Microsoft Azure Administrator: Configure Azure Files and Azure Blob Storage

CONFIGURING AZURE FILES

Michael Bender

AUTHOR EVANGELIST - PLURALSIGHT

@michaelbender

Course Coverage of Certification Objectives

Configure Azure Files and Azure Blob storage

- Create an Azure File share
- Create and configure Azure File Sync service
- Configure Azure Blob storage
- Configure storage tiers for Azure Blobs
- Configure blob lifecycle management
- Configure blob object replication

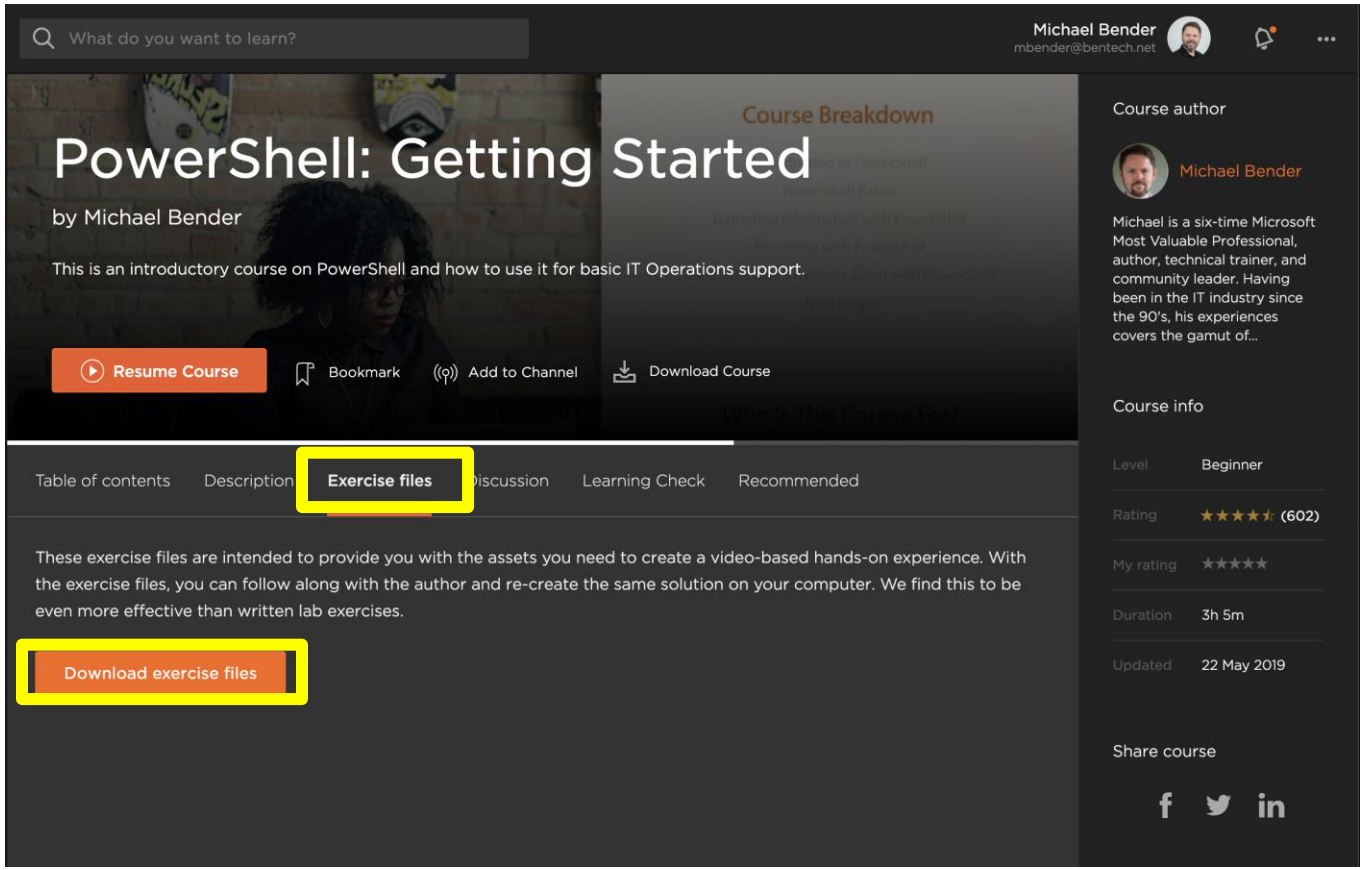
Full certification exam skills outline available at http://bit.ly/az104ms

Exercise Files

Slides

Code

Links to Resources



Azure File Share

- Cloud-based SMB or NFS file share
- Accessible from Windows, MacOS, and Linux
- Clients use port 445
- Supported in GPv1, GPv2 and FileStorage Storage Accounts
- Replication available depending on Storage Account

Azure File Share Requirements

Performance

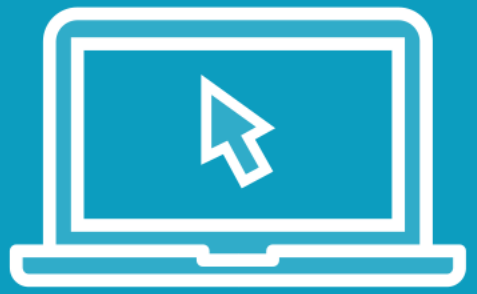
Sizing

Redundancy

Azure File Share Options

	Max Size of File Share	Performance Tiers	Access Tiers	Replication Options
General Purpose v2	5 TiB default Up to 100 TiB upon request	Standard	Hot, Cool, Transaction Optimized	LRS, GRS, ZRS, GZRS
General Purpose v1	5 TiB default Up to 100 TiB upon request	Standard	N/A	LRS, GRS
FileStorage	100 TiB default	Premium	N/A	LRS, ZRS (small subset of regions)

Demo



Create and Configure an Azure File Share

Creating Azure File share with Azure CLI

```
az storage share create \
    --account-name <storageAccountName> \
    --account-key <storageAccountKey> \
    --name <shareName> \
    --quota <SizeinGiB>
```

Creating Azure File share with Azure CLI

```
az storage share create \
    --account-name safilestorage001 \
    --account-key
p2Uf4DssK3Xdlk7F19vtuLwI2TtJRCxXuai5rd8DnRkN9p9ZENqTcjQvhnl7XB0UbP9O0sR/4a
0nlBv6trk65w== \
    --name data \
    --quota 20480
```

Creating Azure File share with Azure CLI

```
az storage directory create \
    --account-name <storageAccountName> \
    --account-key <storageAccountKey> \
    --share-name <FileShareName> \
    --name “<DirectoryName>"
```

Creating Azure File share with Azure CLI

```
az storage directory create \
    --account-name safilestorage001 \
    --account-key
p2Uf4DssK3Xdlk7F19vtuLwI2TtJRCxXuai5rd8DnRkN9p9ZENqTcjQvhnl7XB0UbP9O0sR/4a0nlBv6t
rk65w== \
    --share-name data \
    --name “webpages" \
    --output none
```

Creating Azure File share with Azure CLI

```
az storage file upload \
    --account-name <storageAccountName>\
    --account-key $storageAccountKey \
    --share-name $shareName \
    --source “<SourceFile>" \
    --path “<DirectoryName/<FileName>"
```

Creating Azure File share with Azure CLI

```
az storage file upload \
    --account-name safilestorage001 \
    --account-key
p2Uf4DssK3Xdlk7F19vtuLwI2TtJRCxXuai5rd8DnRkN9p9ZENqTcjQvhnl7XB0UbP9O0sR/4a0nlBv6t
rk65w== \
    --share-name data \
    --source “webpage001.html" \
    --path “webpages/webpage001.html"
```

