

Azure Storage Testing

VM Details:

```
Linux RHEL8-0-hostname 4.18.0-477.10.1.el8_8.x86_64 #1 SMP Wed Apr 5 13:35:01 EDT 2023
x86_64 x86_64 x86_64 GNU/Linux
Architecture:      x86_64
Virtualization type: full

              total        used        free      shared  buff/cache   available
Mem:          15Gi        626Mi        14Gi         24Mi         390Mi         14Gi
Swap:           0B           0B           0B

Filesystem                                Size  Used Avail Use% Mounted on
devtmpfs                                     7.7G     0   7.7G  0% /dev
tmpfs                                       7.7G     0   7.7G  0% /dev/shm
tmpfs                                       7.7G   25M   7.7G  1% /run
tmpfs                                       7.7G     0   7.7G  0%
/sys/fs/cgroup
/dev/mapper/rootvg-rootlv                  102G   3.1G   99G   4% /
/dev/mapper/rootvg-usrlv                    10G   2.3G   7.8G  23% /usr
/dev/mapper/rootvg-tmplv                   102G   1.1G  101G   2% /tmp
/dev/mapper/rootvg-varlv                    8.0G   911M   7.2G  12% /var
tmpfs                                       1.6G     0   1.6G  0%
/run/user/1000
```

^ Essentials

Resource group [\(move\)](#) : [SJC_RG369B61F1](#)

Status : Running

Location : East US 2

Subscription [\(move\)](#) : [Pay-as-you-go](#)

Subscription ID : cdc5ba7c-38d0-43f9-9670-7b37680ad295

Operating system : Linux (redhat 8.8)

Size : Standard D4s v5 (4 vcpus, 16 GiB memory)

Public IP address : [20.242.12.33](#)

Virtual network/subnet : [sjc-server-networkf258e8ed/Testing-subnet](#)

DNS name : [Not configured](#)

Health state : -

Tags [\(edit\)](#) :

