



Storage

Astra Automation

NetApp
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Storage

List storage classes

You can list the available storage classes.

1. Select the cloud

Perform the workflow [List the clouds](#) and select the cloud you'll be working in.

2. Select the cluster

Perform the workflow [List the clusters](#) and select the cluster.

3. List the storage classes for a specific cluster

Perform the following REST API call to list the storage classes for a specific cluster and cloud.

HTTP method	Path
GET	/accounts/{account_id}/topology/v1/clouds/<CLOUD_ID>/clusters/<CLUSTER_ID>/storageClasses

Curl example: Return all data for all storage classes

```
curl --location -i --request GET  
'https://astra.netapp.io/accounts/<ACCOUNT_ID>/topology/v1/clouds/<CLOUD_ID>/clusters/<CLUSTER_ID>/storageClasses' --header 'Accept: */*' --header  
'Authorization: Bearer <API TOKEN>'
```

JSON output example

```
{  
  "items": [  
    {  
      "type": "application/astra-storageClass",  
      "version": "1.1",  
      "id": "4bacbb3c-0727-4f58-b13c-3a2a069baf89",  
      "name": "ontap-basic",  
      "provisioner": "csi.trident.netapp.io",  
      "available": "eligible",  
      "allowVolumeExpansion": "true",  
      "reclaimPolicy": "Delete",  
      "volumeBindingMode": "Immediate",  
      "isDefault": "true",  
      "metadata": {  
        "createdBy": "system",  
        "lastModified": "2023-09-11T14:23:45Z",  
        "lastModifiedBy": "system",  
        "resourceVersion": "1",  
        "uid": "4bacbb3c-0727-4f58-b13c-3a2a069baf89"  
      }  
    }  
  ]  
}
```

```

        "creationTimestamp": "2022-10-26T05:16:19Z",
        "modificationTimestamp": "2022-10-26T05:16:19Z",
        "labels": []
    }
},
{
    "type": "application/astra-storageClass",
    "version": "1.1",
    "id": "150fe657-4a42-47a3-abc6-5dafba3de8bf",
    "name": "thin",
    "provisioner": "kubernetes.io/vsphere-volume",
    "available": "ineligible",
    "reclaimPolicy": "Delete",
    "volumeBindingMode": "Immediate",
    "metadata": {
        "createdBy": "system",
        "creationTimestamp": "2022-10-26T04:46:08Z",
        "modificationTimestamp": "2022-11-04T14:58:19Z",
        "labels": []
    }
},
{
    "type": "application/astra-storageClass",
    "version": "1.1",
    "id": "7c6a5c58-6a0d-4cb6-98a0-8202ad2de74a",
    "name": "thin-csi",
    "provisioner": "csi.vsphere.vmware.com",
    "available": "ineligible",
    "allowVolumeExpansion": "true",
    "reclaimPolicy": "Delete",
    "volumeBindingMode": "WaitForFirstConsumer",
    "metadata": {
        "createdBy": "system",
        "creationTimestamp": "2022-10-26T04:46:17Z",
        "modificationTimestamp": "2022-10-26T04:46:17Z",
        "labels": []
    }
},
{
    "type": "application/astra-storageClass",
    "version": "1.1",
    "id": "7010ef09-92a5-4c90-a5e5-3118e02dc9a7",
    "name": "vsim-san",
    "provisioner": "csi.trident.netapp.io",
    "available": "eligible",
    "allowVolumeExpansion": "true",

```

```
        "reclaimPolicy": "Delete",
        "volumeBindingMode": "Immediate",
        "metadata": {
            "createdBy": "system",
            "creationTimestamp": "2022-11-03T18:40:03Z",
            "modificationTimestamp": "2022-11-03T18:40:03Z",
            "labels": []
        }
    }
]
```

List storage backends

You can list the available storage backends.

1. List the backends

Perform the following REST API call.

