |
| shadowcopy_dir_depth               | integer       | Specifies the maximum level of subdirectories on which ONTAP should create shadow copies. <ul style="list-style-type: none"> <li>• Default value: 5</li> <li>• Introduced in: 9.11</li> <li>• x-nullable: true</li> </ul>                                                                                                                                                                                                                                                                                                                         |
| smb_credits                        | integer       | Specifies the maximum number of outstanding requests on a CIFS connection.                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| trusted_domain_enum_search_enabled | boolean       | Specifies whether or not to enable trusted domain search. <ul style="list-style-type: none"> <li>• If this parameter is set to true, it displays CIFS options only for CIFS servers that support enumeration of bidirectional trusted domains and that support searching in all bidirectional trusted domains when performing Windows user lookups for UNIX user to Windows user name mapping.</li> <li>• If set to false, it displays CIFS options for CIFS servers that do not support enumeration of bidirectional trusted domains.</li> </ul> |
| widelink_reparse_versions          | array[string] | Specifies the CIFS protocol versions for which the widelink is reported as reparse point.                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

cifs\_service\_security

| Name                       | Type          | Description                                                                      |
|----------------------------|---------------|----------------------------------------------------------------------------------|
| advertised_kdc_encryptions | array[string] |                                                                                  |
| aes_netlogon_enabled       | boolean       | Specifies whether or not an AES session key is enabled for the Netlogon channel. |
| encrypt_dc_connection      | boolean       | Specifies whether encryption is required for domain controller connections.      |

| Name           | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| kdc_encryption | boolean | <div> <div>  </div> <div> <p>This attribute has been deprecated. Use "security.advertised_kdc_encryptions" to specify the encryption type to use. Specifies whether AES-128 and AES-256 encryption is enabled for all Kerberos-based communication with the Active Directory KDC. To take advantage of the strongest security with Kerberos-based communication, AES-256 and AES-128 encryption can be enabled on the CIFS server. Kerberos-related communication for CIFS is used during CIFS server creation on the SVM, as well as during the SMB session setup phase. The CIFS server supports the following encryption types for Kerberos communication:</p> <ul style="list-style-type: none"> <li>• RC4-HMAC</li> <li>• DES</li> <li>• AES When the CIFS server is created, the domain controller creates a computer machine account in Active Directory. After a newly created machine account authenticates, the KDC and the CIFS server negotiates encryption types. At this time, the KDC becomes aware of the encryption capabilities of the particular machine account and uses those</li> </ul> </div> </div> |

| Name                   | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ldap_referral_enabled  | boolean | Specifies whether or not LDAP referral chasing is enabled for AD LDAP connections.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| lm_compatibility_level | string  | <p>It is CIFS server minimum security level, also known as the LMCompatibilityLevel. The minimum security level is the minimum level of the security tokens that the CIFS server accepts from SMB clients. The available values are:</p> <ul style="list-style-type: none"> <li>• lm_ntlm_ntlmv2_krb Accepts LM, NTLM, NTLMv2 and Kerberos</li> <li>• ntlm_ntlmv2_krb Accepts NTLM, NTLMv2 and Kerberos</li> <li>• ntlmv2_krb Accepts NTLMv2 and Kerberos</li> <li>• krb Accepts Kerberos only</li> </ul>                                                                                                                                                                                     |
| restrict_anonymous     | string  | <p>Specifies what level of access an anonymous user is granted. An anonymous user (also known as a "null user") can list or enumerate certain types of system information from Windows hosts on the network, including user names and details, account policies, and share names. Access for the anonymous user can be controlled by specifying one of three access restriction settings. The available values are:</p> <ul style="list-style-type: none"> <li>• no_restriction - No access restriction for an anonymous user.</li> <li>• no_enumeration - Enumeration is restricted for an anonymous user.</li> <li>• no_access - All access is restricted for an anonymous user.</li> </ul> |

| Name                     | Type    | Description                                                                                                                                                                                                                                              |
|--------------------------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| session_security         | string  | Specifies client session security for AD LDAP connections. The available values are: <ul style="list-style-type: none"> <li>• none - No Signing or Sealing.</li> <li>• sign - Sign LDAP traffic.</li> <li>• seal - Seal and Sign LDAP traffic</li> </ul> |
| smb_encryption           | boolean | Specifies whether encryption is required for incoming CIFS traffic.                                                                                                                                                                                      |
| smb_signing              | boolean | Specifies whether signing is required for incoming CIFS traffic. SMB signing helps to ensure that network traffic between the CIFS server and the client is not compromised.                                                                             |
| try_ldap_channel_binding | boolean | Specifies whether or not channel binding is attempted in the case of TLS/LDAPS.                                                                                                                                                                          |
| use_ldaps                | boolean | Specifies whether or not to use use LDAPS for secure Active Directory LDAP connections by using the TLS/SSL protocols.                                                                                                                                   |
| use_start_tls            | boolean | Specifies whether or not to use SSL/TLS for allowing secure LDAP communication with Active Directory LDAP servers.                                                                                                                                       |

#### iops\_raw

The number of I/O operations observed at the storage object. This should be used along with delta time to calculate the rate of I/O operations per unit of time.

| Name  | Type    | Description                                                                                                                        |
|-------|---------|------------------------------------------------------------------------------------------------------------------------------------|
| other | integer | Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on. |

| Name  | Type    | Description                                                     |
|-------|---------|-----------------------------------------------------------------|
| read  | integer | Performance metric for read I/O operations.                     |
| total | integer | Performance metric aggregated over all types of I/O operations. |
| write | integer | Performance metric for write I/O operations.                    |