rs:environment : infrastructure

rs:owner : sam.cofer@posit.co

rs:project : internal

```
{
  "additionalCapabilities": null,
  "applicationProfile": null,
  "availabilitySet": null,
  "billingProfile": null,
```

```
"capacityReservation": null,
"diagnosticsProfile": null,
"evictionPolicy": null,
"extendedLocation": null,
"extensionsTimeBudget": null,
"fqdns": "",
"hardwareProfile": {
  "vmSize": "Standard_D4s_v5",
  "vmSizeProperties": null
},
"host": null,
"hostGroup": null,
"id": "/subscriptions/cdc5ba7c-38d0-43f9-9670-7b37680ad295/resourceGroups/sjc_rg369b61f1/providers/Microsoft.Compute/virtualMachines/RHEL8-0-server-vm2f901d60",
"identity": null,
"licenseType": null,
"location": "eastus2",
"macAddresses": "60-45-BD-BF-22-97",
"name": "RHEL8-0-server-vm2f901d60",
"networkProfile": {
  "networkApiVersion": null,
  "networkInterfaceConfigurations": null,
  "networkInterfaces": [
    {
      "deleteOption": null,
      "id": "/subscriptions/cdc5ba7c-38d0-43f9-9670-7b37680ad295/resourceGroups/sjc_rg369b61f1/providers/Microsoft.Network/networkInterfaces/RHEL8-0-server-nic95a10122",
      "primary": null,
      "resourceGroup": "sjc_rg369b61f1"
    }
  ]
},
"osProfile": {
  "adminPassword": null,
  "adminUsername": "azure-user",
  "allowExtensionOperations": true,
  "computerName": "RHEL8-0-hostname",
  "customData": null,
```

```
"linuxConfiguration": {
  "disablePasswordAuthentication": true,
  "enableVmAgentPlatformUpdates": false,
  "patchSettings": {
    "assessmentMode": "ImageDefault",
    "automaticByPlatformSettings": null,
    "patchMode": "ImageDefault"
```

```
},
```

```
"provisionVmAgent": true,
```

```
"ssh": {
```

```
  "publicKeys": [
```

```
    {
```

```
      "keyData": "ssh-rsa
```

```
AAAAB3NzaC1yc2EAAAADAQABAAQGC0VGzZJJZvjXQu1WfFJ9bW3UuIrgmXq+VEtKBnSuEc//96jARMYGGCiPv
yzLgERHmSWVsyboDVJc426GiTB42mTQ15RtclWpfcfZa0AllpR9Aw0Qx1DYToo+hhFWsUCPBsgEG9SyVmwUxAA
8AAeTM2Rgr12ERgAAPrXTE2vRDULPZiCYOI9mgpb34E136Hn6BqGFN/Xt8/zaYxCo7xCI+oYmYJ0pfyvuCi0WV
GCwhy1HmRGC7wHPMtl+ix2V+b3uQY2xjyY7MRkpV0wOe/+UViXar4xqUIKh1BoHYzTm12kZYYT1X7RWphN7P1G
0npv8nLDKvp5Eld+is+JM73tMgHHR1xniyWoyc97KaCW5F03cfUnGvHnRI3Eq01X0GcXXQ1D09pNFPjG1BINqc
+0qNzF7ayiGpo7SPoxFdZTLQ0C6BzWPxIQG7xxy0lXK0gbBCY6Lv2kcpoCadDbXLhY+ZgBISyvCN/OaGnPi/YU
JFZDtT71clVYhnW74ojv3m0GTYM= samcofer@DESKTOP-MTUNQ2J",
```

```
      "path": "/home/azure-user/.ssh/authorized_keys"
```

```
    }
```

```
  ]
```

```
}
```

```
},
```

```
"requireGuestProvisionSignal": true,
```

```
"secrets": [],
```

```
"windowsConfiguration": null
```

```
},
```

```
"plan": null,
```

```
"platformFaultDomain": null,
```

```
"powerState": "VM running",
```

```
"priority": null,
```

```
"privateIps": "10.11.10.4",
```

```
"provisioningState": "Succeeded",
```

```
"proximityPlacementGroup": null,
```

```
"publicIps": "20.242.12.33",
```

```
"resourceGroup": "sjc_rg369b61f1",
```

```
"resources": null,
```

```
"scheduledEventsProfile": null,
```

```
"securityProfile": null,
"storageProfile": {
  "dataDisks": [],
  "diskControllerType": "SCSI",
  "imageReference": {
    "communityGalleryImageId": null,
    "exactVersion": "8.8.2023060919",
    "id": null,
    "offer": "RHEL",
    "publisher": "RedHat",
    "sharedGalleryImageId": null,
    "sku": "8-lvm-gen2",
    "version": "latest"
  },
  "osDisk": {
    "caching": "ReadWrite",
    "createOption": "FromImage",
    "deleteOption": "Detach",
    "diffDiskSettings": null,
    "diskSizeGb": 500,
    "encryptionSettings": null,
    "image": null,
    "managedDisk": {
      "diskEncryptionSet": null,
      "id": "/subscriptions/cdc5ba7c-38d0-43f9-9670-7b37680ad295/resourceGroups/sjc_rg369b61f1/providers/Microsoft.Compute/disks/RHEL8-0-OSDisk",
      "resourceGroup": "sjc_rg369b61f1",
      "securityProfile": null,
      "storageAccountType": "Premium_LRS"
    },
    "name": "RHEL8-0-OSDisk",
    "osType": "Linux",
    "vhd": null,
    "writeAcceleratorEnabled": null
  }
},
"tags": {
  "rs:environment": "infrastructure",
  "rs:owner": "sam.cofer@posit.co",
```

```
    "rs:project": "internal"
  },
  "timeCreated": "2023-08-07T22:02:22.977298+00:00",
  "type": "Microsoft.Compute/virtualMachines",
  "userData": null,
  "virtualMachineScaleSet": null,
  "vmId": "f634a53d-4b1a-4fe0-8a04-e102f259211b",
  "zones": null
}
```