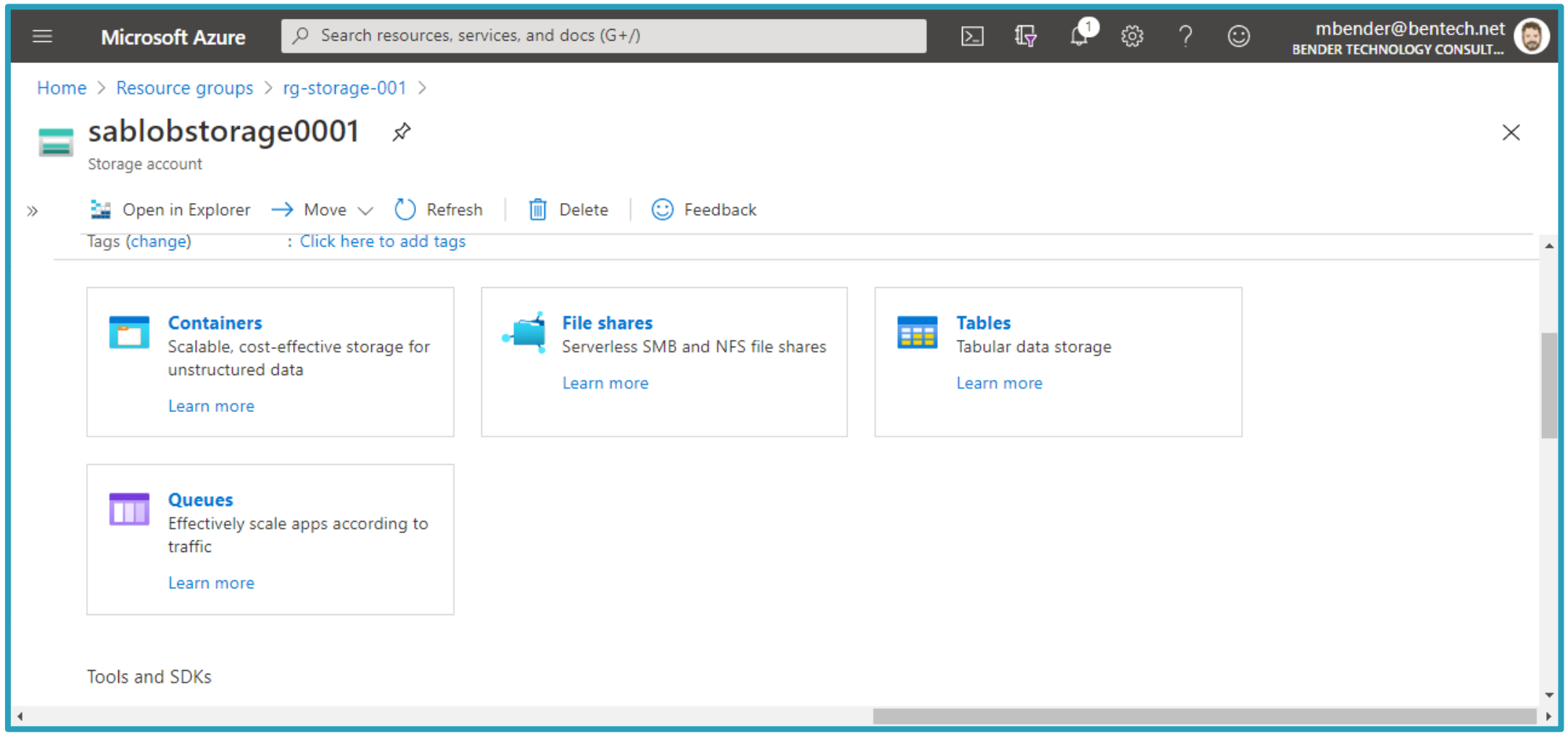
Azure Files Access Tiers

Hot

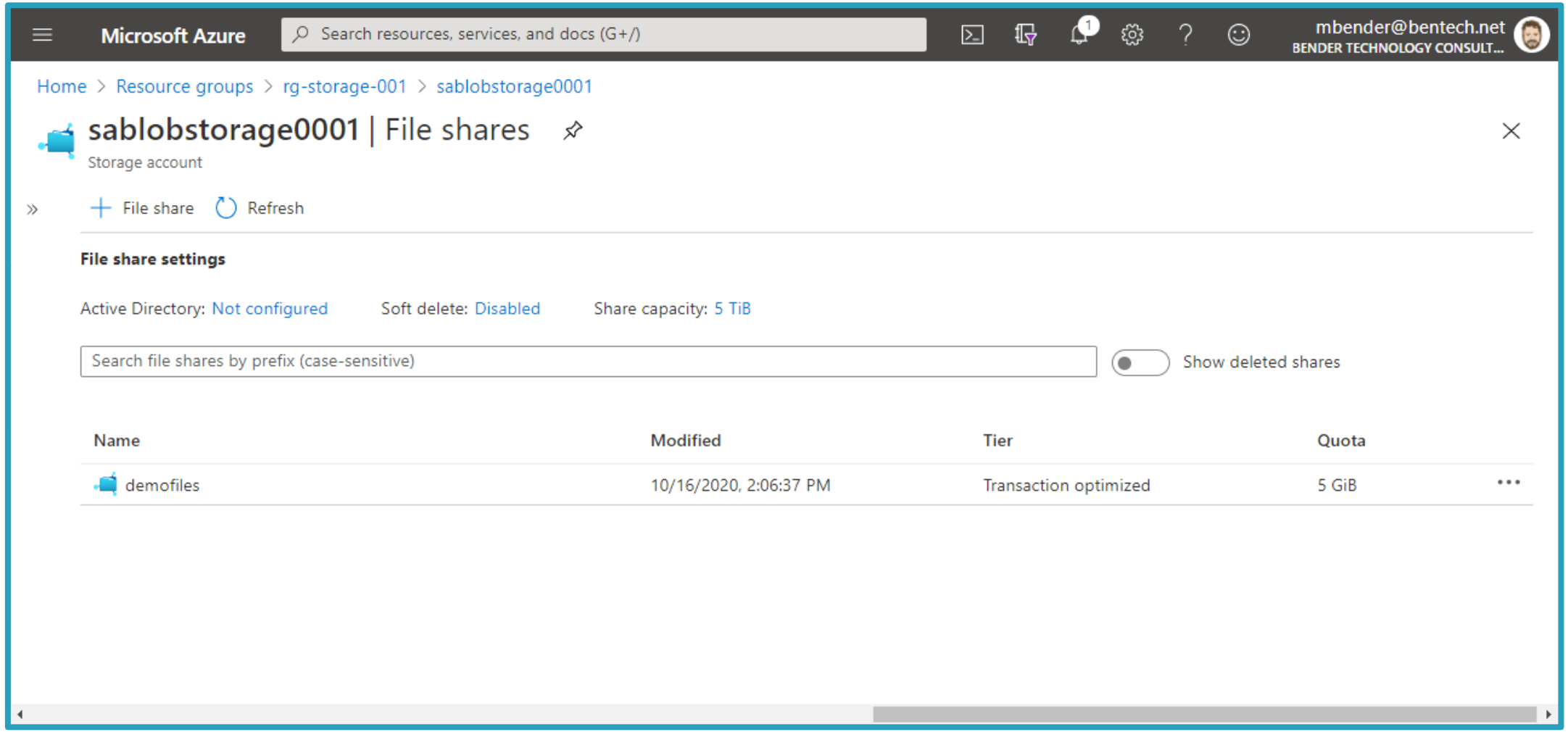
Cool

Transaction optimized

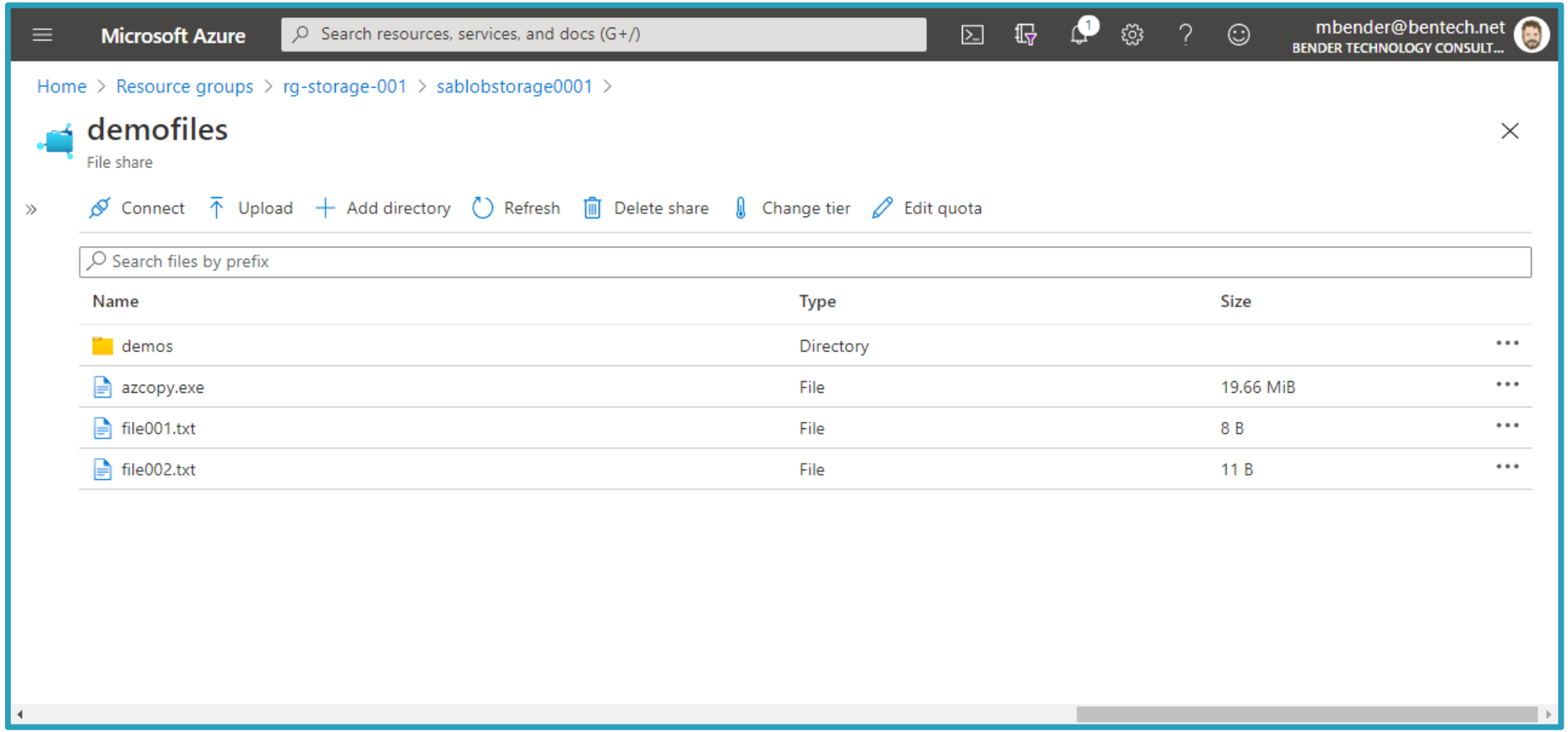
Configure Access Tiers



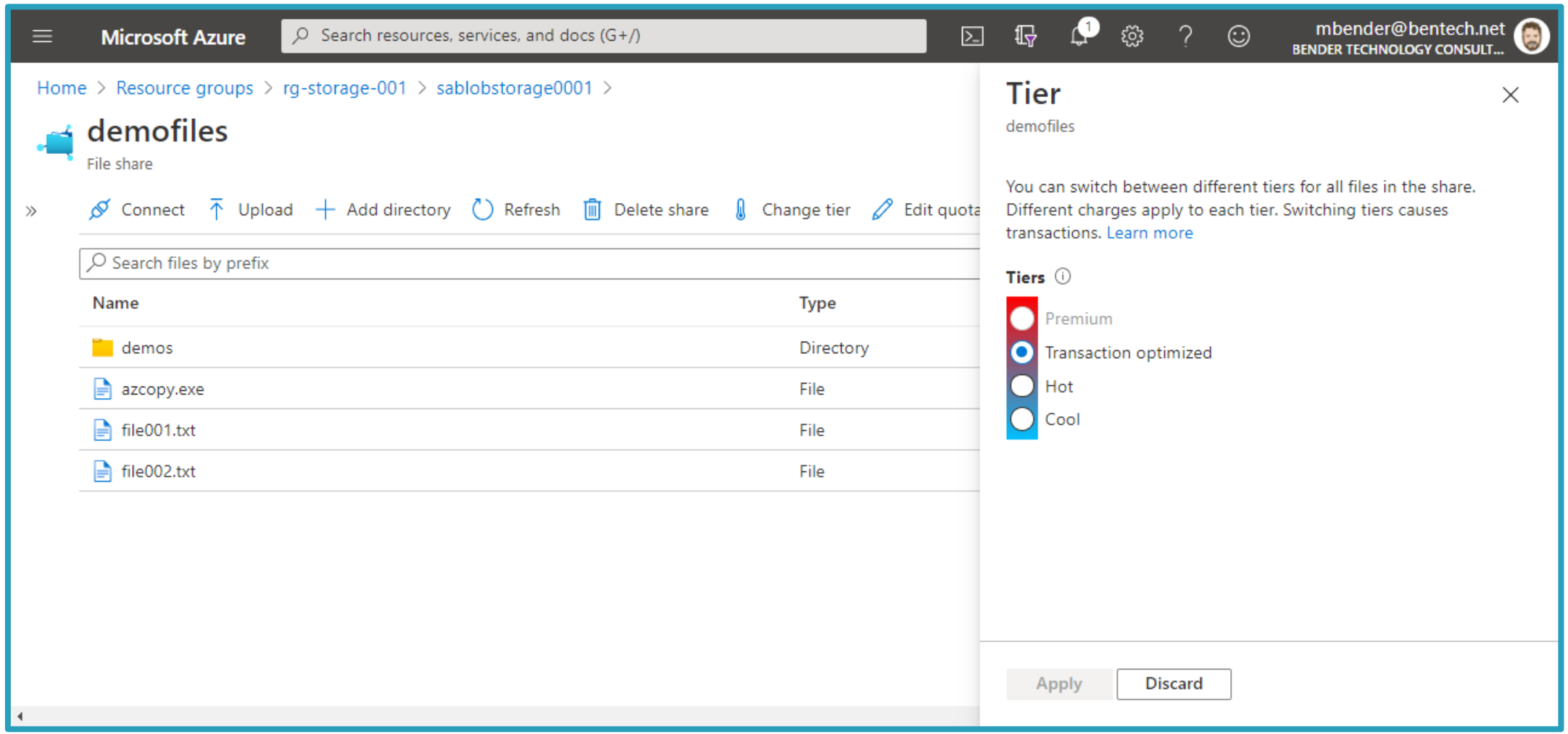
Configure Access Tiers



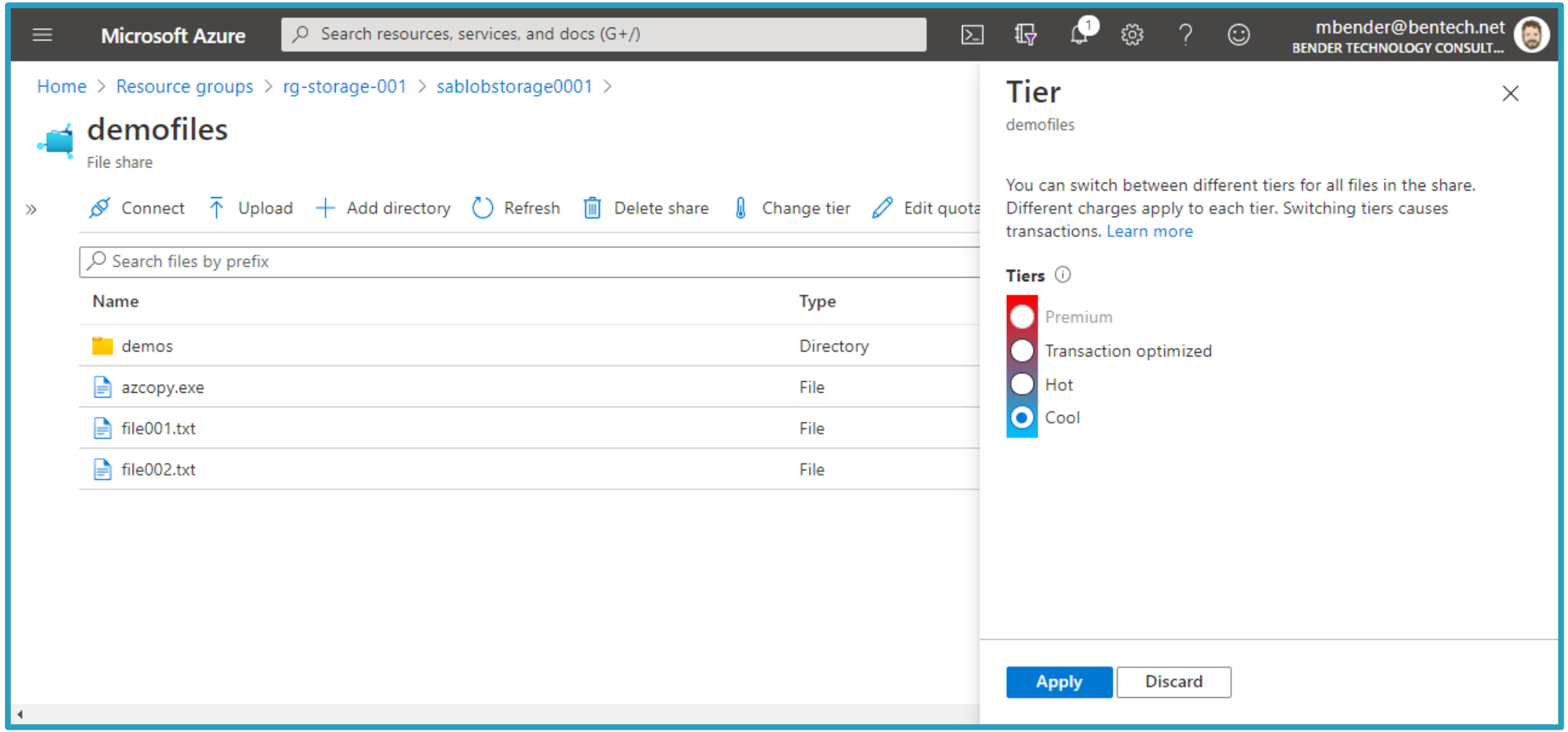
Configure Access Tiers



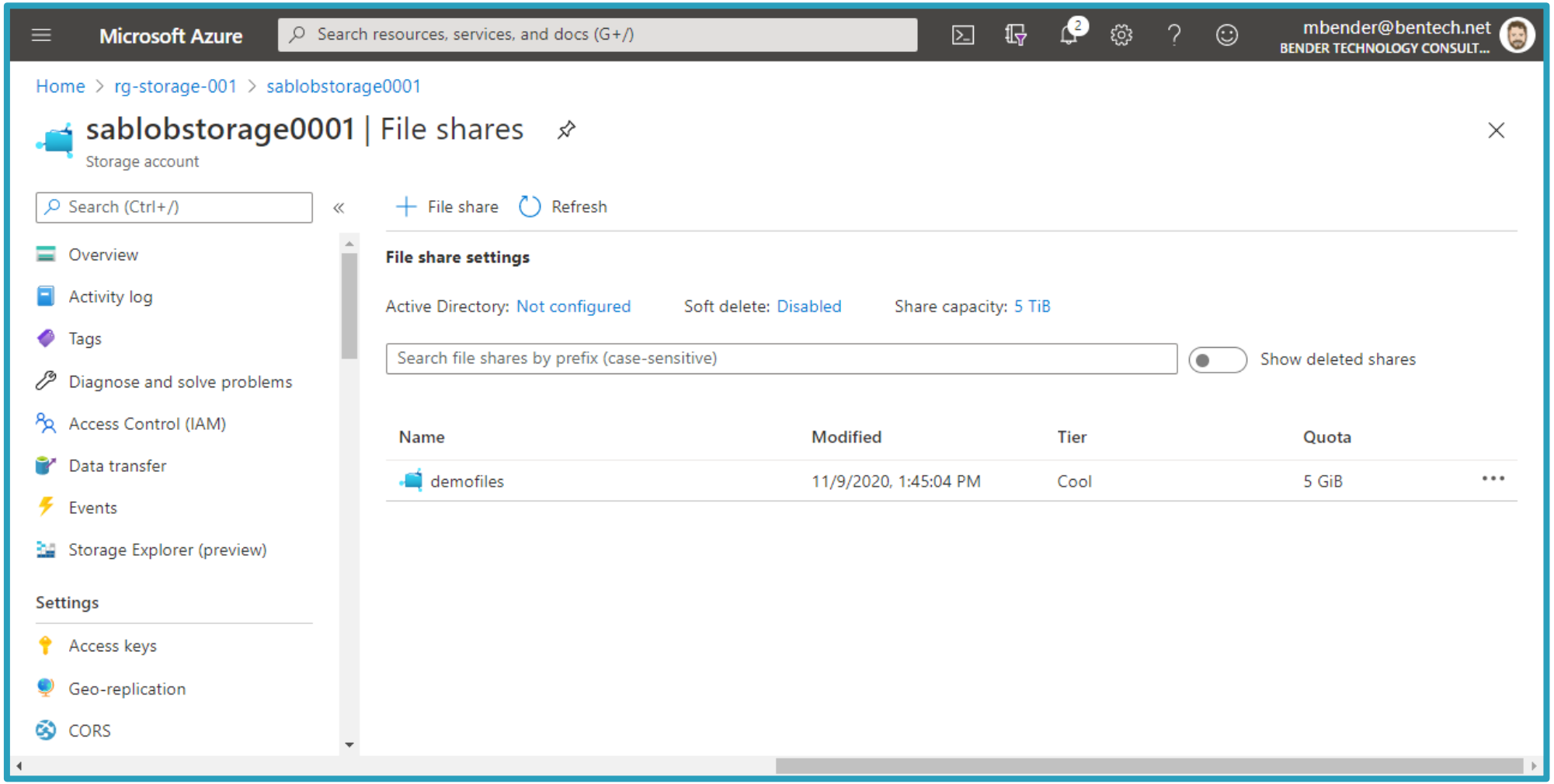
Configure Access Tiers



Configure Access Tiers



Configure Access Tiers



Authentication

Azure Active Directory Domain Services and Active Directory Domain Services

- Provides identity-based access for hybrid environments
- Allows granular share-level and file-level permissions
- Recommended best practice