#### latency\_raw

The raw latency in microseconds observed at the storage object. This should be divided by the raw IOPS value to calculate the average latency per I/O operation.

| Name  | Type    | Description                                                                                                                        |
|-------|---------|------------------------------------------------------------------------------------------------------------------------------------|
| other | integer | Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on. |
| read  | integer | Performance metric for read I/O operations.                                                                                        |
| total | integer | Performance metric aggregated over all types of I/O operations.                                                                    |
| write | integer | Performance metric for write I/O operations.                                                                                       |

#### throughput\_raw

Throughput bytes observed at the storage object. This should be used along with delta time to calculate the rate of throughput bytes per unit of time.

| Name  | Type    | Description                                                     |
|-------|---------|-----------------------------------------------------------------|
| read  | integer | Performance metric for read I/O operations.                     |
| total | integer | Performance metric aggregated over all types of I/O operations. |
| write | integer | Performance metric for write I/O operations.                    |

## statistics

These are raw performance numbers, such as IOPS latency and throughput for SVM protocols. These numbers are aggregated across all nodes in the cluster and increase with the uptime of the cluster.

| Name           | Type                           | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| iops_raw       | <a href="#">iops_raw</a>       | The number of I/O operations observed at the storage object. This should be used along with delta time to calculate the rate of I/O operations per unit of time.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| latency_raw    | <a href="#">latency_raw</a>    | The raw latency in microseconds observed at the storage object. This should be divided by the raw IOPS value to calculate the average latency per I/O operation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| status         | string                         | Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data".<br>"Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated.<br>"Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data. |
| throughput_raw | <a href="#">throughput_raw</a> | Throughput bytes observed at the storage object. This should be used along with delta time to calculate the rate of throughput bytes per unit of time.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

| Name      | Type   | Description                            |
|-----------|--------|----------------------------------------|
| timestamp | string | The timestamp of the performance data. |

svm

SVM, applies only to SVM-scoped objects.

| Name   | Type                   | Description                                                                         |
|--------|------------------------|-------------------------------------------------------------------------------------|
| _links | <a href="#">_links</a> |                                                                                     |
| name   | string                 | The name of the SVM. This field cannot be specified in a PATCH method.              |
| uuid   | string                 | The unique identifier of the SVM. This field cannot be specified in a PATCH method. |

error\_arguments

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

returned\_error

| Name      | Type                                     | Description                                 |
|-----------|------------------------------------------|---------------------------------------------|
| arguments | array[ <a href="#">error_arguments</a> ] | Message arguments                           |
| code      | string                                   | Error code                                  |
| message   | string                                   | Error message                               |
| target    | string                                   | The target parameter that caused the error. |

## Update CIFS mandatory and optional parameters

PATCH /protocols/cifs/services/{svm.uuid}

Introduced In: 9.6

Updates both the mandatory and optional parameters of the CIFS configuration. Ensure the CIFS server is administratively disabled when renaming the CIFS server or modifying the *ad\_domain* properties.

## Related ONTAP commands

- `vserver cifs server modify`
- `vserver cifs server options modify`
- `vserver cifs security modify`
- `vserver cifs server add-netbios-aliases`
- `vserver cifs server remove-netbios-aliases`
- `vserver cifs group-policy modify`

## Learn more

- [DOC /protocols/cifs/services](#)

## Parameters

| Name  | Type    | In    | Required | Description                                                                                                                                                                                                                                                                                                 |
|-------|---------|-------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| force | boolean | query | False    | <p>If this is set and a machine account with the same name as specified in 'cifs-server name' exists in the Active Directory, existing machine account will be overwritten and reused. The default value for this field is false.</p> <ul style="list-style-type: none"><li>• Introduced in: 9.11</li></ul> |

| Name           | Type    | In    | Required | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------|---------|-------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| return_timeout | integer | query | False    | <p>The number of seconds to allow the call to execute before returning. When doing a POST, PATCH, or DELETE operation on a single record, the default is 0 seconds. This means that if an asynchronous operation is started, the server immediately returns HTTP code 202 (Accepted) along with a link to the job. If a non-zero value is specified for POST, PATCH, or DELETE operations, ONTAP waits that length of time to see if the job completes so it can return something other than 202.</p> <ul style="list-style-type: none"> <li>• Default value: 0</li> <li>• Max value: 120</li> <li>• Min value: 0</li> </ul> |
| svm.uuid       | string  | path  | True     | UUID of the SVM to which this object belongs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

## Request Body

| Name       | Type                      | Description          |
|------------|---------------------------|----------------------|
| ad_domain  | <a href="#">ad_domain</a> |                      |
| auth-style | string                    | Authentication type. |

| Name                        | Type    | Description                                                                                                                                                                                                                                                                                                   |
|-----------------------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| auth_user_type              | string  | <p>Specifies the type of user who can access the SMB Volume. The default is domain_user. In the case of a hybrid-user, ONTAP won't contact on-premise ADDS.</p> <ul style="list-style-type: none"> <li>enum: ["domain_user", "hybrid_user"]</li> <li>Introduced in: 9.16</li> <li>x-nullable: true</li> </ul> |
| authentication_method       | string  | <p>Specifies the authentication method. The available values are:</p> <ul style="list-style-type: none"> <li>client_secret</li> <li>certificate</li> </ul>                                                                                                                                                    |
| client_certificate          | string  | PKCS12 certificate used by the application to prove its identity to AKV.                                                                                                                                                                                                                                      |
| client_id                   | string  | Application client ID of the deployed Azure application with appropriate access to an AKV or EntraID.                                                                                                                                                                                                         |
| client_secret               | string  | Secret used by the application to prove its identity to AKV.                                                                                                                                                                                                                                                  |
| comment                     | string  | A descriptive text comment for the CIFS server. SMB clients can see the CIFS server comment when browsing servers on the network. If there is a space in the comment, you must enclose the entire string in quotation marks.                                                                                  |
| default_unix_user           | string  | Specifies the UNIX user to which any authenticated CIFS user is mapped to, if the normal user mapping rules fails.                                                                                                                                                                                            |
| enabled                     | boolean | Specifies if the CIFS service is administratively enabled.                                                                                                                                                                                                                                                    |
| group_policy_object_enabled | boolean | If set to true, group policies will be applied to the SVM.                                                                                                                                                                                                                                                    |