Mount Details:

```
10.11.11.4:/sjc-test-ultra-vol on /sjc-test-ultra-vol type nfs4
(rw,relatime,vers=4.1,rsize=262144,wsiz=262144,namlen=255,hard,proto=tcp,timeo=600,re
trans=2,sec=sys,clientaddr=10.11.10.4,local_lock=none,addr=10.11.11.4)

10.11.11.4:/sjc-test-prem-vol on /sjc-test-prem-vol type nfs4
(rw,relatime,vers=4.1,rsize=262144,wsiz=262144,namlen=255,hard,proto=tcp,timeo=600,re
trans=2,sec=sys,clientaddr=10.11.10.4,local_lock=none,addr=10.11.11.4)

10.11.11.4:/sjc-test-standard-export on /sjc-test-standard-vol type nfs4
(rw,relatime,vers=4.1,rsize=262144,wsiz=262144,namlen=255,hard,proto=tcp,timeo=600,re
trans=2,sec=sys,clientaddr=10.11.10.4,local_lock=none,addr=10.11.11.4)

sjcsatest.file.core.windows.net:/sjcsatest/sjc-test-sa on /sjc-test-sa type nfs4
(rw,relatime,vers=4.1,rsize=1048576,wsiz=1048576,namlen=255,hard,proto=tcp,timeo=600,
retrans=2,sec=sys,clientaddr=10.11.10.4,local_lock=none,addr=10.11.10.6)
```

PyTorch Script

Python Version: 3.11.4

```
rm -rf /sjc-test-standard-vol/testuser/.cache
rm -rf /sjc-test-prem-vol/testuser/.cache
rm -rf /sjc-test-ultra-vol/testuser/.cache
rm -rf /sjc-test-sa/testuser/.cache
```

```
usermod -d /sjc-test-standard-vol/testuser testuser
su - testuser
export PATH=/opt/python/3.11.4/bin:$PATH
./pytorch.sh > ~/standard-run1
rm -rf ~/.cache
./pytorch.sh > ~/standard-run2
rm -rf ~/.cache
./pytorch.sh > ~/standard-run3
rm -rf ~/.cache
exit
usermod -d /sjc-test-prem-vol/testuser testuser
su - testuser
export PATH=/opt/python/3.11.4/bin:$PATH
./pytorch.sh > ~/prem-run1
rm -rf ~/.cache
./pytorch.sh > ~/prem-run2
rm -rf ~/.cache
./pytorch.sh > ~/prem-run3
rm -rf ~/.cache
exit
usermod -d /sjc-test-ultra-vol/testuser testuser
su - testuser
export PATH=/opt/python/3.11.4/bin:$PATH
./pytorch.sh > ~/ultra-run1
rm -rf ~/.cache
./pytorch.sh > ~/ultra-run2
rm -rf ~/.cache
./pytorch.sh > ~/ultra-run3
rm -rf ~/.cache
exit
usermod -d /sjc-test-sa/testuser testuser
su - testuser
export PATH=/opt/python/3.11.4/bin:$PATH
./pytorch.sh > ~/sa-run1
rm -rf ~/.cache
./pytorch.sh > ~/sa-run2
rm -rf ~/.cache
./pytorch.sh > ~/sa-run3
rm -rf ~/.cache
exit
```

```
usermod -d /sjc-test-nfs-vol/testuser testuser
su - testuser
export PATH=/opt/python/3.11.4/bin:$PATH
./pytorch.sh > ~/nfs-run1
rm -rf ~/.cache
./pytorch.sh > ~/nfs-run2
rm -rf ~/.cache
./pytorch.sh > ~/nfs-run3
rm -rf ~/.cache
exit
```

```
usermod -d /sjc-test-local-vol/testuser testuser
su - testuser
export PATH=/opt/python/3.11.4/bin:$PATH
./pytorch.sh > ~/local-run1
rm -rf ~/.cache
./pytorch.sh > ~/local-run2
rm -rf ~/.cache
./pytorch.sh > ~/local-run3
rm -rf ~/.cache
exit
```

Ultra Results:

```
BEGIN - Running in /sjc-test-ultra-vol/testuser
VENV REMOVE: Run duration = 00:00:13
VENV CREATE: Run duration = 00:00:09
PIP UPDATE: Run duration = 00:00:11
PYTORCH INSTALL: Run duration = 00:02:03
CLEANUP: Run duration = 00:00:15
END
BEGIN - Running in /sjc-test-ultra-vol/testuser
VENV CREATE: Run duration = 00:00:08
PIP UPDATE: Run duration = 00:00:12
PYTORCH INSTALL: Run duration = 00:02:14
CLEANUP: Run duration = 00:00:15
END
BEGIN - Running in /sjc-test-ultra-vol/testuser
VENV CREATE: Run duration = 00:00:09
```

```
PIP UPDATE: Run duration = 00:00:11
PYTORCH INSTALL: Run duration = 00:02:16
CLEANUP: Run duration = 00:00:15
END
```