HTTP method	Path
GET	/accounts/{account_id}/topology/v1/storageBackends

Curl example: Return all data for all storage backends

```
curl --location -i --request GET
'https://astra.netapp.io/accounts/<ACCOUNT_ID>/topology/v1/storageBackends'
' --header 'Accept: */*' --header 'Authorization: Bearer <API_TOKEN>'
```

JSON output example

```
{
  "items": [
    {
      "backendCredentialsName": "10.191.77.177",
      "backendName": "myinchunhcluster-1",
      "backendType": "ONTAP",
      "backendVersion": "9.8.0",
      "configVersion": "Not applicable",
      "health": "Not applicable",
      "id": "46467c16-1585-4b71-8e7f-f0bc5ff9da15",
      "location": "nalab2",
      "metadata": {
        "createdBy": "4c483a7e-207b-4f9a-87b7-799a4629d7c8",
        "creationTimestamp": "2021-07-30T14:26:19Z",
        "modificationTimestamp": "2021-07-30T14:26:19Z"
      },
      "ontap": {
        "backendManagementIP": "10.191.77.177",
        "managementIPs": [
          "10.191.77.177",
          "10.191.77.179"
        ],
        "protectionPolicy": "Not applicable",
        "region": "Not applicable",
        "state": "Running",
        "stateUnready": [],
        "type": "application/astra-storageBackend",
        "version": "1.0",
        "zone": "Not applicable"
      }
    }
  ]
}
```

Enable dynamic ANF pools for self-managed clusters

When backing up a managed app in a private on-premises cluster that has an ANF storage backend, you must enable the dynamic ANF pools feature. This is done by providing a subscription ID to use when expanding and contracting the capacity pools.



Dynamic ANF pools is feature of the Astra managed apps that use an Azure NetApp Files (ANF) storage backend. When backing up these apps, Astra automatically expands and contracts the capacity pools the persistent volumes belong to by a factor of 1.5. This ensures there is enough space for the backup without incurring an additional permanent charge. See [Azure application backups](#) for more information.

1. Add the Azure subscription identifier

Perform the following REST API call.



You need to update the JSON input example as appropriate for your environment, including the subscription ID and the base64 value for the service principal.

HTTP method	Path
POST	/accounts/{account_id}/core/v1/credentials

JSON input example

```
{
  "keyStore": {
    "privKey": "SGkh",
    "pubKey": "UGhpcyCpcyBhbiBleGFTcGx1Lg==",
    "base64": "fwogICAgJmFwcElkIjogIjY4ZmSiODFILTY0YWYtNDdjNC04ZjUzLWE2NDdlZTUzMGZkZCIsc
iAgICAiZG1zcGxheU5hbWUiOiAic3AtYXN0cmEtZGV2LXFhIiwKICAgICJuYW11IjogImh0dHA
6Ly9zcC1hc3RyYS1kZXQtWEiLAogICAgInBhc3N3b3JkIjogIiIiLQThRfk9IVVJkZWZYM0pST
WJ1LnpUeFBleVE0UnNwTG9DcUJjazAiLAogICAgInR1bmFudCI6ICIwMTFjZGY2Yy03NTEyLTQ
3MDUTYjI0ZS03NzIxYWZkOGNhMzciLAogICAgInN1YnNjcmlwdGvbklkIjogImIyMDAxNTVmL
TAwMWetNDNiZS04N2J1LTN1ZGR1ODNhY2VmNCIKfQ=="
  },
  "name": "myCert",
  "type": "application/astra-credential",
  "version": "1.1",
  "metadata": {
    "labels": [
      {
        "name": "astra.netapp.io/labels/read-only/credType",
        "value": "service-account"
      },
      {
        "name": "astra.netapp.io/labels/read-only/cloudName",
        "value": "OCP"
      },
      {
        "name": "astra.netapp.io/labels/read-only/azure/subscriptionID",
        "value": "b212156f-001a-43be-87be-3edde83acef5"
      }
    ]
  }
}
```

Curl example

```
curl --location -i --request POST --data @JSONinput
'https://astra.netapp.io/accounts/<ACCOUNT_ID>/core/v1/credentials'
--header 'Accept: */*' --header 'Authorization: Bearer <API_TOKEN>'
--header 'Content-Type: application/astra-credential+json'
```

2. Add a bucket if needed

You should add a bucket to the managed application if needed.

3. Take a backup of the managed app

Perform the workflow [Create a backup for an app](#). The capacity pool where the original persistent volume is present will expand and shrink automatically.

4. Review the event log

Activity events are logged during the backup. Perform the workflow [List the notifications](#) to view the messages.

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