| Name           | Type                                  | Description                                                                                                                                                                                                                                                                                                               |
|----------------|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| key_vault_uri  | string                                | <p>URI of the deployed AKV that is used by ONTAP for storing keys.</p> <ul style="list-style-type: none"> <li>• example: <a href="https://kmip-akv-keyvault.vault.azure.net/">https://kmip-akv-keyvault.vault.azure.net/</a></li> <li>• format: uri</li> <li>• Introduced in: 9.15</li> <li>• x-nullable: true</li> </ul> |
| name           | string                                | The name of the CIFS server.                                                                                                                                                                                                                                                                                              |
| netbios        | <a href="#">cifs_netbios</a>          |                                                                                                                                                                                                                                                                                                                           |
| oauth_host     | string                                | Open authorization server host name.                                                                                                                                                                                                                                                                                      |
| options        | <a href="#">cifs_service_options</a>  |                                                                                                                                                                                                                                                                                                                           |
| proxy_host     | string                                | Proxy host.                                                                                                                                                                                                                                                                                                               |
| proxy_password | string                                | Proxy password. Password is not audited.                                                                                                                                                                                                                                                                                  |
| proxy_port     | integer                               | Proxy port.                                                                                                                                                                                                                                                                                                               |
| proxy_type     | string                                | Proxy type.                                                                                                                                                                                                                                                                                                               |
| proxy_username | string                                | Proxy username.                                                                                                                                                                                                                                                                                                           |
| security       | <a href="#">cifs_service_security</a> |                                                                                                                                                                                                                                                                                                                           |
| tenant_id      | string                                | Directory (tenant) ID of the deployed Azure application with appropriate access to an AKV or EntraId.                                                                                                                                                                                                                     |
| timeout        | integer                               | AKV connection timeout, in seconds. The allowed range is between 0 to 30 seconds.                                                                                                                                                                                                                                         |
| verify_host    | boolean                               | Verify the identity of the AKV host name. By default, verify_host is set to true.                                                                                                                                                                                                                                         |
| workgroup      | string                                | The workgroup name.                                                                                                                                                                                                                                                                                                       |

## Example request

```
{
  "ad_domain": {
    "default_site": "string",
    "fqdn": "example.com",
    "organizational_unit": "string",
    "password": "string",
    "user": "string"
  },
  "auth-style": "domain",
  "auth_user_type": "string",
  "authentication_method": "string",
  "client_certificate": "PEM Cert",
  "client_id": "e959d1b5-5a63-4284-9268-851e30e3eceb",
  "client_secret": "<APPLICATION-CLIENT-SECRET-FOR-AKV>",
  "comment": "This CIFS Server Belongs to CS Department",
  "default_unix_user": "string",
  "key_vault_uri": "https://kmip-akv-keyvault.vault.azure.net/",
  "name": "CIFS1",
  "netbios": {
    "aliases": [
      "ALIAS_1",
      "ALIAS_2",
      "ALIAS_3"
    ],
    "wins_servers": [
      "10.224.65.20",
      "10.224.65.21"
    ]
  },
  "oauth_host": "login.microsoftonline.com",
  "options": {
    "max_connections_per_session": 32,
    "max_lifs_per_session": 256,
    "max_opens_same_file_per_tree": 1000,
    "max_same_tree_connect_per_session": 5000,
    "max_same_user_sessions_per_connection": 2500,
    "max_watches_set_per_tree": 500,
    "null_user_windows_name": "string",
    "smb_credits": 128,
    "widelink_reparse_versions": [
      "smb1"
    ]
  },
  "proxy_host": "proxy.eng.com",
}
```

```

"proxy_password": "proxypassword",
"proxy_port": 1234,
"proxy_type": "string",
"proxy_username": "proxyuser",
"security": {
  "advertised_kdc_encryptions": [
    "string"
  ],
  "lm_compatibility_level": "string",
  "restrict_anonymous": "string",
  "session_security": "string"
},
"tenant_id": "c9f32fcb-4ab7-40fe-af1b-1850d46cfbbe",
"timeout": 25,
"workgroup": "workgrp1"
}

```

## Response

Status: 200, Ok

| Name | Type                     | Description |
|------|--------------------------|-------------|
| job  | <a href="#">job_link</a> |             |