Premium Results:

```
BEGIN - Running in /sjc-test-prem-vol/testuser
VENV CREATE: Run duration = 00:00:07
PIP UPDATE: Run duration = 00:00:09
PYTORCH INSTALL: Run duration = 00:02:17
CLEANUP: Run duration = 00:00:10
END
BEGIN - Running in /sjc-test-prem-vol/testuser
VENV CREATE: Run duration = 00:00:07
PIP UPDATE: Run duration = 00:00:09
PYTORCH INSTALL: Run duration = 00:02:18
CLEANUP: Run duration = 00:00:11
END
BEGIN - Running in /sjc-test-prem-vol/testuser
VENV CREATE: Run duration = 00:00:08
PIP UPDATE: Run duration = 00:00:09
PYTORCH INSTALL: Run duration = 00:02:19
CLEANUP: Run duration = 00:00:10
END
```

Standard Results:

```
BEGIN - Running in /sjc-test-standard-vol/testuser
VENV CREATE: Run duration = 00:00:09
PIP UPDATE: Run duration = 00:00:12
PYTORCH INSTALL: Run duration = 00:05:02
CLEANUP: Run duration = 00:00:15
END
BEGIN - Running in /sjc-test-standard-vol/testuser
VENV CREATE: Run duration = 00:00:08
PIP UPDATE: Run duration = 00:00:12
PYTORCH INSTALL: Run duration = 00:04:58
CLEANUP: Run duration = 00:00:15
```



```
END
BEGIN - Running in /sjc-test-standard-vol/testuser
VENV CREATE: Run duration = 00:00:09
PIP UPDATE: Run duration = 00:00:11
PYTORCH INSTALL: Run duration = 00:05:39
CLEANUP: Run duration = 00:00:16
END
```

premium storage account

```
[root@RHEL8-0-hostname testuser]# cat *run*
BEGIN - Running in /sjc-test-sa/testuser
VENV CREATE: Run duration = 00:00:45
PIP UPDATE: Run duration = 00:01:07
PYTORCH INSTALL: Run duration = 00:09:22
CLEANUP: Run duration = 00:01:44
END
BEGIN - Running in /sjc-test-sa/testuser
VENV CREATE: Run duration = 00:00:53
PIP UPDATE: Run duration = 00:01:09
PYTORCH INSTALL: Run duration = 00:09:26
CLEANUP: Run duration = 00:01:36
END
BEGIN - Running in /sjc-test-sa/testuser
VENV CREATE: Run duration = 00:00:48
PIP UPDATE: Run duration = 00:01:06
PYTORCH INSTALL: Run duration = 00:09:57
CLEANUP: Run duration = 00:02:00
END
```

fsbench Results: Checked into github.com/samcofer/pulumipieces_azure

R: 4.0.2

```
git clone https://github.com/rstudio/fsbench
#Updated renv.lock to use binaries
vi ./fsbench/renv.lock
export TARGET_DIR=/pathtotargetdir/
make setup
```

```
make
```