Storage Account Key or Shared Access Signature

- Less granular control
- Secure the keys

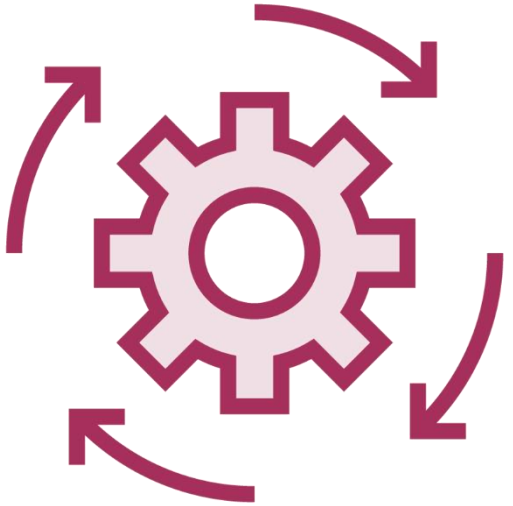
Azure File Sync

- Provides an on-premises caching solution on Windows Server
- Replicates data between on-premises datacenters and Azure
- Integrates with Azure File Shares
- Seamless integration into file share infrastructure
- Includes tools for managing cached data

Azure File Sync Management Components

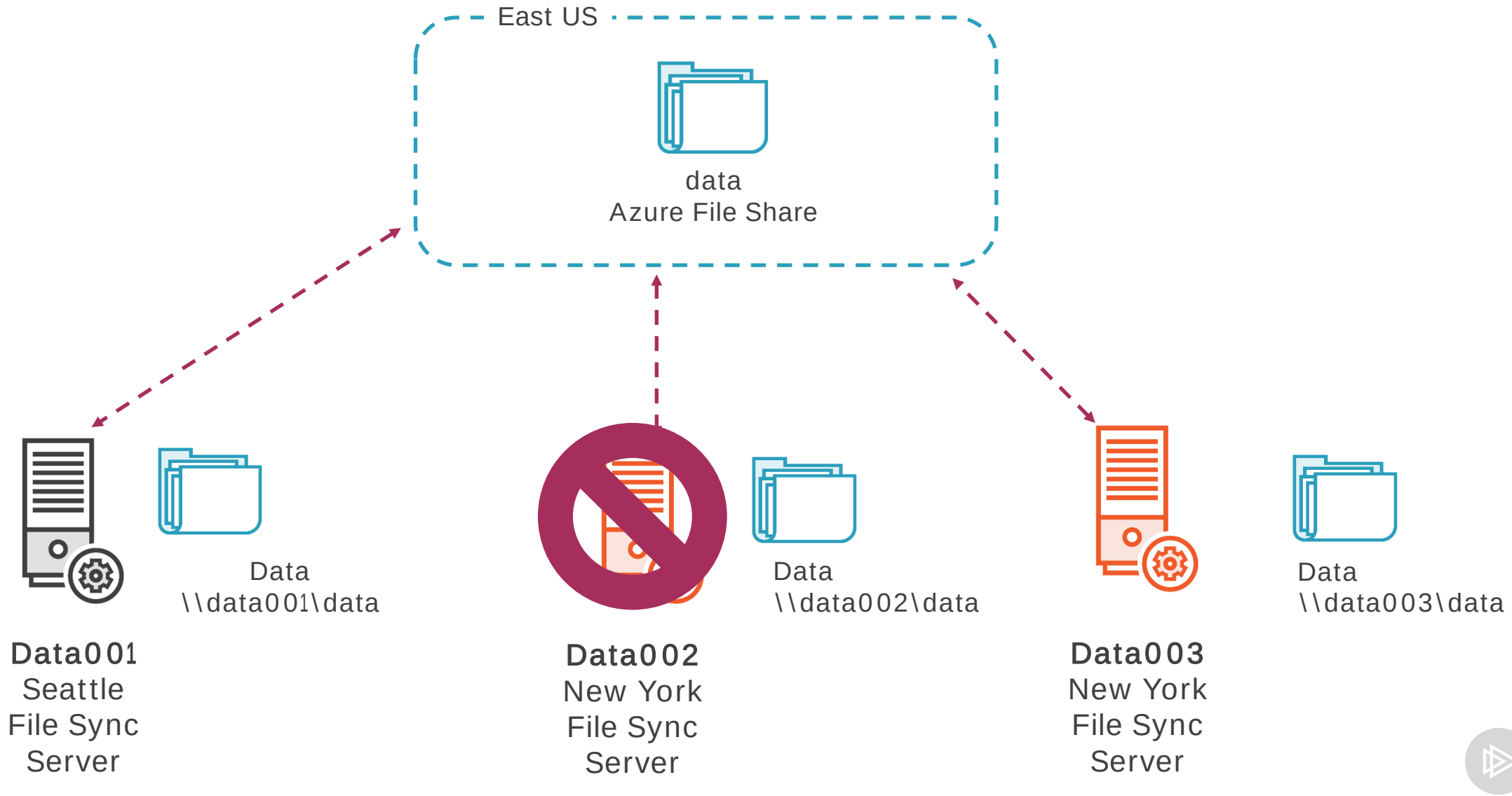
Cloud Endpoint
Azure File Share

Server Endpoint



Sync Group

Azure File Sync In Action



Deploying Azure File Sync

Deploy the Storage Sync Service

Create a sync group and cloud endpoint

Install the Azure File Sync agent on Windows Servers

Register Windows Server with the Storage Sync Service

Create a server endpoint and wait for sync

Demo

Deploy Azure File Sync service

Install the Azure File Sync agent on Windows Servers and Register Servers

Create Server Endpoints and Sync

Add Additional Server and Sync

File Change Conflict Resolution

Azure File Sync will keep both change files

Newest change retains name

- File001.txt is maintained

Older change will receive a modified name

- <FileNameWithoutExtension>-<endpointName>[-#].<ext>
- For example: data002-file001.txt

LastWriteTime determines last change

Maximum of 100 conflicts per file

Next Up

Configuring Access Control to Azure Storage Accounts

Configuring Azure Blob Storage

Michael Bender
AUTHOR EVANGELIST - PLURALSIGHT

@michaelbender

Azure Binary Large Objects (BLOB)

Unstructured data objects of various types

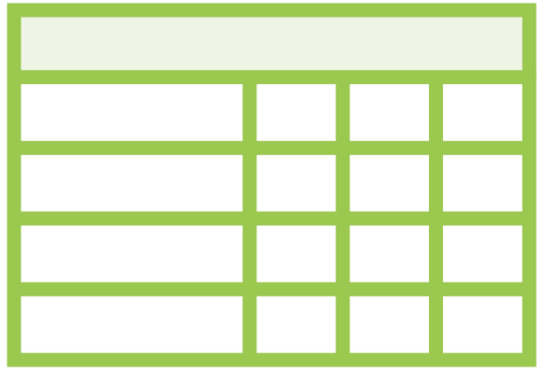
Supported in BlobStorage, General Purpose v1 and General Purpose v2 storage accounts