## Example response

```

{
  "job": {
    "uuid": "string"
  }
}

```

## Response

Status: 202, Accepted

## Error

Status: Default

## ONTAP Error Response Codes

| Error Code | Description                                                                                                                                                                              |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3735751    | Failed to authenticate and retrieve the access token from the Azure OAuth host.                                                                                                          |
| 3735752    | Failed to extract the private key from the Azure Key Vault certificate.                                                                                                                  |
| 3735753    | Unsupported content_type in the Azure secrets response.                                                                                                                                  |
| 3735754    | Failed to parse the JSON response from Azure Key Vault.                                                                                                                                  |
| 3735755    | REST API call to Azure failed.                                                                                                                                                           |
| 3735756    | Invalid client certificate.                                                                                                                                                              |
| 3735757    | Failed to generate client assertion.                                                                                                                                                     |
| 3735762    | The provided Azure Key Vault configuration is incorrect.                                                                                                                                 |
| 3735763    | The provided Azure Key Vault configuration is incomplete.                                                                                                                                |
| 3735764    | Request to Azure failed. Reason - Azure error code and Azure error message.                                                                                                              |
| 655390     | Failed to modify the CIFS server. Failure can occur due to multiple reasons. For example: STARTTLS and LDAPS cannot be used together or the group policy is already enabled for the SVM. |
| 655562     | NetBIOS name is longer than 15 characters.                                                                                                                                               |
| 655538     | Unable to modify the CIFS server. The server name is already used by another SVM.                                                                                                        |
| 655563     | NetBIOS name contains characters that are not allowed.                                                                                                                                   |
| 655771     | The number of NetBIOS aliases cannot exceed the maximum supported number of '200'.                                                                                                       |
| 655923     | Retrieving credentials from AKV is not supported because the effective cluster version is not ONTAP 9.15.0 or later.                                                                     |
| 656473     | Fields security.kdc_encryption and security.advertised_kdc_encryptions are mutually exclusive. Specify only one of the two.                                                              |

## Definitions

## See Definitions

href

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

\_links

ad\_domain

| Name                | Type   | Description                                                                                                                                                                                                       |
|---------------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| default_site        | string | The default site used by LIFs that do not have a site membership.                                                                                                                                                 |
| fqdn                | string | The fully qualified domain name of the Windows Active Directory to which this CIFS server belongs. A CIFS server appears as a member of Windows server object in the Active Directory store. POST and PATCH only. |
| organizational_unit | string | Specifies the organizational unit within the Active Directory domain to associate with the CIFS server. POST and PATCH only.                                                                                      |
| password            | string | The account password used to add this CIFS server to the Active Directory. This is not audited.                                                                                                                   |
| user                | string | The user account used to add this CIFS server to the Active Directory.                                                                                                                                            |

iops

The rate of I/O operations observed at the storage object.

| Name  | Type    | Description                                                                                                                        |
|-------|---------|------------------------------------------------------------------------------------------------------------------------------------|
| other | integer | Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on. |

| Name  | Type    | Description                                                     |
|-------|---------|-----------------------------------------------------------------|
| read  | integer | Performance metric for read I/O operations.                     |
| total | integer | Performance metric aggregated over all types of I/O operations. |
| write | integer | Performance metric for write I/O operations.                    |

#### latency

The round trip latency in microseconds observed at the storage object.

| Name  | Type    | Description                                                                                                                        |
|-------|---------|------------------------------------------------------------------------------------------------------------------------------------|
| other | integer | Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on. |
| read  | integer | Performance metric for read I/O operations.                                                                                        |
| total | integer | Performance metric aggregated over all types of I/O operations.                                                                    |
| write | integer | Performance metric for write I/O operations.                                                                                       |

#### throughput

The rate of throughput bytes per second observed at the storage object.

| Name  | Type    | Description                                                     |
|-------|---------|-----------------------------------------------------------------|
| read  | integer | Performance metric for read I/O operations.                     |
| total | integer | Performance metric aggregated over all types of I/O operations. |
| write | integer | Performance metric for write I/O operations.                    |

#### metric

Performance numbers, such as IOPS latency and throughput, for SVM protocols.

| Name       | Type                       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| duration   | string                     | The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| iops       | <a href="#">iops</a>       | The rate of I/O operations observed at the storage object.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| latency    | <a href="#">latency</a>    | The round trip latency in microseconds observed at the storage object.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| status     | string                     | Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data. |
| throughput | <a href="#">throughput</a> | The rate of throughput bytes per second observed at the storage object.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| timestamp  | string                     | The timestamp of the performance data.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

cifs\_netbios

| Name         | Type          | Description                                                                                                                                                                |
|--------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| aliases      | array[string] |                                                                                                                                                                            |
| enabled      | boolean       | Specifies whether NetBios name service (NBNS) is enabled for the CIFS. If this service is enabled, the CIFS server will start sending the broadcast for name registration. |
| wins_servers | array[string] |                                                                                                                                                                            |

#### cifs\_service\_options

| Name                             | Type    | Description                                                                                                                                                                                                             |
|----------------------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| admin_to_root_mapping            | boolean | Specifies whether or not Administrator can be mapped to the UNIX user "root".                                                                                                                                           |
| advanced_sparse_file             | boolean | Specifies whether or not the CIFS server supports the advanced sparse file capabilities. This allows CIFS clients to query the allocated ranges of a file and to write zeroes or free data blocks for ranges of a file. |
| backup_symlink_enabled           | boolean | Specifies whether or not to preserve UNIX symlinks during backup through SMB.                                                                                                                                           |
| client_dup_detection_enabled     | boolean | Specifies whether or not client duplicate session detection is enabled for CIFS.                                                                                                                                        |
| client_version_reporting_enabled | boolean | Specifies whether or not client version reporting is enabled for CIFS.                                                                                                                                                  |

