Microsoft Azure Administrator: Manage Data in Azure Storage

WORKING WITH AZURE IMPORT/EXPORT SERVICE

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Course Coverage of Certification Objectives

Manage data in Azure Storage

- Export from Azure job
- Import into Azure job
- Copy data by using AZCopy
- Install and use Azure Storage Explorer

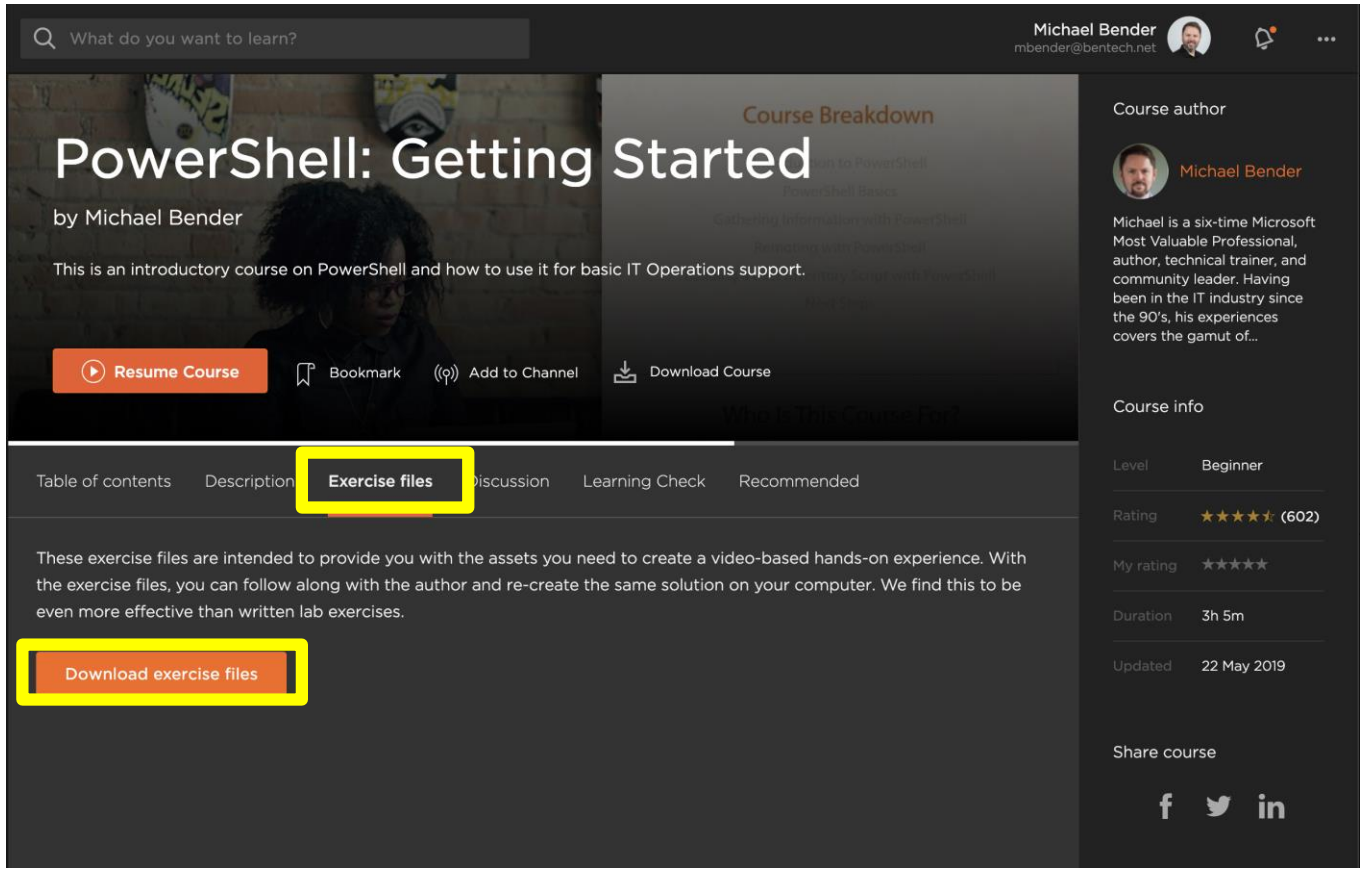
Full certification exam skills outline available at http://bit.ly/az104ms