Support Hot, Cool, and Archive tiers

Support various replication options depending on Storage Account used

Blob Types in Azure

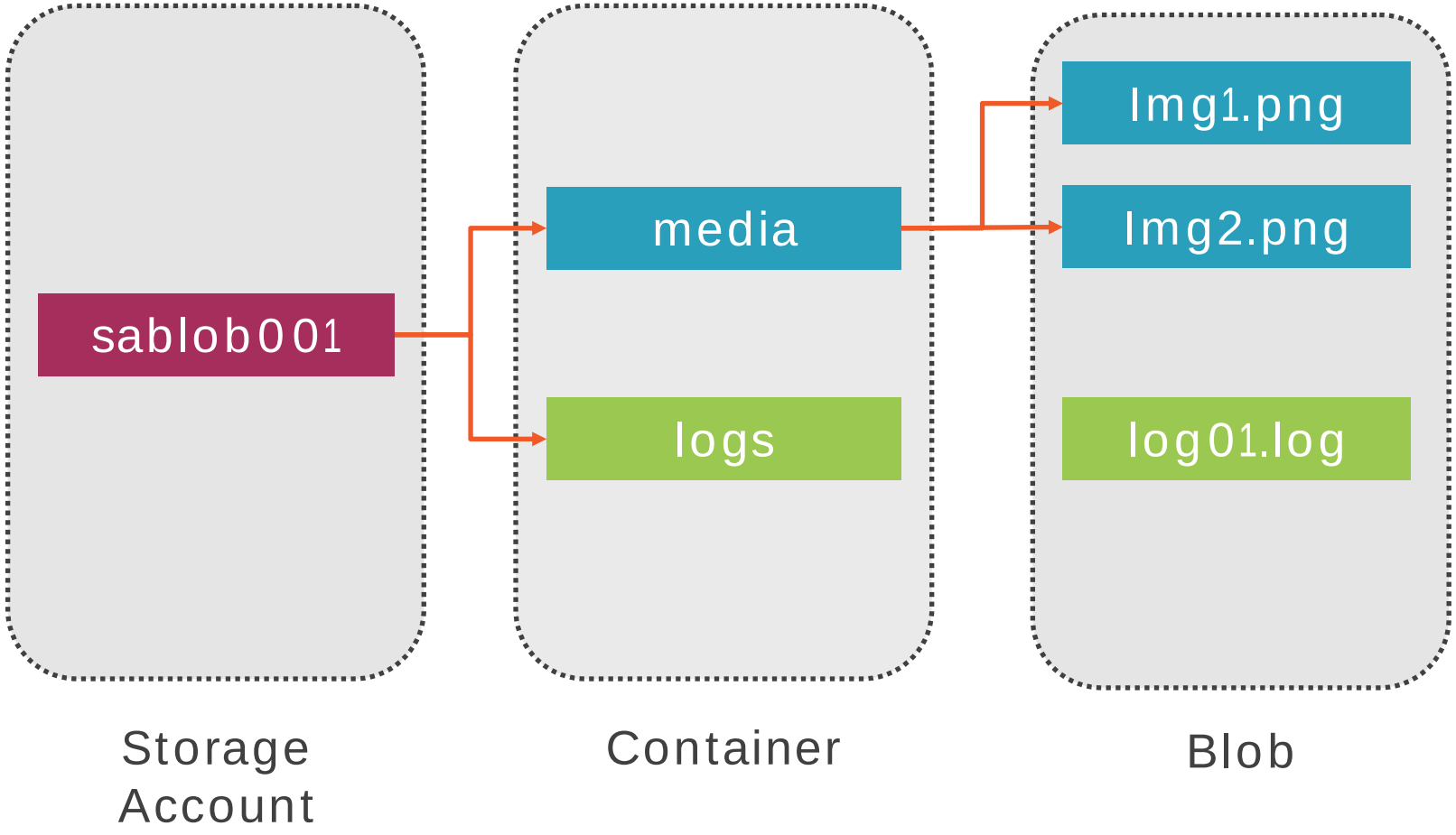
Block

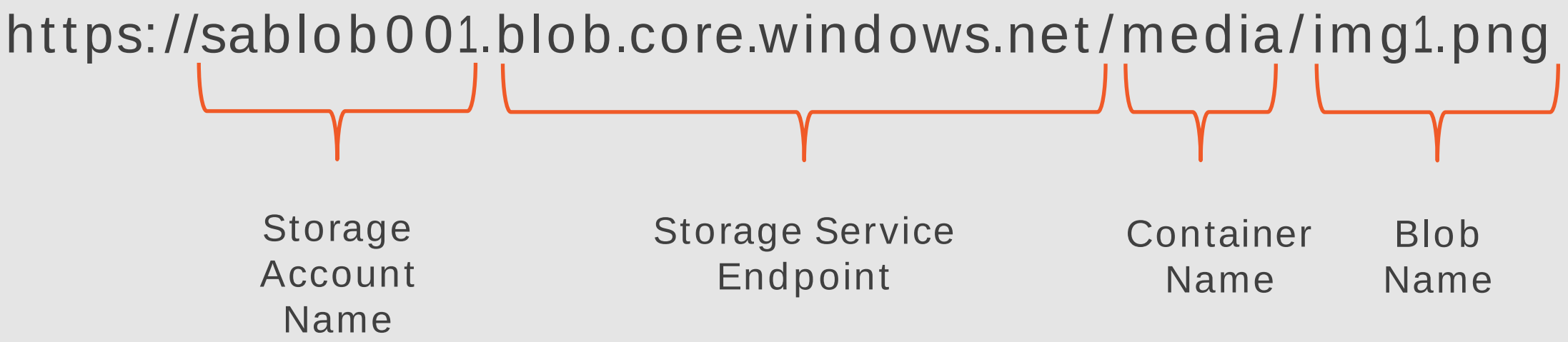


Append

Page

Blob Storage Resources



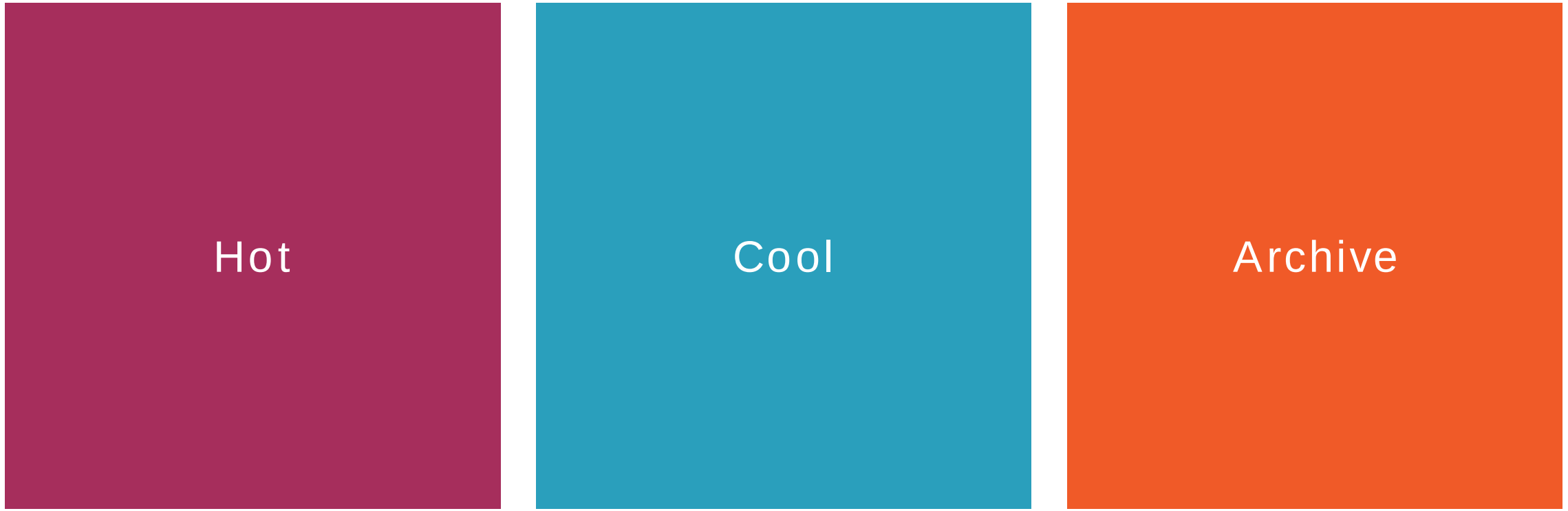


Azure Storage Endpoint for Azure Blob Object

Demo

Configure Blobs in Azure Storage

Azure Blob Access Tiers



Lifecycle Management

Automate tiering of Blob objects

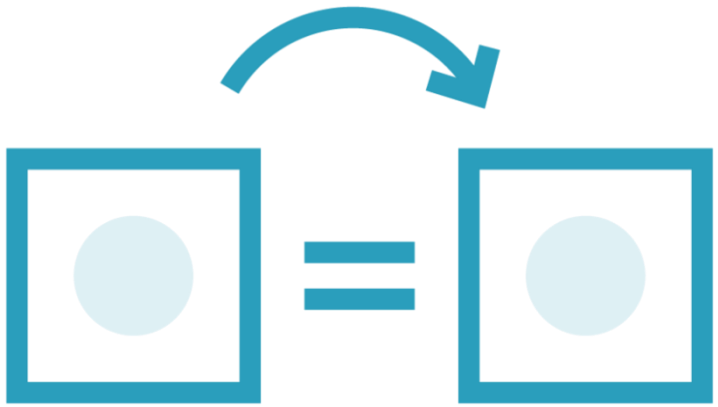
Deploy with multiple tools

24 hrs to deploy

Demo

Configure Azure Blob storage tiers

Blob Object Replication

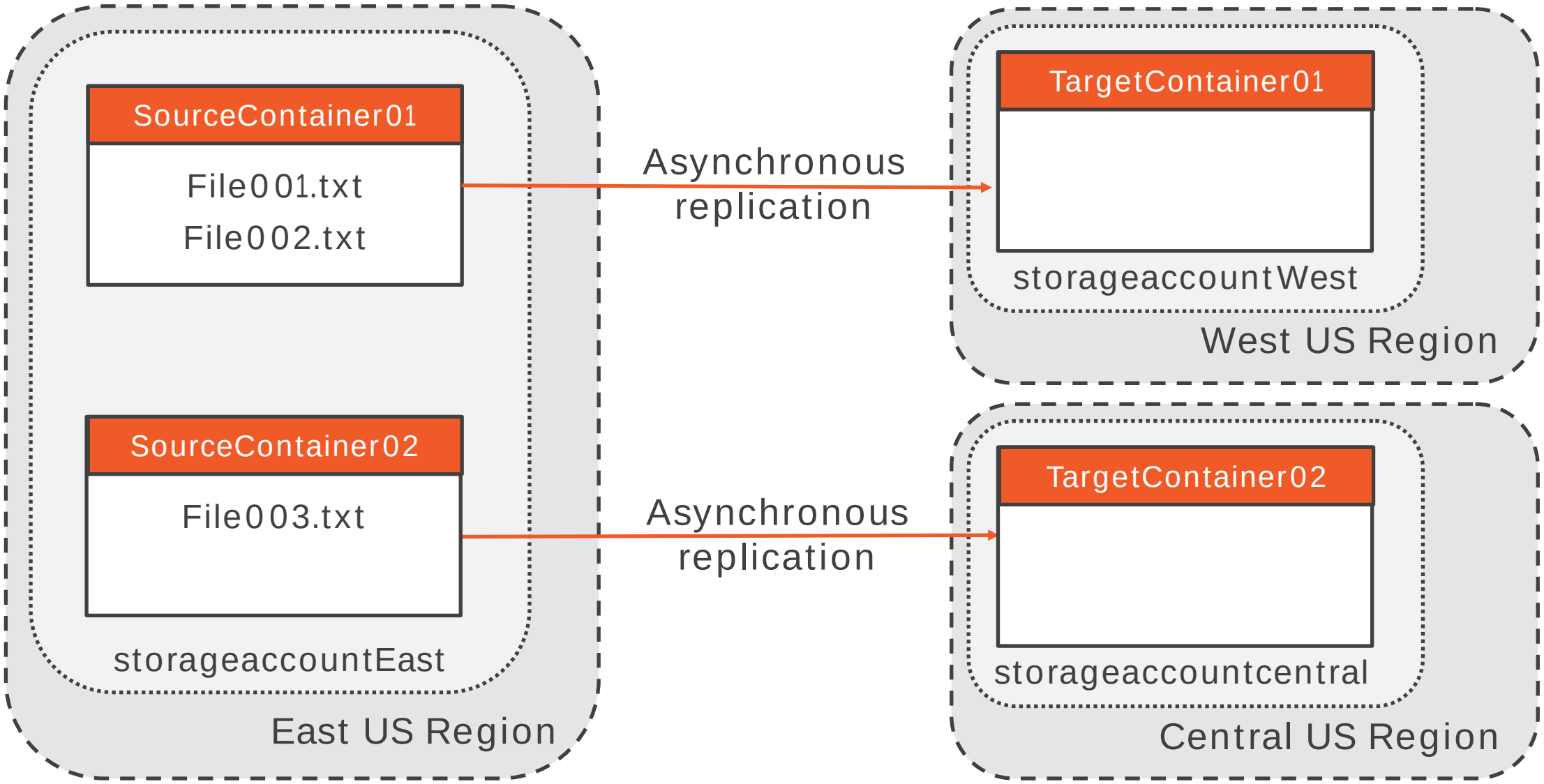


Asynchronous copies of block blobs between storage accounts

Supported scenarios

- Minimizing latency
- Increase efficiency for compute workloads
- Optimizing data distribution
- Optimizing costs

Blob Object Replication



Caveats for Blob Object Replication

No snapshot support

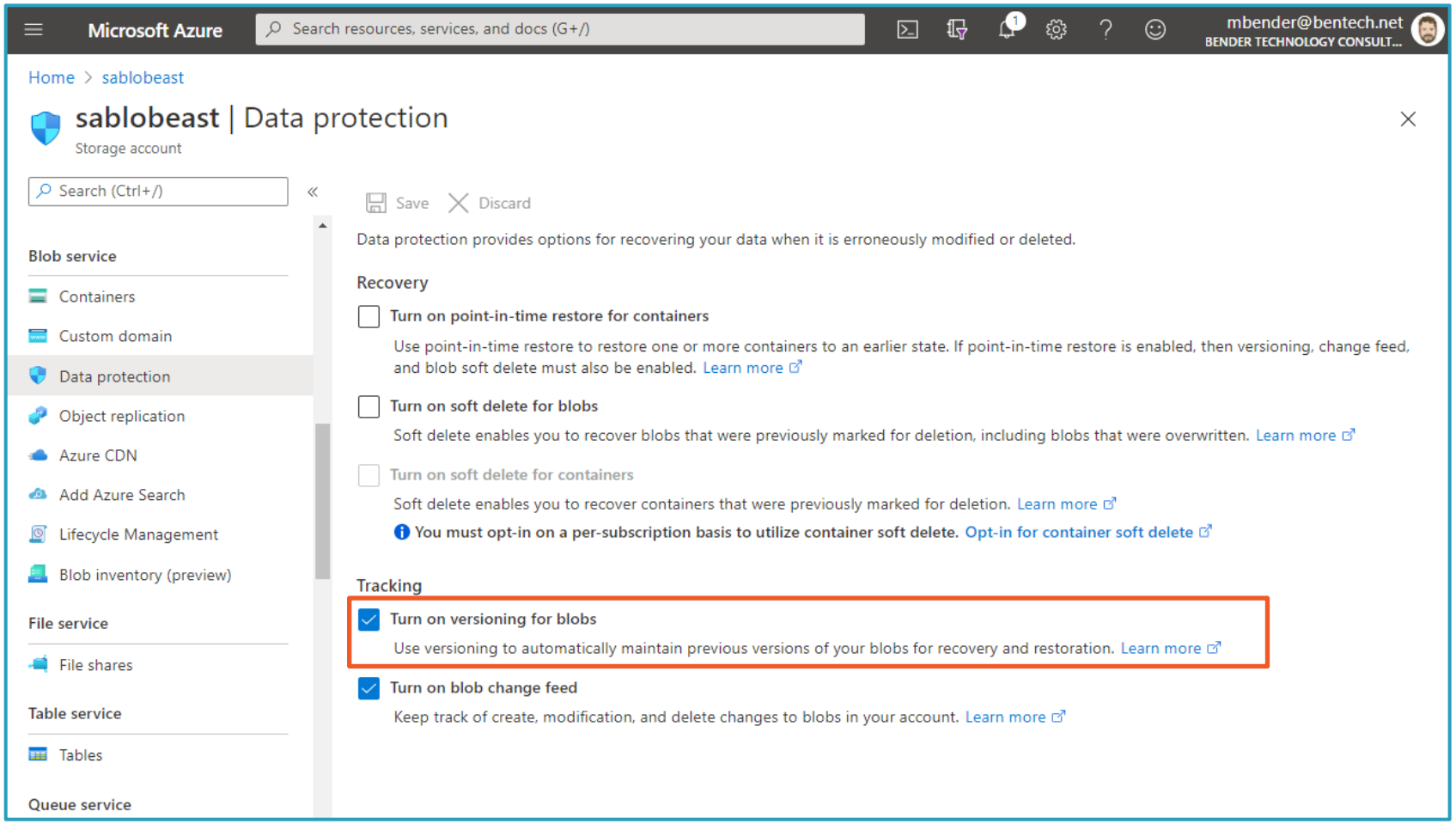
Hot and cool tiers only

No immutable blob support

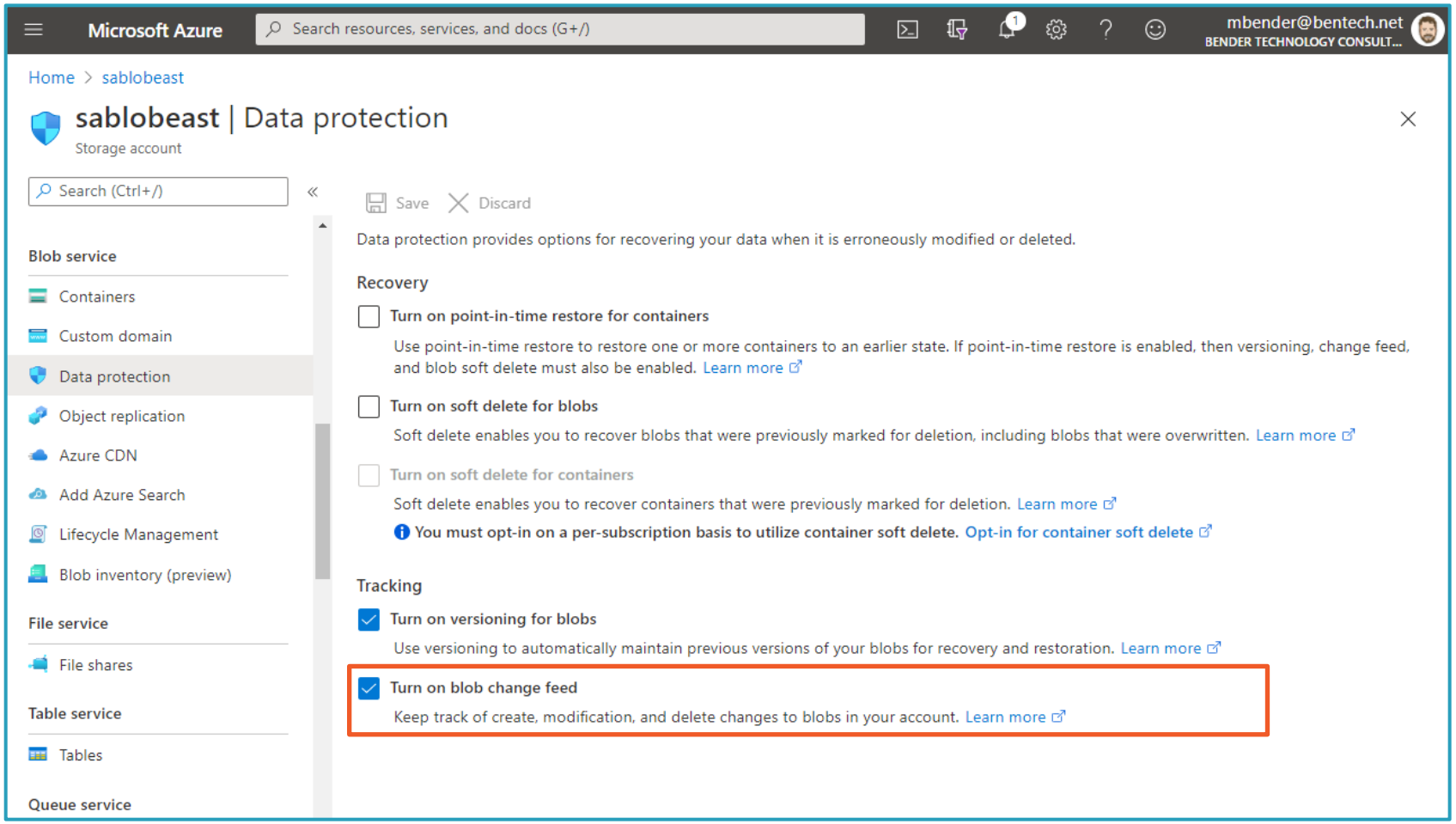
Getting Ready for Blob Object Replication