| Name                  | Type    | Description                                                                                                                                                                                                                                                                                                             |
|-----------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| copy_offload          | boolean | <p>Specifies whether or not to enable the Copy Offload feature. This feature enables direct data transfers within or between compatible storage devices without transferring the data through the host computer.</p> <p>Note that this will also enable/disable the direct copy feature accordingly.</p>                |
| dac_enabled           | boolean | Specifies whether or not the Dynamic Access Control (DAC) feature is enabled for the CIFS server.                                                                                                                                                                                                                       |
| export_policy_enabled | boolean | Specifies whether or not export policies are enabled for CIFS.                                                                                                                                                                                                                                                          |
| fake_open             | boolean | Specifies whether or not fake open support is enabled. This parameter allows you to optimize the open and close requests coming from SMB 2 clients.                                                                                                                                                                     |
| fsctl_trim            | boolean | Specifies whether or not the trim requests (FSCTL_FILE_LEVEL_TRIM) are supported on the CIFS server.                                                                                                                                                                                                                    |
| junction_reparse      | boolean | Specifies whether or not the reparse point support is enabled. When enabled the CIFS server exposes junction points to Windows clients as reparse points. This parameter is only active if the client has negotiated use of the SMB 2 or SMB 3 protocol. This parameter is not supported for SVMs with Infinite Volume. |
| large_mtu             | boolean | Specifies whether or not SMB clients can send reads up to 1 MB in size.                                                                                                                                                                                                                                                 |

| Name                                  | Type    | Description                                                                                                                                                                                |
|---------------------------------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| max_connections_per_session           | integer | Specifies the maximum number of connections allowed per multichannel session.                                                                                                              |
| max_lifs_per_session                  | integer | Specifies the maximum number of LIFs advertised per multichannel session.                                                                                                                  |
| max_opens_same_file_per_tree          | integer | Specifies the maximum number of opens on the same file per tree.                                                                                                                           |
| max_same_tree_connect_per_session     | integer | Specifies the maximum number of same tree connections per session.                                                                                                                         |
| max_same_user_sessions_per_connection | integer | Specifies the maximum number of same user sessions per connection.                                                                                                                         |
| max_watches_set_per_tree              | integer | Specifies the maximum number of watches set per tree.                                                                                                                                      |
| multichannel                          | boolean | Specifies whether or not the CIFS server supports Multichannel.                                                                                                                            |
| null_user_windows_name                | string  | Specifies a Windows User or Group name that should be mapped in case of a NULL user value.                                                                                                 |
| path_component_cache                  | boolean | Specifies whether or not the path component cache is enabled on the CIFS server.                                                                                                           |
| referral                              | boolean | Specifies whether or not to refer clients to more optimal LIFs. When enabled, it automatically refers clients to a data LIF local to the node which hosts the root of the requested share. |

| Name                               | Type          | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| shadowcopy                         | boolean       | Specifies whether or not to enable the Shadowcopy Feature. This feature enables to take share-based backup copies of data that is in a data-consistent state at a specific point in time where the data is accessed over SMB 3.0 shares.                                                                                                                                                                                                                                                                                                          |
| shadowcopy_dir_depth               | integer       | Specifies the maximum level of subdirectories on which ONTAP should create shadow copies. <ul style="list-style-type: none"> <li>• Default value: 5</li> <li>• Introduced in: 9.11</li> <li>• x-nullable: true</li> </ul>                                                                                                                                                                                                                                                                                                                         |
| smb_credits                        | integer       | Specifies the maximum number of outstanding requests on a CIFS connection.                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| trusted_domain_enum_search_enabled | boolean       | Specifies whether or not to enable trusted domain search. <ul style="list-style-type: none"> <li>• If this parameter is set to true, it displays CIFS options only for CIFS servers that support enumeration of bidirectional trusted domains and that support searching in all bidirectional trusted domains when performing Windows user lookups for UNIX user to Windows user name mapping.</li> <li>• If set to false, it displays CIFS options for CIFS servers that do not support enumeration of bidirectional trusted domains.</li> </ul> |
| widelink_reparse_versions          | array[string] | Specifies the CIFS protocol versions for which the widelink is reported as reparse point.                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

cifs\_service\_security

| Name                       | Type          | Description                                                                      |
|----------------------------|---------------|----------------------------------------------------------------------------------|
| advertised_kdc_encryptions | array[string] |                                                                                  |
| aes_netlogon_enabled       | boolean       | Specifies whether or not an AES session key is enabled for the Netlogon channel. |
| encrypt_dc_connection      | boolean       | Specifies whether encryption is required for domain controller connections.      |

| Name           | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| kdc_encryption | boolean | <p>This attribute has been deprecated. Use "security.advertised_kdc_encryptions" to specify the encryption type to use. Specifies whether AES-128 and AES-256 encryption is enabled for all Kerberos-based communication with the Active Directory KDC. To take advantage of the strongest security with Kerberos-based communication, AES-256 and AES-128 encryption can be enabled on the CIFS server. Kerberos-related communication for CIFS is used during CIFS server creation on the SVM, as well as during the SMB session setup phase. The CIFS server supports the following encryption types for Kerberos communication:</p> <ul style="list-style-type: none"> <li>• RC4-HMAC</li> <li>• DES</li> <li>• AES When the CIFS server is created, the domain controller creates a computer machine account in Active Directory. After a newly created machine account authenticates, the KDC and the CIFS server negotiates encryption types. At this time, the KDC becomes aware of the encryption capabilities of the particular machine account and uses those</li> </ul> |