Azure Netapp Details:

```
PS C:\Users\samco> az netappfiles account show --account-name sjc-test --resource-  
group sjc_rg369b61f1  
{  
  "activeDirectories": null,  
  "disableShowmount": null,  
  "encryption": {  
    "identity": null,  
    "keySource": "Microsoft.NetApp",  
    "keyVaultProperties": null  
  },  
  "etag": "W/\"datetime'2023-08-14T15%3A07%3A05.7743811Z'\"",  
  "id": "/subscriptions/cdc5ba7c-38d0-43f9-9670-  
7b37680ad295/resourceGroups/sjc_rg369b61f1/providers/Microsoft.NetApp/netAppAccounts/s  
jc-test",  
  "identity": null,  
  "location": "eastus2",  
  "name": "sjc-test",  
  "provisioningState": "Succeeded",  
  "resourceGroup": "sjc_rg369b61f1",  
  "systemData": {  
    "createdAt": "2023-08-14T15:07:05.609284+00:00",  
    "createdBy": "sam.cofer@rstudio.com",  
    "createdByType": "User",  
    "lastModifiedAt": "2023-08-14T15:07:05.609284+00:00",  
    "lastModifiedBy": "sam.cofer@rstudio.com",  
    "lastModifiedByType": "User"  
  },  
  "tags": null,  
  "type": "Microsoft.NetApp/netAppAccounts"  
}  
  
PS C:\Users\samco> az netappfiles pool list --account-name sjc-test --resource-group  
sjc_rg369b61f1  
[  
  {  
    "coolAccess": false,
```

```
"encryptionType": "Single",
"etag": "W/\"datetime'2023-08-14T16%3A06%3A51.5285364Z'\"",
"id": "/subscriptions/cdc5ba7c-38d0-43f9-9670-7b37680ad295/resourceGroups/sjc_rg369b61f1/providers/Microsoft.NetApp/netAppAccounts/sjc-test/capacityPools/sjc-test-prem",
"location": "eastus2",
"name": "sjc-test/sjc-test-prem",
"poolId": "69a40238-1335-e01a-c2dc-bbe9b354de96",
"provisioningState": "Succeeded",
"qosType": "Auto",
"resourceGroup": "sjc_rg369b61f1",
"serviceLevel": "Premium",
"size": 2199023255552,
"systemData": {
  "createdAt": "2023-08-14T15:14:36.785748+00:00",
  "createdBy": "sam.cofer@rstudio.com",
  "createdByType": "User",
  "lastModifiedAt": "2023-08-14T15:14:36.785748+00:00",
  "lastModifiedBy": "sam.cofer@rstudio.com",
  "lastModifiedByType": "User"
},
"tags": null,
"totalThroughputMibps": 128.0,
"type": "Microsoft.NetApp/netAppAccounts/capacityPools",
"utilizedThroughputMibps": 128.0
},
{
  "coolAccess": false,
  "encryptionType": "Single",
  "etag": "W/\"datetime'2023-08-17T13%3A18%3A54.7822426Z'\"",
  "id": "/subscriptions/cdc5ba7c-38d0-43f9-9670-7b37680ad295/resourceGroups/sjc_rg369b61f1/providers/Microsoft.NetApp/netAppAccounts/sjc-test/capacityPools/sjc-test-standard",
  "location": "eastus2",
  "name": "sjc-test/sjc-test-standard",
  "poolId": "ea56e993-346b-6fcc-58bd-285471b8bd20",
  "provisioningState": "Succeeded",
  "qosType": "Auto",
  "resourceGroup": "sjc_rg369b61f1",
  "serviceLevel": "Standard",
```

```
"size": 2199023255552,
"systemData": {
  "createdAt": "2023-08-17T13:17:46.426776+00:00",
  "createdBy": "sam.cofer@rstudio.com",
  "createdByType": "User",
  "lastModifiedAt": "2023-08-17T13:17:46.426776+00:00",
  "lastModifiedBy": "sam.cofer@rstudio.com",
  "lastModifiedByType": "User"
},
"tags": null,
"totalThroughputMibps": 32.0,
"type": "Microsoft.NetApp/netAppAccounts/capacityPools",
"utilizedThroughputMibps": 32.0
},
{
  "coolAccess": false,
  "encryptionType": "Single",
  "etag": "W/\"datetime'2023-08-17T17%3A25%3A29.7754123Z'\",",
  "id": "/subscriptions/cdc5ba7c-38d0-43f9-9670-7b37680ad295/resourceGroups/sjc_rg369b61f1/providers/Microsoft.NetApp/netAppAccounts/sjc-test/capacityPools/sjc-test-ultra",
  "location": "eastus2",
  "name": "sjc-test/sjc-test-ultra",
  "poolId": "20231564-ea4e-f1b8-e66c-5539ff52091f",
  "provisioningState": "Succeeded",
  "qosType": "Auto",
  "resourceGroup": "sjc_rg369b61f1",
  "serviceLevel": "Ultra",
  "size": 2199023255552,
  "systemData": {
    "createdAt": "2023-08-17T17:11:50.516979+00:00",
    "createdBy": "sam.cofer@rstudio.com",
    "createdByType": "User",
    "lastModifiedAt": "2023-08-17T17:11:50.516979+00:00",
    "lastModifiedBy": "sam.cofer@rstudio.com",
    "lastModifiedByType": "User"
  },
  "tags": null,
  "totalThroughputMibps": 256.0,
  "type": "Microsoft.NetApp/netAppAccounts/capacityPools",
```

```
    "utilizedThroughputMibps": 256.0
  }
]
```

```
PS C:\Users\samco> az netappfiles volume list --account-name sjc-test --resource-group sjc_rg369b61f1 --pool-name "sjc-test-ultra"
```

```
[
  {
    "avsDataStore": "Disabled",
    "backupId": null,
    "baremetalTenantId":
"baremetalTenant_svm_5e08749d4f9047fc9caa1285bc868b77_453add3c",
    "capacityPoolResourceId": null,
    "cloneProgress": null,
    "coolAccess": false,
    "coolnessPeriod": null,
    "creationToken": "sjc-test-ultra-vol",
    "dataProtection": null,
    "defaultGroupQuotaInKiBs": 0,
    "defaultUserQuotaInKiBs": 0,
    "deleteBaseSnapshot": false,
    "enableSubvolumes": "Disabled",
    "encrypted": null,
    "encryptionKeySource": "Microsoft.NetApp",
    "etag": "W/\"datetime'2023-08-17T17%3A25%3A29.9526342Z'\"",
    "exportPolicy": {
      "rules": [
        {
          "allowedClients": "0.0.0.0/0",
          "chownMode": "Restricted",
          "cifs": false,
          "hasRootAccess": true,
          "kerberos5IReadOnly": false,
          "kerberos5IReadWrite": false,
          "kerberos5PReadOnly": false,
          "kerberos5PReadWrite": false,
          "kerberos5ReadOnly": false,
          "kerberos5ReadWrite": false,
          "nfsv3": false,
          "nfsv41": true,