Exercise Files

Slides

Code

Links to Resources



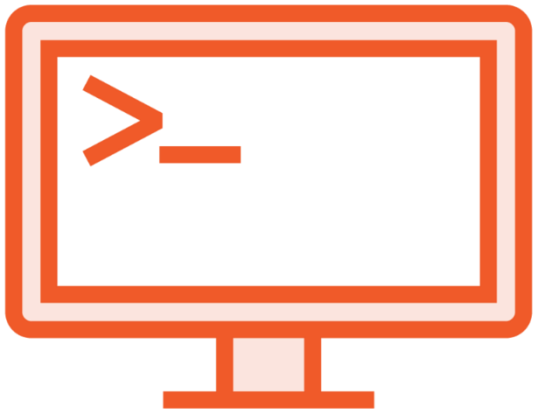
Migrating Data into Azure

Over the wire

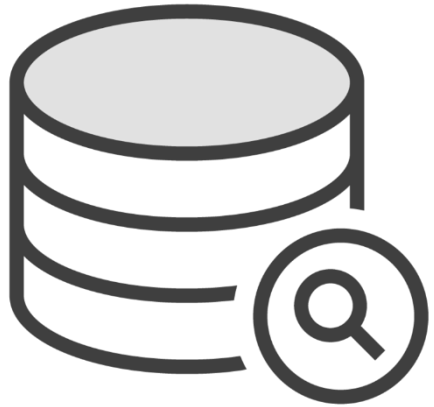
Ship physical media

Data Management Tools

Azure Import/Export Service



AzCopy



Azure Storage Explorer

Azure Import/Export Service

Securely import/export large amounts of data with physical drives

Create jobs in Azure Portal or Azure Resource Manager REST API

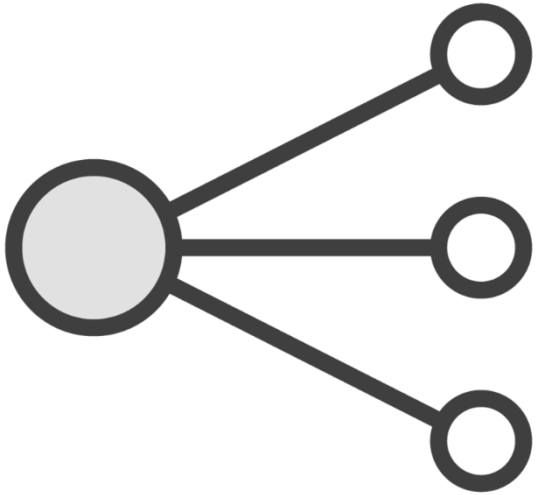
Import to Azure BlobStorage and Azure Files