| Name                   | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ldap_referral_enabled  | boolean | Specifies whether or not LDAP referral chasing is enabled for AD LDAP connections.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| lm_compatibility_level | string  | <p>It is CIFS server minimum security level, also known as the LMCompatibilityLevel. The minimum security level is the minimum level of the security tokens that the CIFS server accepts from SMB clients. The available values are:</p> <ul style="list-style-type: none"> <li>• lm_ntlm_ntlmv2_krb Accepts LM, NTLM, NTLMv2 and Kerberos</li> <li>• ntlm_ntlmv2_krb Accepts NTLM, NTLMv2 and Kerberos</li> <li>• ntlmv2_krb Accepts NTLMv2 and Kerberos</li> <li>• krb Accepts Kerberos only</li> </ul>                                                                                                                                                                                     |
| restrict_anonymous     | string  | <p>Specifies what level of access an anonymous user is granted. An anonymous user (also known as a "null user") can list or enumerate certain types of system information from Windows hosts on the network, including user names and details, account policies, and share names. Access for the anonymous user can be controlled by specifying one of three access restriction settings. The available values are:</p> <ul style="list-style-type: none"> <li>• no_restriction - No access restriction for an anonymous user.</li> <li>• no_enumeration - Enumeration is restricted for an anonymous user.</li> <li>• no_access - All access is restricted for an anonymous user.</li> </ul> |

| Name                     | Type    | Description                                                                                                                                                                                                                                              |
|--------------------------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| session_security         | string  | Specifies client session security for AD LDAP connections. The available values are: <ul style="list-style-type: none"> <li>• none - No Signing or Sealing.</li> <li>• sign - Sign LDAP traffic.</li> <li>• seal - Seal and Sign LDAP traffic</li> </ul> |
| smb_encryption           | boolean | Specifies whether encryption is required for incoming CIFS traffic.                                                                                                                                                                                      |
| smb_signing              | boolean | Specifies whether signing is required for incoming CIFS traffic. SMB signing helps to ensure that network traffic between the CIFS server and the client is not compromised.                                                                             |
| try_ldap_channel_binding | boolean | Specifies whether or not channel binding is attempted in the case of TLS/LDAPS.                                                                                                                                                                          |
| use_ldaps                | boolean | Specifies whether or not to use use LDAPS for secure Active Directory LDAP connections by using the TLS/SSL protocols.                                                                                                                                   |
| use_start_tls            | boolean | Specifies whether or not to use SSL/TLS for allowing secure LDAP communication with Active Directory LDAP servers.                                                                                                                                       |

#### iops\_raw

The number of I/O operations observed at the storage object. This should be used along with delta time to calculate the rate of I/O operations per unit of time.

| Name  | Type    | Description                                                                                                                        |
|-------|---------|------------------------------------------------------------------------------------------------------------------------------------|
| other | integer | Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on. |

| Name  | Type    | Description                                                     |
|-------|---------|-----------------------------------------------------------------|
| read  | integer | Performance metric for read I/O operations.                     |
| total | integer | Performance metric aggregated over all types of I/O operations. |
| write | integer | Performance metric for write I/O operations.                    |

#### latency\_raw

The raw latency in microseconds observed at the storage object. This should be divided by the raw IOPS value to calculate the average latency per I/O operation.

| Name  | Type    | Description                                                                                                                        |
|-------|---------|------------------------------------------------------------------------------------------------------------------------------------|
| other | integer | Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on. |
| read  | integer | Performance metric for read I/O operations.                                                                                        |
| total | integer | Performance metric aggregated over all types of I/O operations.                                                                    |
| write | integer | Performance metric for write I/O operations.                                                                                       |

#### throughput\_raw

Throughput bytes observed at the storage object. This should be used along with delta time to calculate the rate of throughput bytes per unit of time.

| Name  | Type    | Description                                                     |
|-------|---------|-----------------------------------------------------------------|
| read  | integer | Performance metric for read I/O operations.                     |
| total | integer | Performance metric aggregated over all types of I/O operations. |
| write | integer | Performance metric for write I/O operations.                    |

## statistics

These are raw performance numbers, such as IOPS latency and throughput for SVM protocols. These numbers are aggregated across all nodes in the cluster and increase with the uptime of the cluster.

| Name           | Type                           | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| iops_raw       | <a href="#">iops_raw</a>       | The number of I/O operations observed at the storage object. This should be used along with delta time to calculate the rate of I/O operations per unit of time.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| latency_raw    | <a href="#">latency_raw</a>    | The raw latency in microseconds observed at the storage object. This should be divided by the raw IOPS value to calculate the average latency per I/O operation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| status         | string                         | Any errors associated with the sample. For example, if the aggregation of data over multiple nodes fails then any of the partial errors might be returned, "ok" on success, or "error" on any internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data".<br>"Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated.<br>"Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data. |
| throughput_raw | <a href="#">throughput_raw</a> | Throughput bytes observed at the storage object. This should be used along with delta time to calculate the rate of throughput bytes per unit of time.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

| Name      | Type   | Description                            |
|-----------|--------|----------------------------------------|
| timestamp | string | The timestamp of the performance data. |

svm

SVM, applies only to SVM-scoped objects.