```

```
        "ruleIndex": 1,
        "unixReadOnly": false,
        "unixReadWrite": true
    }
]
},
"fileSystemId": "bda56eee-fc8e-fa7e-ed1d-b3de5ebea1f2",
"id": "/subscriptions/cdc5ba7c-38d0-43f9-9670-7b37680ad295/resourceGroups/sjc_rg369b61f1/providers/Microsoft.NetApp/netAppAccounts/sjc-test/capacityPools/sjc-test-ultra/volumes/sjc-test-ultra-vol",
"isDefaultQuotaEnabled": false,
"isRestoring": null,
"kerberosEnabled": false,
"keyVaultPrivateEndpointResourceId": null,
"ldapEnabled": false,
"location": "eastus2",
"maximumNumberOfFiles": 100000000,
"mountTargets": [
    {
        "fileSystemId": "bda56eee-fc8e-fa7e-ed1d-b3de5ebea1f2",
        "ipAddress": "10.11.11.4",
        "mountTargetId": "bda56eee-fc8e-fa7e-ed1d-b3de5ebea1f2",
        "smbServerFqdn": null
    }
],
"name": "sjc-test/sjc-test-ultra/sjc-test-ultra-vol",
"networkFeatures": "Standard",
"networkSiblingSetId": "6565af0b-1a44-326b-26a8-785e25c35ff0",
"placementRules": null,
"protocolTypes": [
    "NFSv4.1"
],
"provisioningState": "Succeeded",
"proximityPlacementGroup": null,
"resourceGroup": "sjc_rg369b61f1",
"securityStyle": "Unix",
"serviceLevel": "Ultra",
"smbAccessBasedEnumeration": "Disabled",
"smbContinuouslyAvailable": false,
"smbEncryption": false,
```

```

    "smbNonBrowsable": "Disabled",
    "snapshotDirectoryVisible": true,
    "snapshotId": null,
    "storageToNetworkProximity": "T2",
    "subnetId": "/subscriptions/cdc5ba7c-38d0-43f9-9670-7b37680ad295/resourceGroups/sjc_rg369b61f1/providers/Microsoft.Network/virtualNetworks/sjc-server-networkf258e8ed/subnets/netapp-test",
    "systemData": {
      "createdAt": "2023-08-17T17:25:23.503962+00:00",
      "createdBy": "sam.cofer@rstudio.com",
      "createdByType": "User",
      "lastModifiedAt": "2023-08-17T17:25:23.503962+00:00",
      "lastModifiedBy": "sam.cofer@rstudio.com",
      "lastModifiedByType": "User"
    },
    "t2Network": null,
    "tags": {},
    "throughputMibps": 256.0,
    "type": "Microsoft.NetApp/netAppAccounts/capacityPools/volumes",
    "unixPermissions": "0770",
    "usageThreshold": 2199023255552,
    "volumeGroupName": null,
    "volumeSpecName": null,
    "volumeType": "",
    "zones": []
  }
]