Export to Azure BlobStorage

Supports General Purpose v1, v2, and BlobStorage storage accounts

Azure Import/Export use cases

Backups



Content distribution

Data recovery

Azure Import Export Service Components

Azure Import/Export Service

WAImportExportTool

Drives

Importing Blobs and Files to Azure

Drives Prepped with WAImportExportTool and Bitlocker

Import Job Created

Drives shipped to Azure Datacenter

Processed drive data copied to storage account and ready for verification

Drive returned to customer

Exporting Blobs from Azure

Create export job in Azure Portal

Ship Drive to Datacenter

Export data copied to encrypted drive

Drive Shipped to customer

Unlock and verify drive with WAImportExport Unlock command

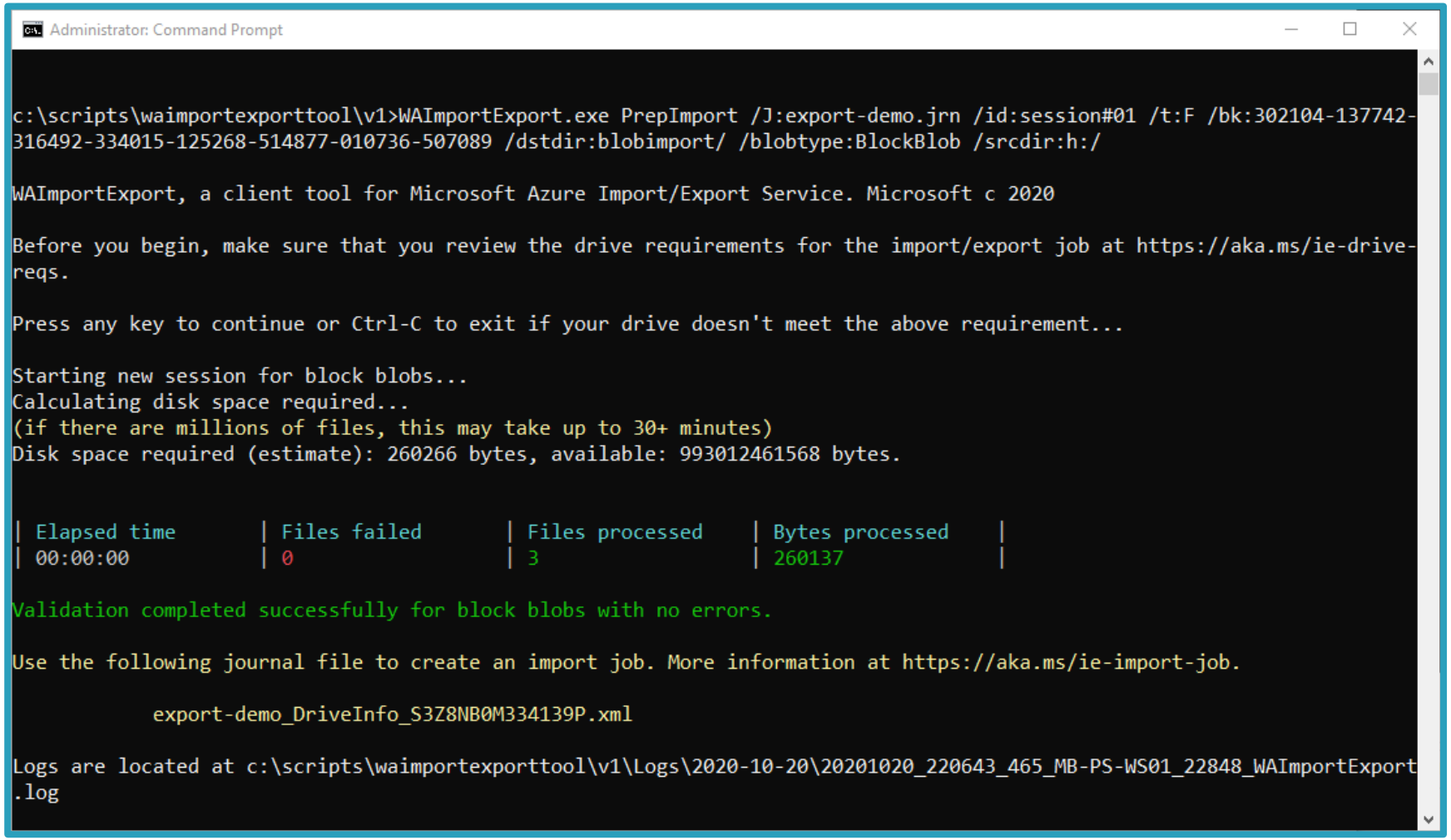
Drive Preparation with WAImportExportTool

```
.\WAImportExport.exe PrepImport
    /j:<JournalFile>
    /id:<SessionId>
    [/logdir:<LogDirectory>]
    [/sk:<StorageAccountKey>] [/silentmode]
    [/InitialDriveSet:<driveset.csv>]
    /DataSet:<dataset.csv>
```

WAImportExportTool

- CLI tool run on 64-bit Windows Only!
- Encryption, decryption and data copy
- Creation of journal files
- Determine number of drives needed for export job
- 2 versions for Azure Blobs (v1) and Azure Files (v2)

Preparing Drive for Import



Copy and Prepare Data Drive for Azure File Import

```
.\WAImportExport.exe PrepImport
    /j:JournalTest.jrn
    /id:session#1
    /sk:********************
    /InitialDriveSet:driveset-02.csv
    /DataSet:dataset-02.csv
    /logdir:C:\logs
```

```
DriveLetter,FormatOption,SilentOrPromptOnFormat,Encryption,ExistingBitLockerKey

H,Format,SilentMode,Encrypt,
```

Driveset.csv

- List of disks mapped to drive letters
- Can format drives with NTFS if unformatted
- Can encrypt if drives are unencrypted