Blob replication requires existing source and destination storage accounts w/ pre-created containers

Data Protection Settings

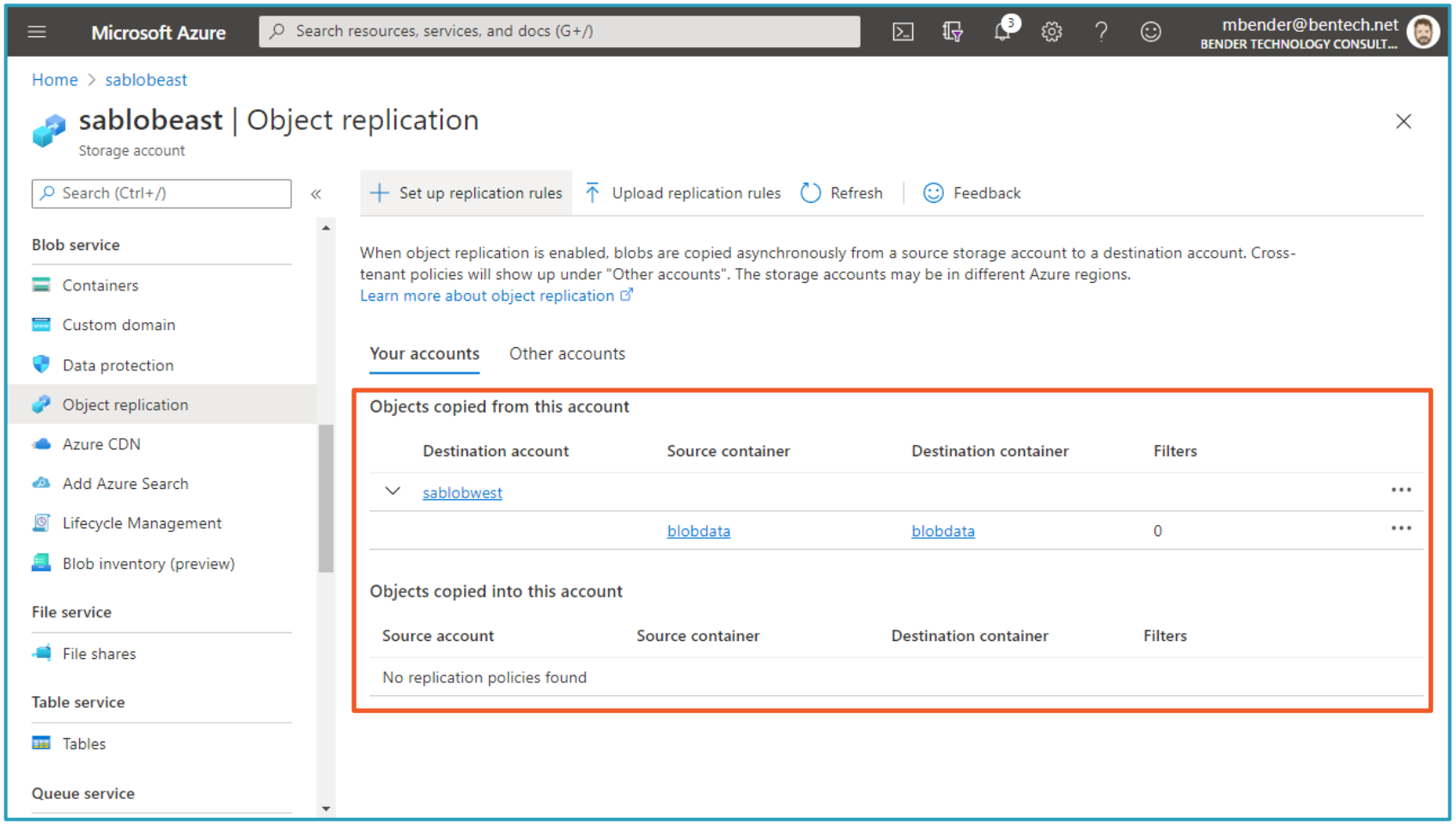


Data Protection Settings

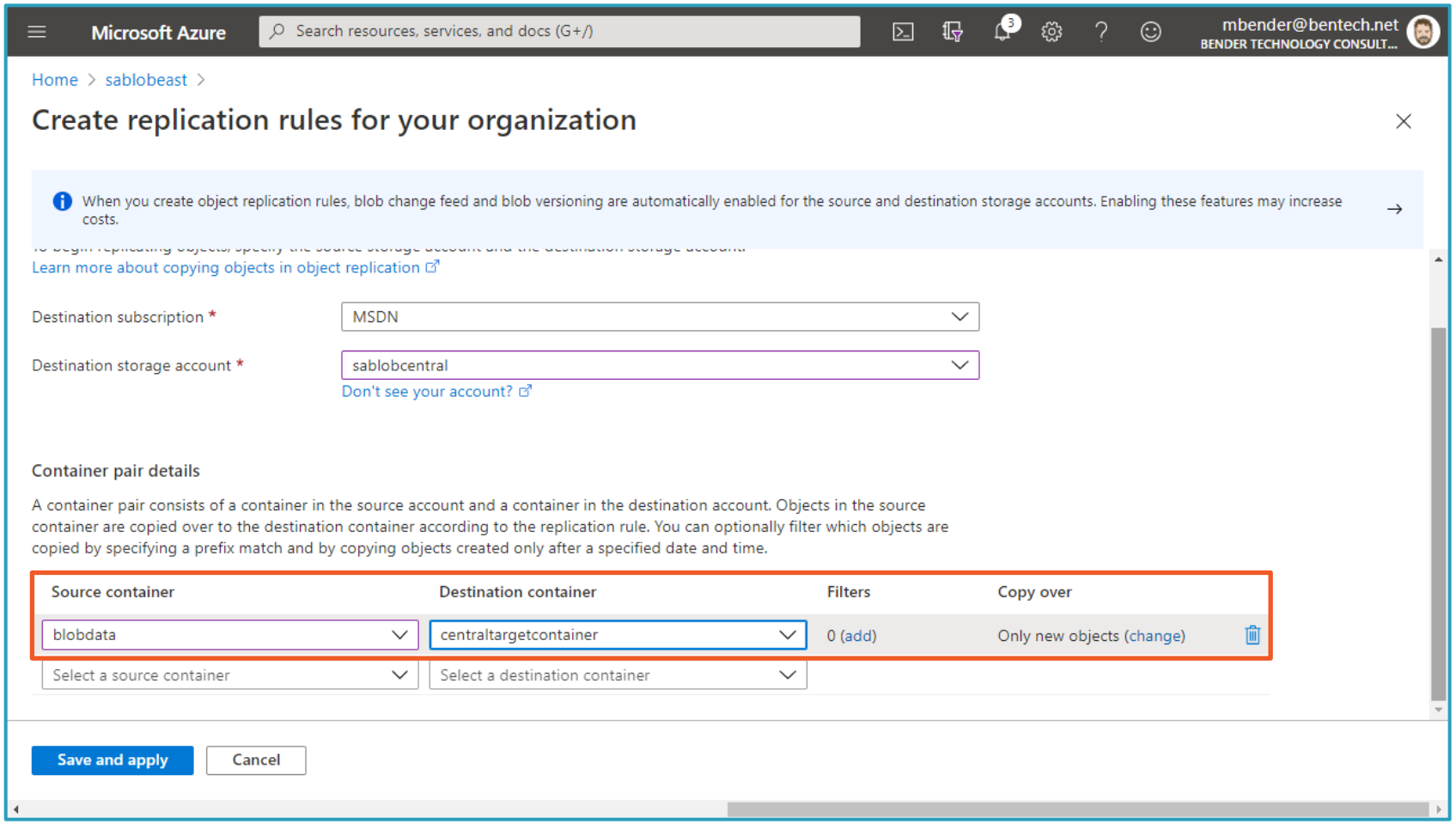


Create a Blob Replication Policy

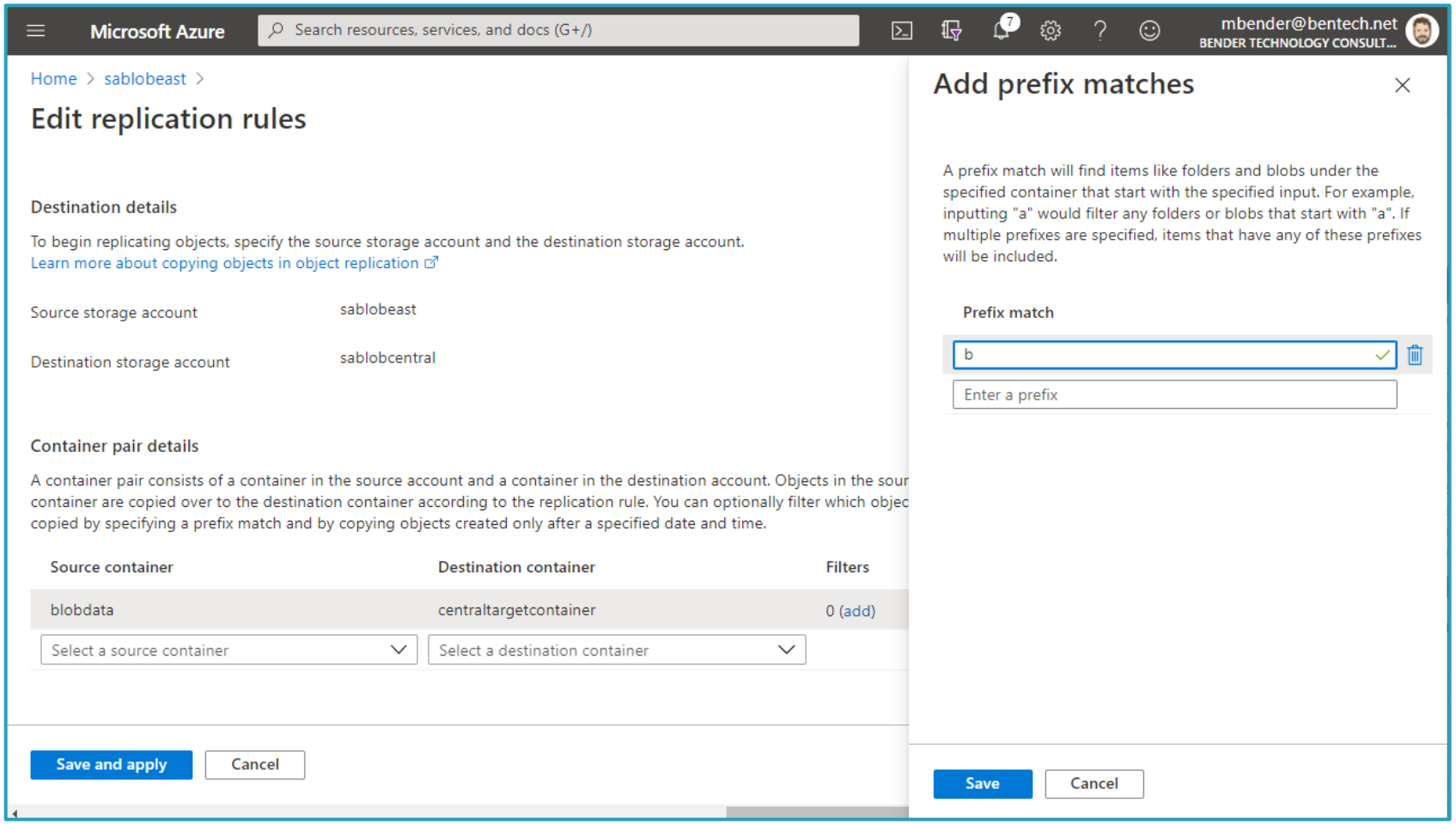
Set Replication Rules



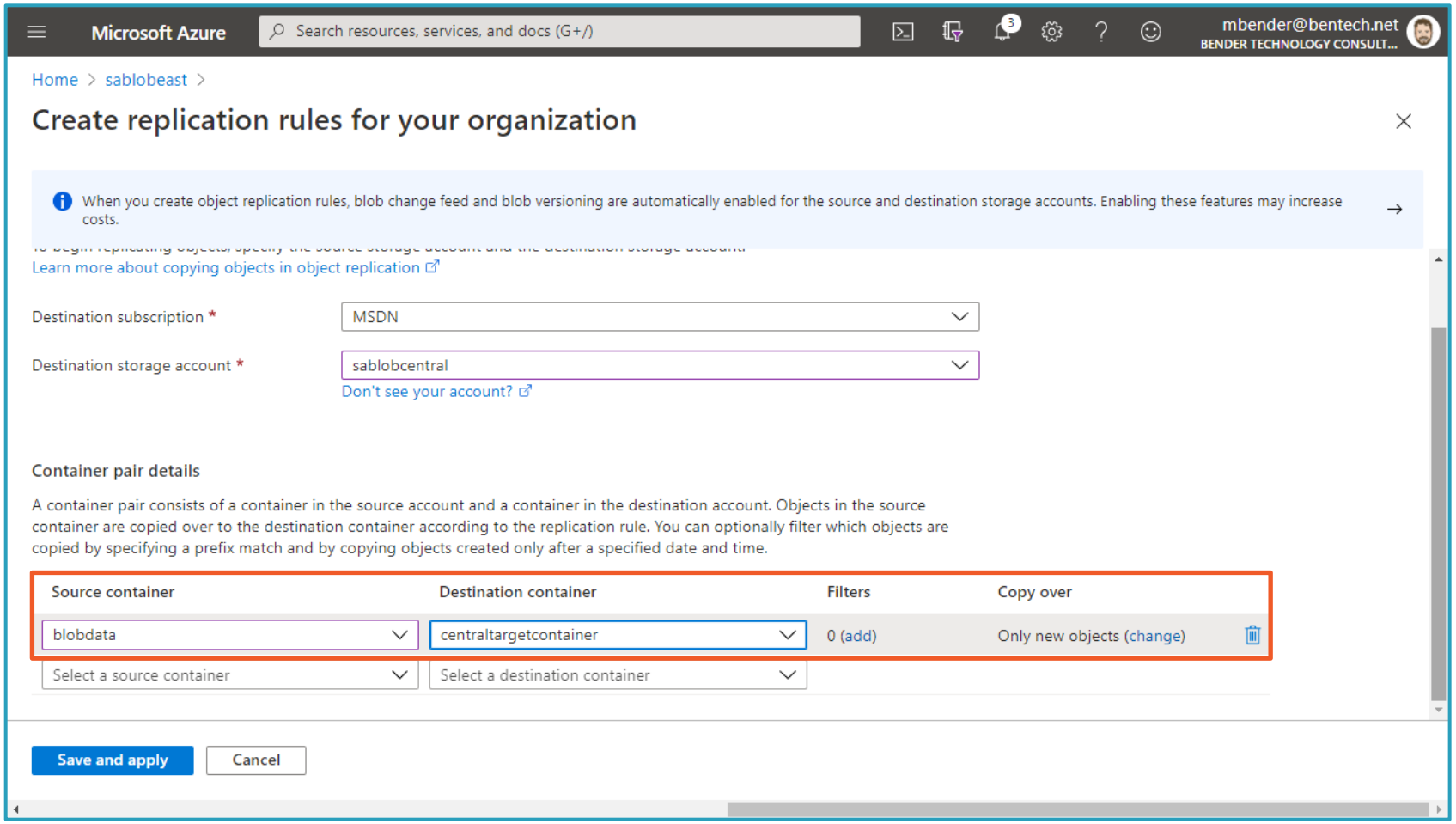
Set Replication Rules



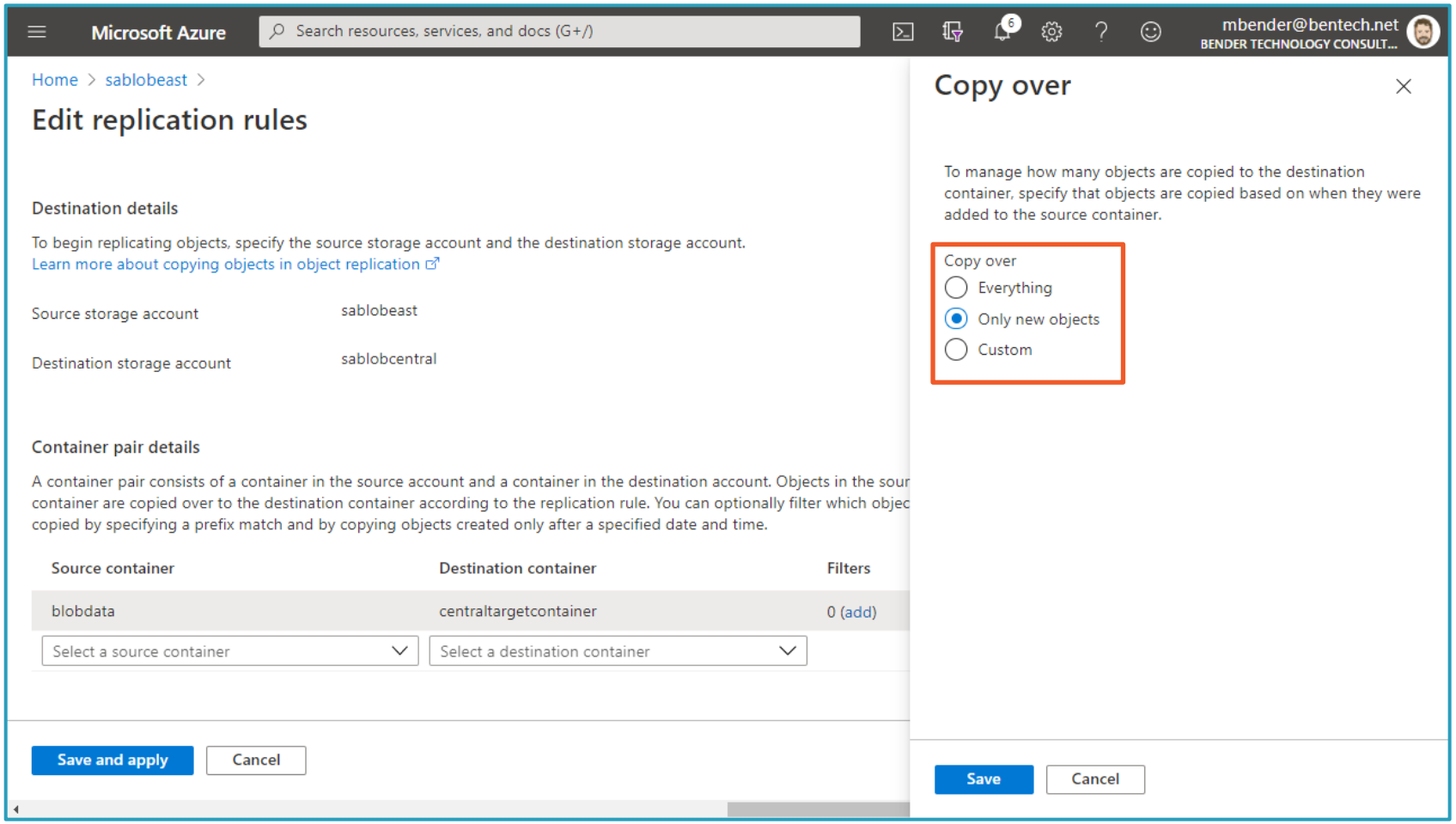