```

```

PS C:\Users\samco> az netappfiles volume list --account-name sjc-test --resource-group sjc_rg369b61f1 --pool-name "sjc-test-prem"

```

```

[
  {
    "avsDataStore": "Disabled",
    "backupId": null,
    "baremetalTenantId": "baremetalTenant_svm_5e08749d4f9047fc9caa1285bc868b77_453add3c",
    "capacityPoolResourceId": null,
    "cloneProgress": null,
    "coolAccess": false,
    "coolnessPeriod": null,
    "creationToken": "sjc-test-prem-vol",

```

```
"dataProtection": null,
"defaultGroupQuotaInKiBs": 0,
"defaultUserQuotaInKiBs": 0,
"deleteBaseSnapshot": false,
"enableSubvolumes": "Disabled",
"encrypted": null,
"encryptionKeySource": "Microsoft.NetApp",
"etag": "W/\"datetime'2023-08-14T16%3A06%3A51.657969Z'\"",
"exportPolicy": {
  "rules": [
    {
      "allowedClients": "0.0.0.0/0",
      "chownMode": "Restricted",
      "cifs": false,
      "hasRootAccess": true,
      "kerberos5IReadOnly": false,
      "kerberos5IReadWrite": false,
      "kerberos5PReadOnly": false,
      "kerberos5PReadWrite": false,
      "kerberos5ReadOnly": false,
      "kerberos5ReadWrite": false,
      "nfsv3": false,
      "nfsv41": true,
      "ruleIndex": 1,
      "unixReadOnly": false,
      "unixReadWrite": true
    }
  ]
},
"fileSystemId": "2ac75f53-41ae-9daf-58a3-6477be39e7ef",
"id": "/subscriptions/cdc5ba7c-38d0-43f9-9670-7b37680ad295/resourceGroups/sjc_rg369b61f1/providers/Microsoft.NetApp/netAppAccounts/sjc-test/capacityPools/sjc-test-prem/volumes/sjc-test-prem-vol",
"isDefaultQuotaEnabled": false,
"isRestoring": null,
"kerberosEnabled": false,
"keyVaultPrivateEndpointResourceId": null,
"ldapEnabled": false,
"location": "eastus2",
"maximumNumberOfFiles": 100000000,
```



```
"mountTargets": [
  {
    "fileSystemId": "2ac75f53-41ae-9daf-58a3-6477be39e7ef",
    "ipAddress": "10.11.11.4",
    "mountTargetId": "2ac75f53-41ae-9daf-58a3-6477be39e7ef",
    "smbServerFqdn": null
  }
],
"name": "sjc-test/sjc-test-prem/sjc-test-prem-vol",
"networkFeatures": "Standard",
"networkSiblingSetId": "6565af0b-1a44-326b-26a8-785e25c35ff0",
"placementRules": null,
"protocolTypes": [
  "NFSv4.1"
],
"provisioningState": "Succeeded",
"proximityPlacementGroup": null,
"resourceGroup": "sjc_rg369b61f1",
"securityStyle": "Unix",
"serviceLevel": "Premium",
"smbAccessBasedEnumeration": "Disabled",
"smbContinuouslyAvailable": false,
"smbEncryption": false,
"smbNonBrowsable": "Disabled",
"snapshotDirectoryVisible": true,
"snapshotId": null,
"storageToNetworkProximity": "T2",
"subnetId": "/subscriptions/cdc5ba7c-38d0-43f9-9670-7b37680ad295/resourceGroups/sjc_rg369b61f1/providers/Microsoft.Network/virtualNetworks/sjc-server-networkf258e8ed/subnets/netapp-test",
"systemData": {
  "createdAt": "2023-08-14T16:02:49.674522+00:00",
  "createdBy": "sam.cofer@rstudio.com",
  "createdByType": "User",
  "lastModifiedAt": "2023-08-14T16:02:49.674522+00:00",
  "lastModifiedBy": "sam.cofer@rstudio.com",
  "lastModifiedByType": "User"
},
"t2Network": null,
"tags": {},
```

```

    "throughputMibps": 128.0,
    "type": "Microsoft.NetApp/netAppAccounts/capacityPools/volumes",
    "unixPermissions": "0770",
    "usageThreshold": 2199023255552,
    "volumeGroupName": null,
    "volumeSpecName": null,
    "volumeType": "",
    "zones": []
  }
]
PS C:\Users\samco> az netappfiles volume list --account-name sjc-test --resource-group
sjc_rg369b61f1 --pool-name "sjc-test-standard"
[
  {
    "avsDataStore": "Disabled",
    "backupId": null,
    "baremetalTenantId":
"baremetalTenant_svm_5e08749d4f9047fc9caa1285bc868b77_453add3c",
    "capacityPoolResourceId": null,
    "cloneProgress": null,
    "coolAccess": false,
    "coolnessPeriod": null,
    "creationToken": "sjc-test-standard-export",
    "dataProtection": null,
    "defaultGroupQuotaInKiBs": 0,
    "defaultUserQuotaInKiBs": 0,
    "deleteBaseSnapshot": false,
    "enableSubvolumes": "Disabled",
    "encrypted": null,
    "encryptionKeySource": "Microsoft.NetApp",
    "etag": "W/\"datetime'2023-08-17T13%3A18%3A54.8927571Z'\"",
    "exportPolicy": {
      "rules": [
        {
          "allowedClients": "0.0.0.0/0",
          "chownMode": "Restricted",
          "cifs": false,
          "hasRootAccess": true,
          "kerberos5IReadOnly": false,
          "kerberos5IReadWrite": false,