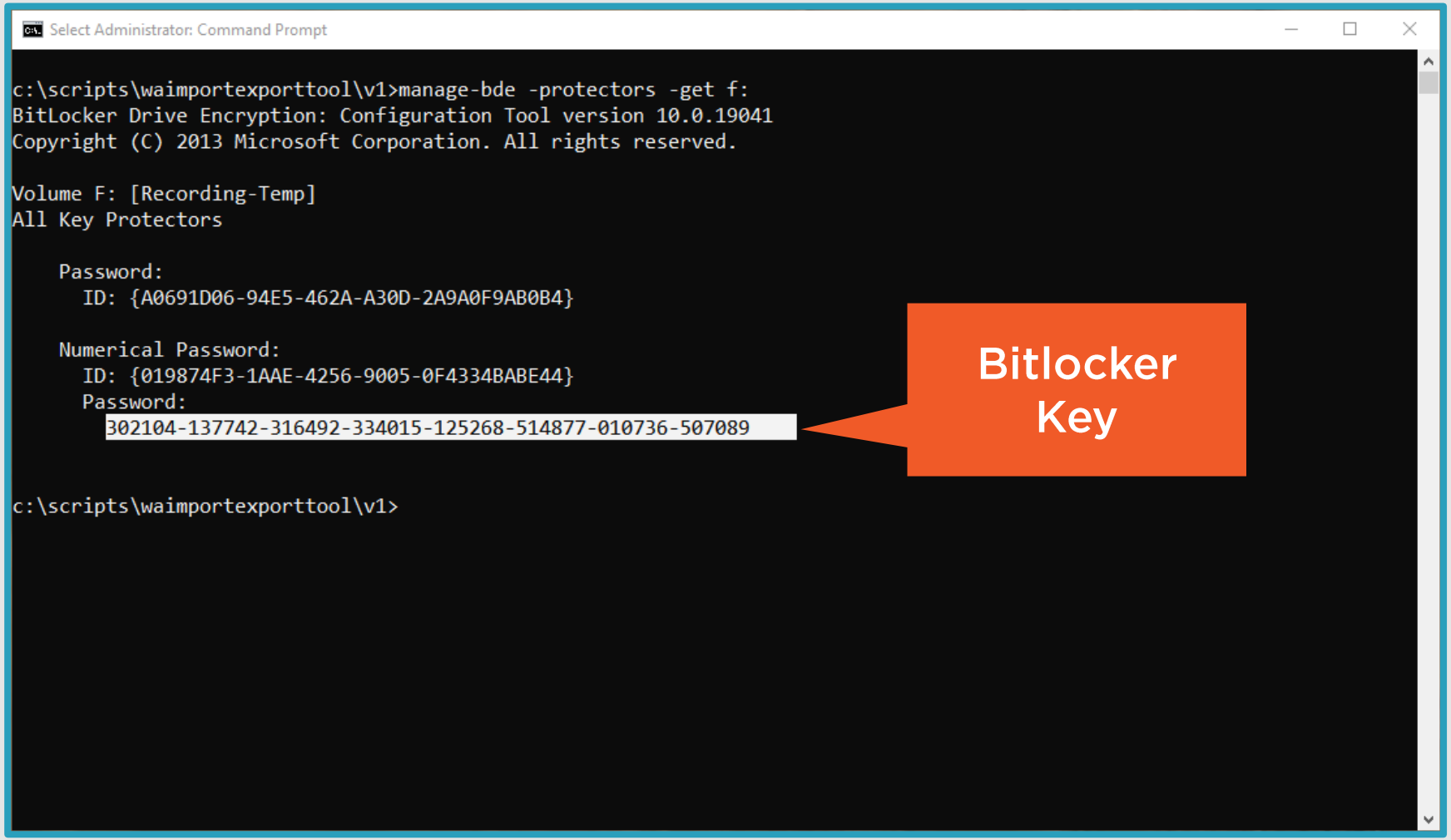
```
DriveLetter,FormatOption,SilentOrPromptOnFormat,Encryption,ExistingBitLockerKey

G,AlreadyFormatted,SilentMode,AlreadyEncrypted,060456-014509-132033-080300-
252615-584177-672089-411631
```

Driveset.csv

- List of disks mapped to drive letters
- Can encrypt if drives are unencrypted

Preparing Drive for Import



```
BasePath,DstBlobPathOrPrefix,BlobType,Disposition,MetadataFile,PropertiesFile

F:\Video\,video/,BlockBlob,rename,None,None

F:\Photo\,photo/,BlockBlob,rename,None,None

\\myshare\john\music\,music/,BlockBlob,rename,None,None
```

Dataset.csv

- List of files and/or directories for import
- Local files mapped to Azure Storage endpoint