Set Replication Rules



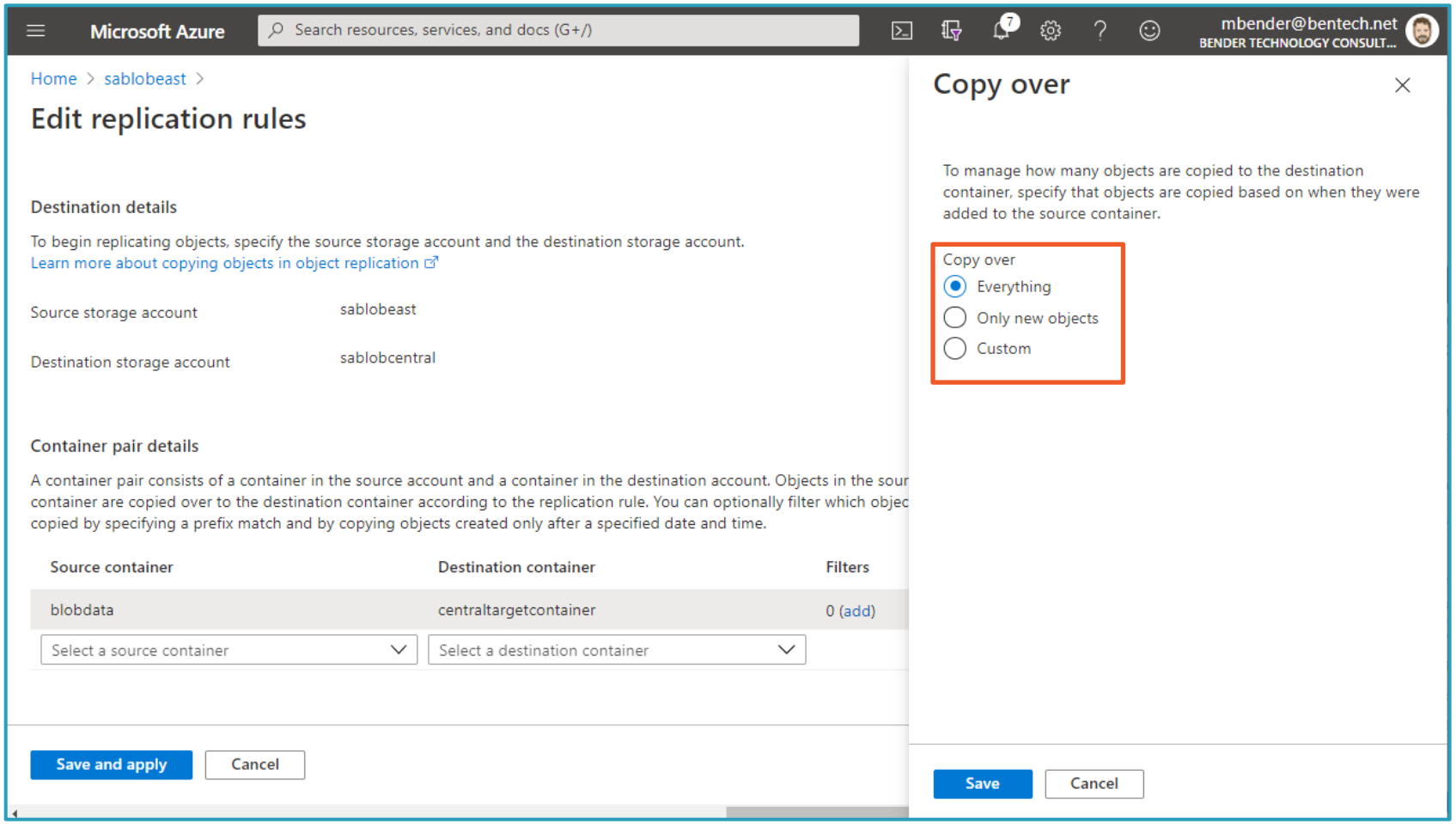
Set Replication Rules



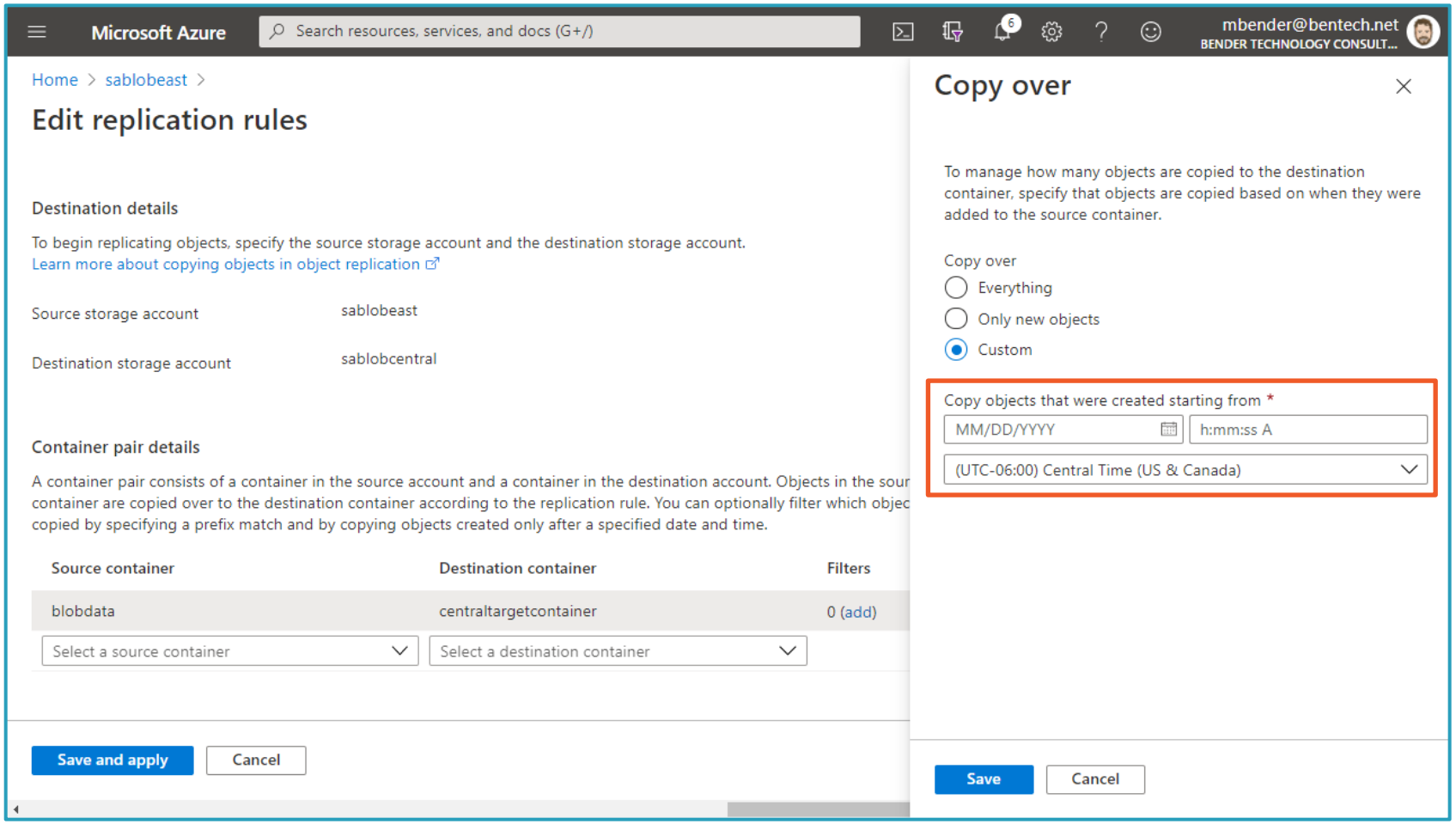
Set Replication Rules



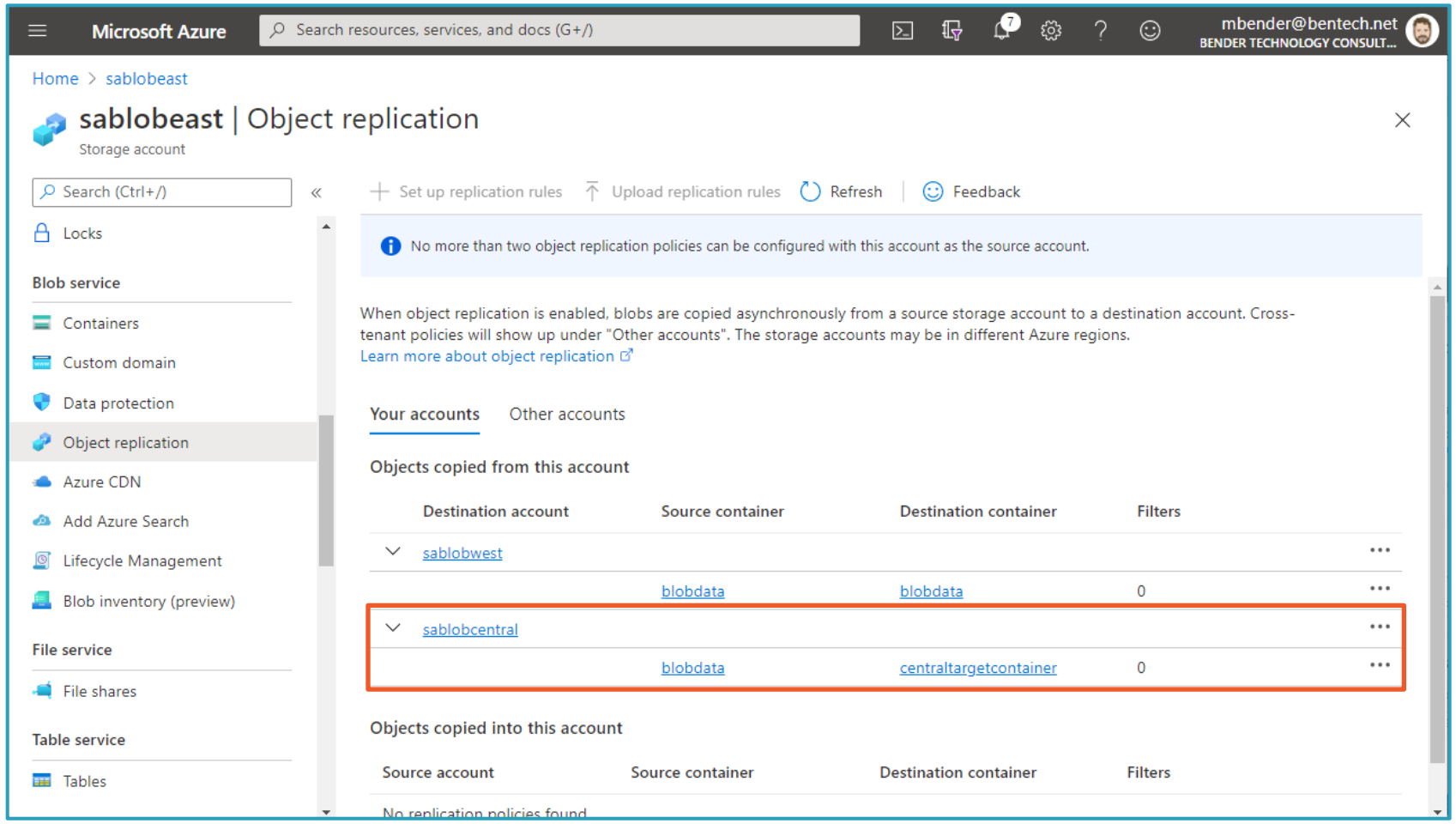
Set Replication Rules



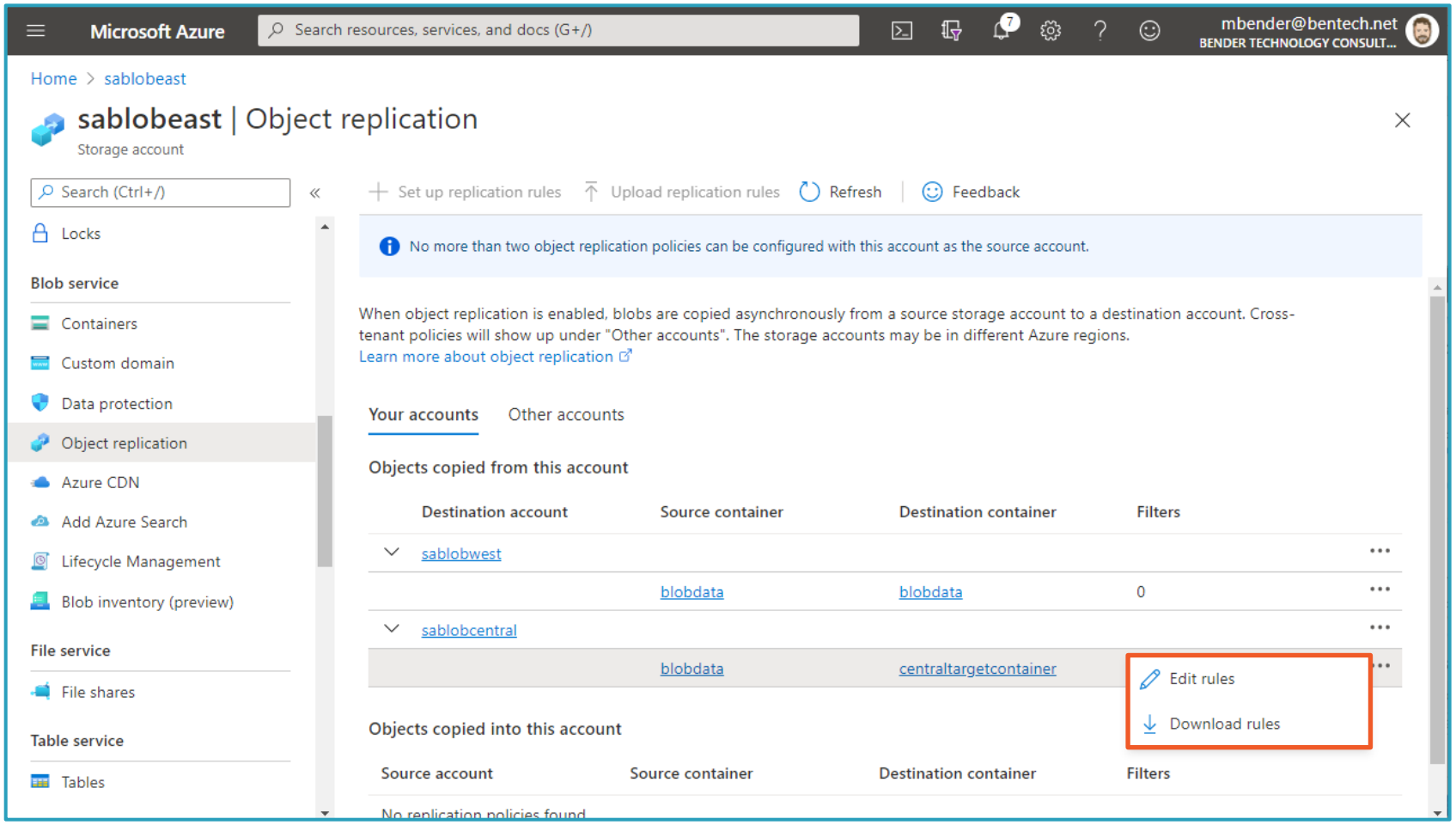
Set Replication Rules



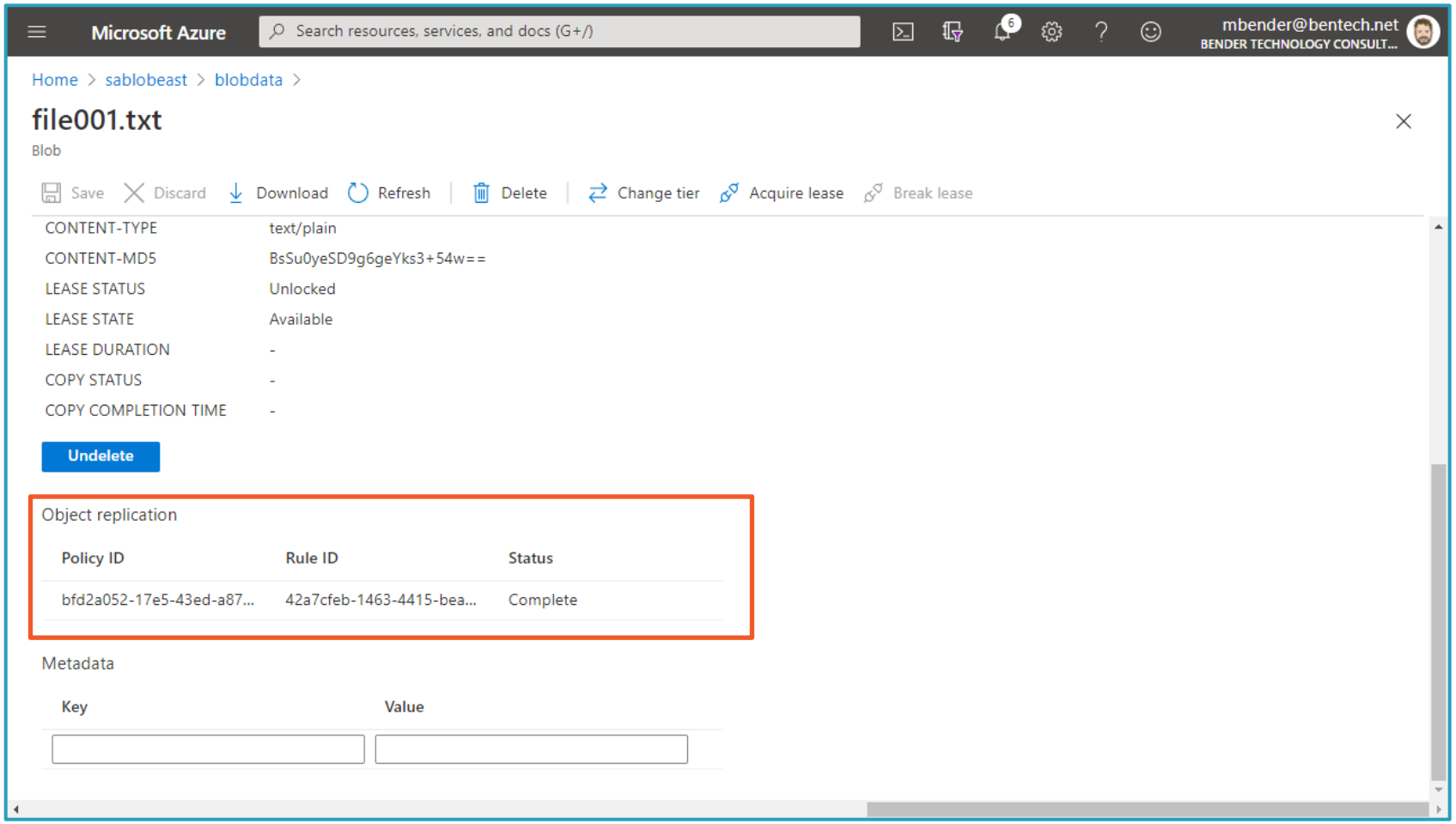
Set Replication Rules



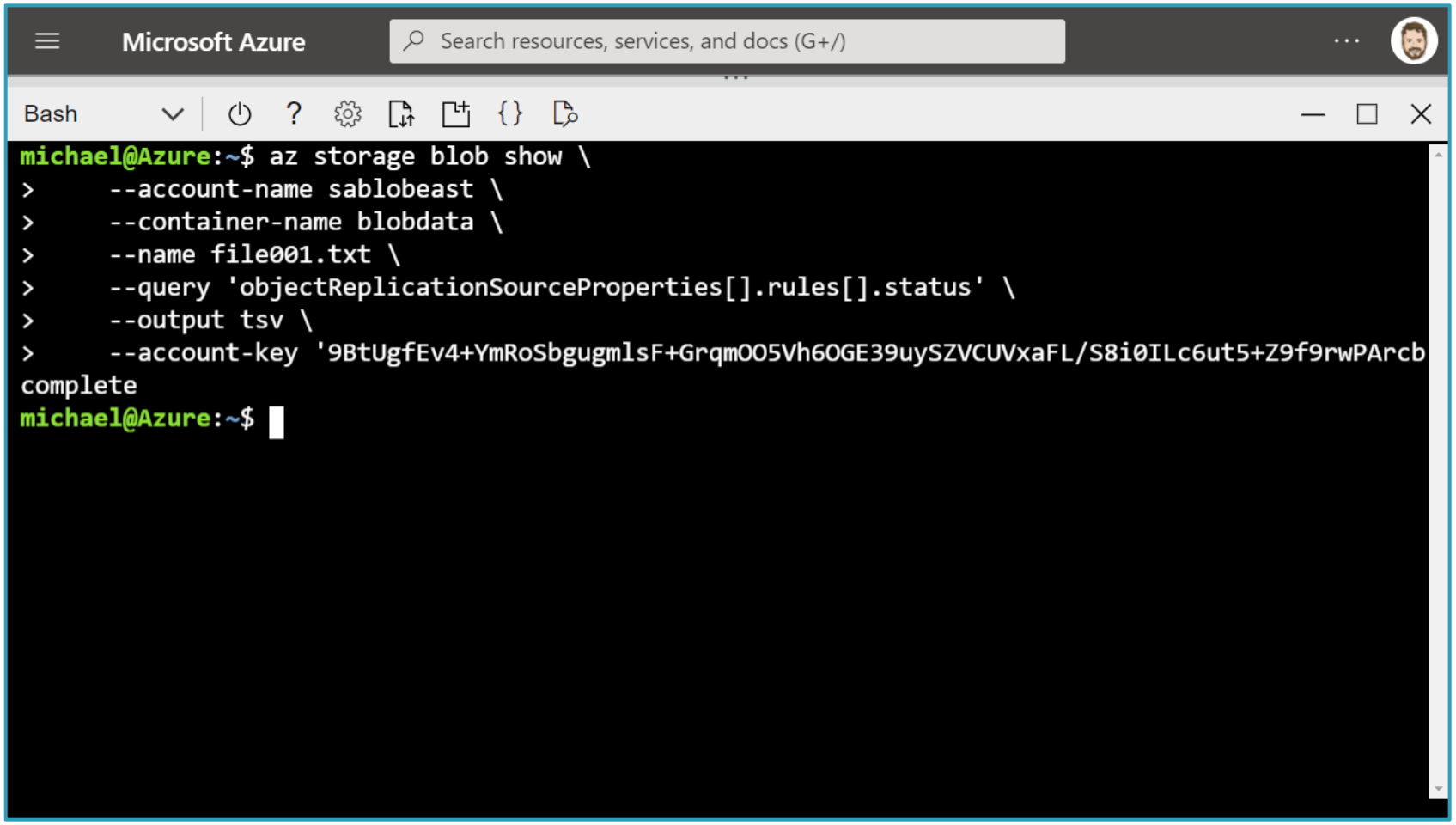
Set Replication Rules



Verify Replication in Azure Portal