```

```
    "kerberos5PReadOnly": false,
    "kerberos5PReadWrite": false,
    "kerberos5ReadOnly": false,
    "kerberos5ReadWrite": false,
    "nfsv3": false,
    "nfsv41": true,
    "ruleIndex": 1,
    "unixReadOnly": false,
    "unixReadWrite": true
  }
],
},
"fileSystemId": "7872a6a0-e297-b7dc-3552-9a4b9cd0d770",
"id": "/subscriptions/cdc5ba7c-38d0-43f9-9670-7b37680ad295/resourceGroups/sjc_rg369b61f1/providers/Microsoft.NetApp/netAppAccounts/sjc-test/capacityPools/sjc-test-standard/volumes/sjc-test-standard-vol",
"isDefaultQuotaEnabled": false,
"isRestoring": null,
"kerberosEnabled": false,
"keyVaultPrivateEndpointResourceId": null,
"ldapEnabled": false,
"location": "eastus2",
"maximumNumberOfFiles": 100000000,
"mountTargets": [
  {
    "fileSystemId": "7872a6a0-e297-b7dc-3552-9a4b9cd0d770",
    "ipAddress": "10.11.11.4",
    "mountTargetId": "7872a6a0-e297-b7dc-3552-9a4b9cd0d770",
    "smbServerFqdn": null
  }
],
"name": "sjc-test/sjc-test-standard/sjc-test-standard-vol",
"networkFeatures": "Standard",
"networkSiblingSetId": "6565af0b-1a44-326b-26a8-785e25c35ff0",
"placementRules": null,
"protocolTypes": [
  "NFSv4.1"
],
"provisioningState": "Succeeded",
"proximityPlacementGroup": null,
```

```
"resourceGroup": "sjc_rg369b61f1",
"securityStyle": "Unix",
"serviceLevel": "Standard",
"smbAccessBasedEnumeration": "Disabled",
"smbContinuouslyAvailable": false,
"smbEncryption": false,
"smbNonBrowsable": "Disabled",
"snapshotDirectoryVisible": true,
"snapshotId": null,
"storageToNetworkProximity": "T2",
"subnetId": "/subscriptions/cdc5ba7c-38d0-43f9-9670-7b37680ad295/resourceGroups/sjc_rg369b61f1/providers/Microsoft.Network/virtualNetworks/sjc-server-networkf258e8ed/subnets/netapp-test",
"systemData": {
  "createdAt": "2023-08-17T13:18:44.649076+00:00",
  "createdBy": "sam.cofer@rstudio.com",
  "createdByType": "User",
  "lastModifiedAt": "2023-08-17T13:18:44.649076+00:00",
  "lastModifiedBy": "sam.cofer@rstudio.com",
  "lastModifiedByType": "User"
},
"t2Network": null,
"tags": {},
"throughputMibps": 32.0,
"type": "Microsoft.NetApp/netAppAccounts/capacityPools/volumes",
"unixPermissions": "0770",
"usageThreshold": 2199023255552,
"volumeGroupName": null,
"volumeSpecName": null,
"volumeType": "",
"zones": []
}
]
```