| Name | Type   | Description                                                                         |
|------|--------|-------------------------------------------------------------------------------------|
| name | string | The name of the SVM. This field cannot be specified in a PATCH method.              |
| uuid | string | The unique identifier of the SVM. This field cannot be specified in a PATCH method. |

cifs\_service

| Name                  | Type                      | Description                                                                                                                                                                                                                                                                                            |
|-----------------------|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ad_domain             | <a href="#">ad_domain</a> |                                                                                                                                                                                                                                                                                                        |
| auth-style            | string                    | Authentication type.                                                                                                                                                                                                                                                                                   |
| auth_user_type        | string                    | Specifies the type of user who can access the SMB Volume. The default is domain_user. In the case of a hybrid-user, ONTAP won't contact on-premise ADDS. <ul style="list-style-type: none"> <li>enum: ["domain_user", "hybrid_user"]</li> <li>Introduced in: 9.16</li> <li>x-nullable: true</li> </ul> |
| authentication_method | string                    | Specifies the authentication method. The available values are: <ul style="list-style-type: none"> <li>client_secret</li> <li>certificate</li> </ul>                                                                                                                                                    |
| client_certificate    | string                    | PKCS12 certificate used by the application to prove its identity to AKV.                                                                                                                                                                                                                               |

| Name                        | Type                                 | Description                                                                                                                                                                                                                                                                                                        |
|-----------------------------|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| client_id                   | string                               | Application client ID of the deployed Azure application with appropriate access to an AKV or EntraId.                                                                                                                                                                                                              |
| client_secret               | string                               | Secret used by the application to prove its identity to AKV.                                                                                                                                                                                                                                                       |
| comment                     | string                               | A descriptive text comment for the CIFS server. SMB clients can see the CIFS server comment when browsing servers on the network. If there is a space in the comment, you must enclose the entire string in quotation marks.                                                                                       |
| default_unix_user           | string                               | Specifies the UNIX user to which any authenticated CIFS user is mapped to, if the normal user mapping rules fails.                                                                                                                                                                                                 |
| enabled                     | boolean                              | Specifies if the CIFS service is administratively enabled.                                                                                                                                                                                                                                                         |
| group_policy_object_enabled | boolean                              | If set to true, group policies will be applied to the SVM.                                                                                                                                                                                                                                                         |
| key_vault_uri               | string                               | URI of the deployed AKV that is used by ONTAP for storing keys. <ul style="list-style-type: none"> <li>• example: <a href="https://kmip-akv-keyvault.vault.azure.net/">https://kmip-akv-keyvault.vault.azure.net/</a></li> <li>• format: uri</li> <li>• Introduced in: 9.15</li> <li>• x-nullable: true</li> </ul> |
| name                        | string                               | The name of the CIFS server.                                                                                                                                                                                                                                                                                       |
| netbios                     | <a href="#">cifs_netbios</a>         |                                                                                                                                                                                                                                                                                                                    |
| oauth_host                  | string                               | Open authorization server host name.                                                                                                                                                                                                                                                                               |
| options                     | <a href="#">cifs_service_options</a> |                                                                                                                                                                                                                                                                                                                    |
| proxy_host                  | string                               | Proxy host.                                                                                                                                                                                                                                                                                                        |

| Name           | Type                                  | Description                                                                                           |
|----------------|---------------------------------------|-------------------------------------------------------------------------------------------------------|
| proxy_password | string                                | Proxy password. Password is not audited.                                                              |
| proxy_port     | integer                               | Proxy port.                                                                                           |
| proxy_type     | string                                | Proxy type.                                                                                           |
| proxy_username | string                                | Proxy username.                                                                                       |
| security       | <a href="#">cifs_service_security</a> |                                                                                                       |
| tenant_id      | string                                | Directory (tenant) ID of the deployed Azure application with appropriate access to an AKV or EntraId. |
| timeout        | integer                               | AKV connection timeout, in seconds. The allowed range is between 0 to 30 seconds.                     |
| verify_host    | boolean                               | Verify the identity of the AKV host name. By default, verify_host is set to true.                     |
| workgroup      | string                                | The workgroup name.                                                                                   |

job\_link

| Name | Type   | Description                                                                               |
|------|--------|-------------------------------------------------------------------------------------------|
| uuid | string | The UUID of the asynchronous job that is triggered by a POST, PATCH, or DELETE operation. |

error\_arguments

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

returned\_error

| Name      | Type                                     | Description                                 |
|-----------|------------------------------------------|---------------------------------------------|
| arguments | array[ <a href="#">error_arguments</a> ] | Message arguments                           |
| code      | string                                   | Error code                                  |
| message   | string                                   | Error message                               |
| target    | string                                   | The target parameter that caused the error. |

## Retrieve CIFS protocol historical performance metrics for an SVM

GET /protocols/cifs/services/{svm.uuid}/metrics

**Introduced In:** 9.7

Retrieves historical performance metrics for the CIFS protocol of an SVM.

### Parameters

| Name             | Type    | In    | Required | Description                |
|------------------|---------|-------|----------|----------------------------|
| throughput.other | integer | query | False    | Filter by throughput.other |
| throughput.total | integer | query | False    | Filter by throughput.total |
| throughput.read  | integer | query | False    | Filter by throughput.read  |
| throughput.write | integer | query | False    | Filter by throughput.write |
| timestamp        | string  | query | False    | Filter by timestamp        |
| duration         | string  | query | False    | Filter by duration         |
| latency.other    | integer | query | False    | Filter by latency.other    |
| latency.total    | integer | query | False    | Filter by latency.total    |
| latency.read     | integer | query | False    | Filter by latency.read     |

| Name          | Type    | In    | Required | Description                   |
|---------------|---------|-------|----------|-------------------------------|
| latency.write | integer | query | False    | Filter by latency.write       |
| status        | string  | query | False    | Filter by status              |
| iops.other    | integer | query | False    | Filter by iops.other          |
| iops.total    | integer | query | False    | Filter by iops.total          |
| iops.read     | integer | query | False    | Filter by iops.read           |
| iops.write    | integer | query | False    | Filter by iops.write          |
| svm.uuid      | string  | path  | True     | Unique identifier of the SVM. |