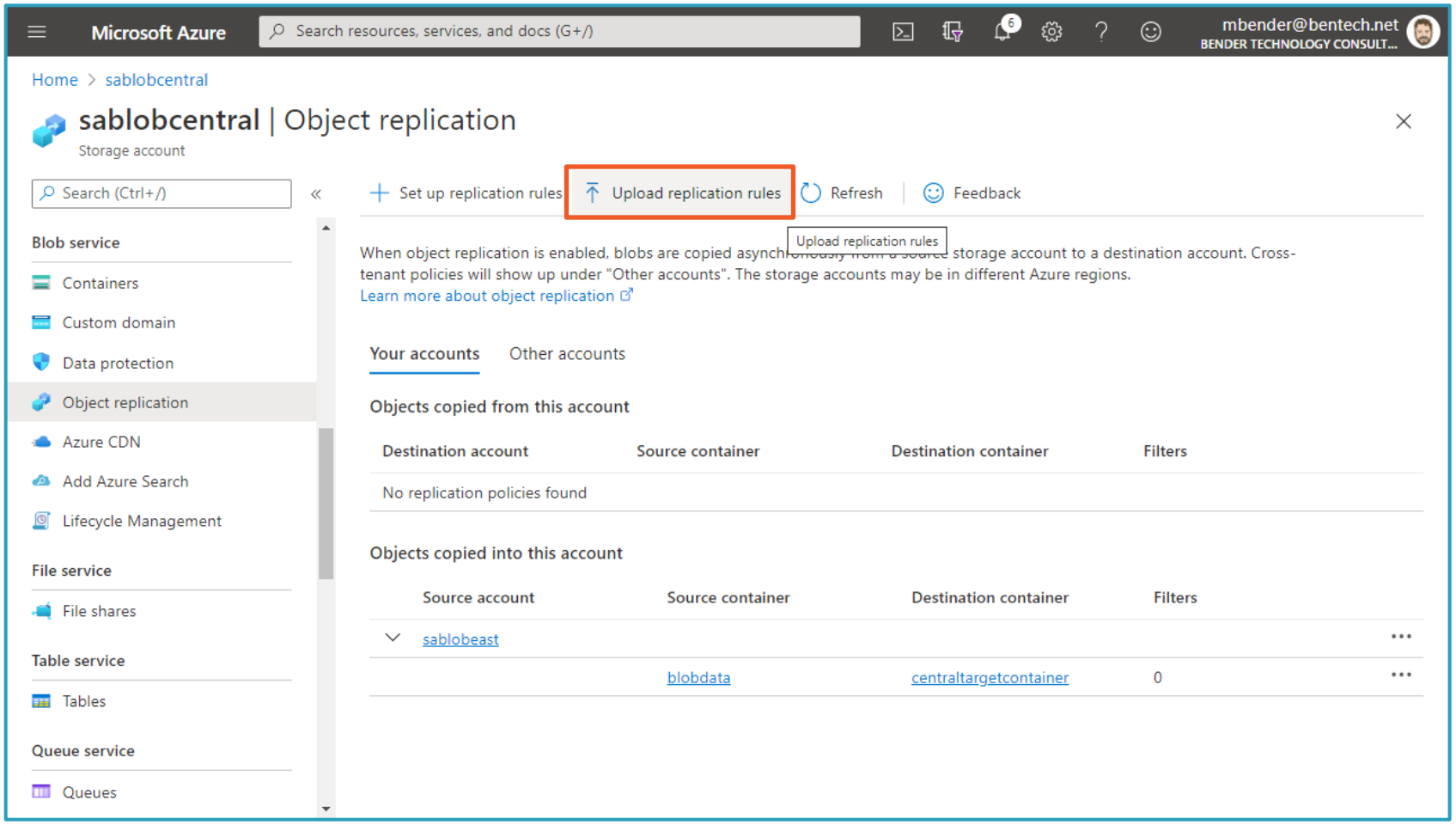
Verify Replication with Azure CLI



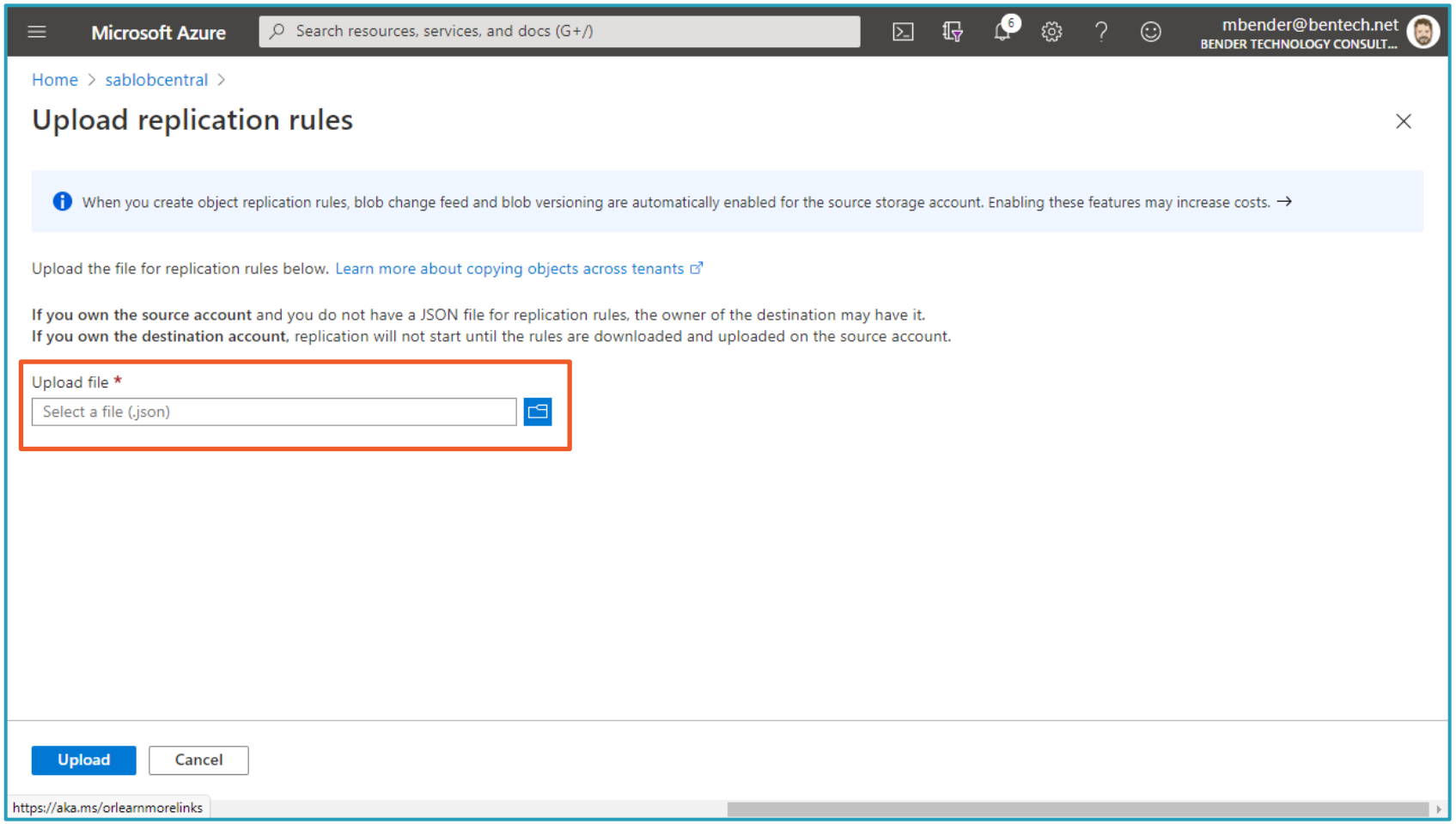
Configure Blob Replication with Destination Access Only

Upload Rule File

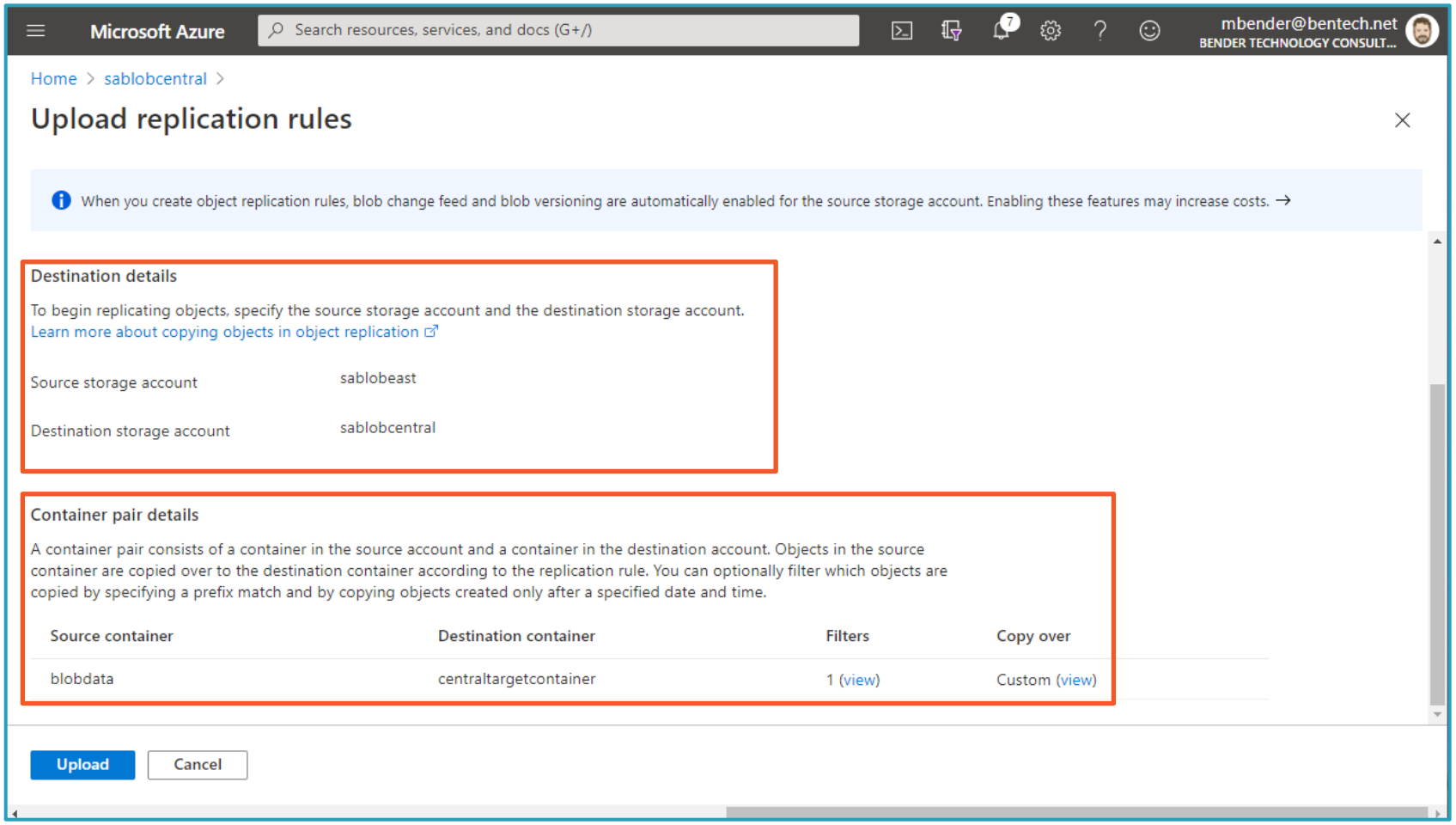
Uploading Rule File



Uploading Rule File



Uploading Rule File



Summary

- Know how to create and configure Azure File shares
- Understand the steps for deploying Azure File Sync
- Implement configuration options on Azure Blobs
- Configure tiering options for Azure Blobs
- Implement Lifecycle Management
- Configure blob object replication
- Get some hands-on experience

For Further Learning

Check out docs.microsoft.com

Configure Microsoft Azure Files by John Savill

Configuring and Using Microsoft Azure Blob Storage by Neil Morrissey

Remember the module exercise files

Questions? Join on the conversation at pluralsight.com or **@Michaelbender** on Twitter