| Name     | Type   | In    | Required | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|--------|-------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| interval | string | query | False    | <p>The time range for the data. Examples can be 1h, 1d, 1m, 1w, 1y. The period for each time range is as follows:</p> <ul style="list-style-type: none"> <li>• 1h: Metrics over the most recent hour sampled over 15 seconds.</li> <li>• 1d: Metrics over the most recent day sampled over 5 minutes.</li> <li>• 1w: Metrics over the most recent week sampled over 30 minutes.</li> <li>• 1m: Metrics over the most recent month sampled over 2 hours.</li> <li>• 1y: Metrics over the most recent year sampled over a day.</li> <li>• Default value: 1</li> <li>• enum: ["1h", "1d", "1w", "1m", "1y"]</li> </ul> |

| Name                                                       | Type           | In      | Required | Description                                                                                                                                                                                                                                                                                                                                           |
|------------------------------------------------------------|----------------|---------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| return_timeout                                             | integer        | query   | False    | <p>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.</p> <ul style="list-style-type: none"> <li>• Default value: 15</li> <li>• Max value: 120</li> <li>• Min value: 0</li> </ul> |
| fields                                                     | array[string]  | query   | False    | Specify the fields to return.                                                                                                                                                                                                                                                                                                                         |
| max_records                                                | integer        | query   | False    | Limit the number of records returned.                                                                                                                                                                                                                                                                                                                 |
| order_by                                                   | array[string]  | query   | False    | Order results by specified fields and optional [asc                                                                                                                                                                                                                                                                                                   |
| desc] direction. Default direction is 'asc' for ascending. | return_records | boolean | query    | False                                                                                                                                                                                                                                                                                                                                                 |

## Response

Status: 200, Ok

| Name        | Type                             | Description       |
|-------------|----------------------------------|-------------------|
| _links      | <a href="#">_links</a>           |                   |
| num_records | integer                          | Number of records |
| records     | array[ <a href="#">records</a> ] |                   |

## Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "num_records": 1,
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "duration": "PT15S",
      "iops": {
        "read": 200,
        "total": 1000,
        "write": 100
      },
      "latency": {
        "read": 200,
        "total": 1000,
        "write": 100
      },
      "status": "ok",
      "throughput": {
        "read": 200,
        "total": 1000,
        "write": 100
      },
      "timestamp": "2017-01-25 06:20:13 -0500"
    }
  ]
}
```

## Error

Status: Default, Error

| Name  | Type                           | Description |
|-------|--------------------------------|-------------|
| error | <a href="#">returned_error</a> |             |

#### 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 | <a href="#">href</a> |             |
| self | <a href="#">href</a> |             |

\_links

| Name | Type                 | Description |
|------|----------------------|-------------|
| self | <a href="#">href</a> |             |

iops

The rate of I/O operations observed at the storage object.

| Name  | Type    | Description                                                                                                                        |
|-------|---------|------------------------------------------------------------------------------------------------------------------------------------|
| other | integer | Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on. |
| read  | integer | Performance metric for read I/O operations.                                                                                        |
| total | integer | Performance metric aggregated over all types of I/O operations.                                                                    |
| write | integer | Performance metric for write I/O operations.                                                                                       |

latency

The round trip latency in microseconds observed at the storage object.

| Name  | Type    | Description                                                                                                                        |
|-------|---------|------------------------------------------------------------------------------------------------------------------------------------|
| other | integer | Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on. |
| read  | integer | Performance metric for read I/O operations.                                                                                        |
| total | integer | Performance metric aggregated over all types of I/O operations.                                                                    |
| write | integer | Performance metric for write I/O operations.                                                                                       |

## throughput

The rate of throughput bytes per second observed at the storage object.

| Name  | Type    | Description                                                                                                                        |
|-------|---------|------------------------------------------------------------------------------------------------------------------------------------|
| other | integer | Performance metric for other I/O operations. Other I/O operations can be metadata operations, such as directory lookups and so on. |
| read  | integer | Performance metric for read I/O operations.                                                                                        |
| total | integer | Performance metric aggregated over all types of I/O operations.                                                                    |
| write | integer | Performance metric for write I/O operations.                                                                                       |

## records

Performance numbers, such as IOPS latency and throughput.

| Name   | Type                   | Description |
|--------|------------------------|-------------|
| _links | <a href="#">_links</a> |             |

| Name       | Type                       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| duration   | string                     | The duration over which this sample is calculated. The time durations are represented in the ISO-8601 standard format. Samples can be calculated over the following durations:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| iops       | <a href="#">iops</a>       | The rate of I/O operations observed at the storage object.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| latency    | <a href="#">latency</a>    | The round trip latency in microseconds observed at the storage object.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| status     | string                     | Errors associated with the sample. For example, if the aggregation of data over multiple nodes fails, then any partial errors might return "ok" on success or "error" on an internal uncategorized failure. Whenever a sample collection is missed but done at a later time, it is back filled to the previous 15 second timestamp and tagged with "backfilled_data". "Inconsistent_delta_time" is encountered when the time between two collections is not the same for all nodes. Therefore, the aggregated value might be over or under inflated. "Negative_delta" is returned when an expected monotonically increasing value has decreased in value. "Inconsistent_old_data" is returned when one or more nodes do not have the latest data. |
| throughput | <a href="#">throughput</a> | The rate of throughput bytes per second observed at the storage object.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| timestamp  | string                     | The timestamp of the performance data.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

error\_arguments

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

returned\_error

| Name      | Type                                     | Description                                 |
|-----------|------------------------------------------|---------------------------------------------|
| arguments | array[ <a href="#">error_arguments</a> ] | Message arguments                           |
| code      | string                                   | Error code                                  |
| message   | string                                   | Error message                               |
| target    | string                                   | The target parameter that caused the error. |

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