Copy and Prepare Data Drive for Azure Blob Import

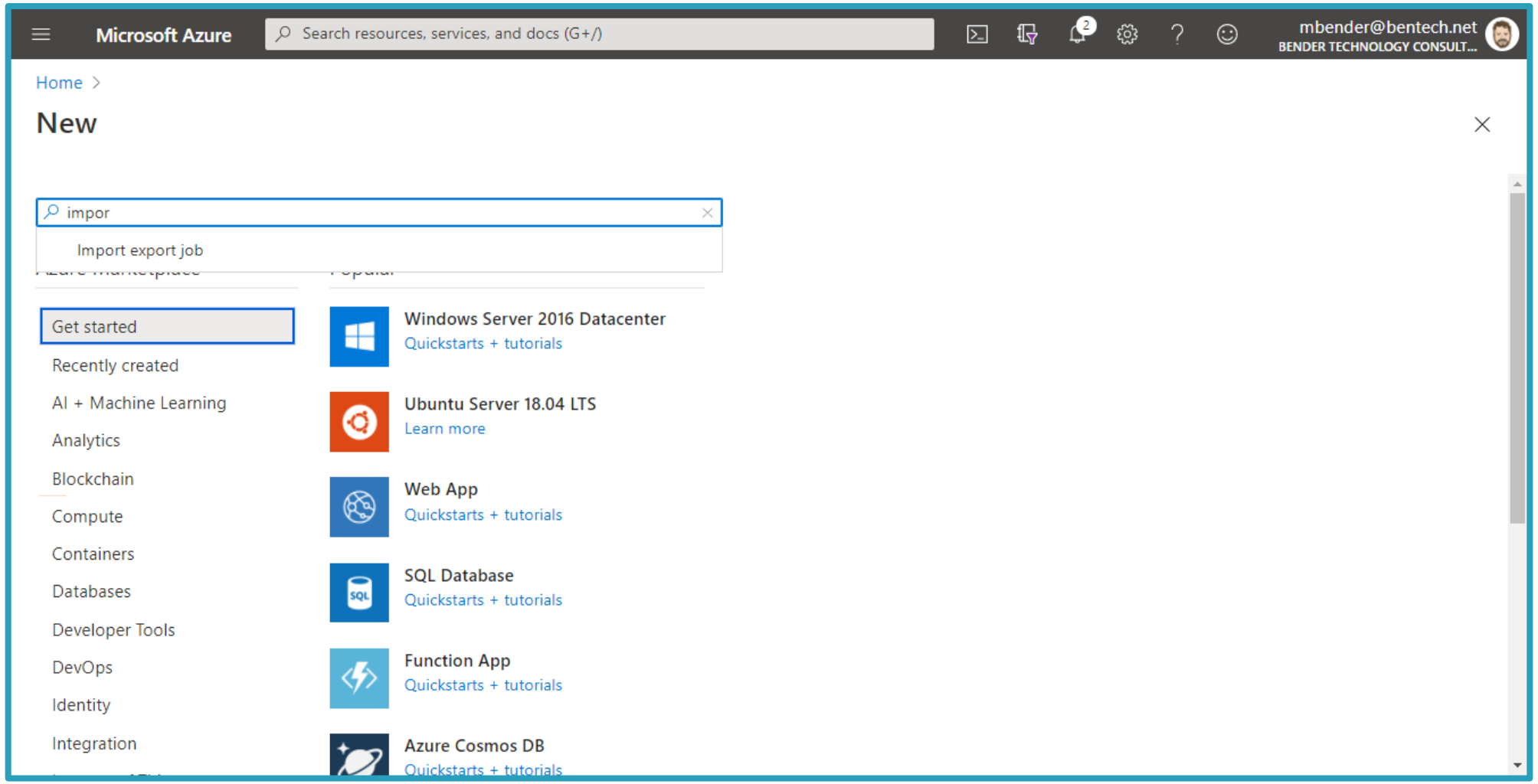
```
./WAImportExport.exe PrepImport
  /j:<journal file name>
  /id:<session number>
  /t:<target drive letter>
  /bk:<BitLocker key>
  /srcdir:<source drive letter>:\
  /dstdir:<Container name>/
  /blobtype:<BlockBlob or PageBlob> /skipwrite
```

Copy and Prepare Data Drive for Azure Blob Import

```
./WAImportExport.exe PrepImport
  /j:export-journal.jrn
  /id:session#1
  /t:H
  /bk:<64-bit BitLocker Key>
  /srcdir:Y:\
  /dstdir:sablobstorage001.blob.core.windows.net/blobimport
  /blobtype:BlockBlob
```

Import Job in the Azure Portal Walkthrough

Create Import Job in Azure Portal



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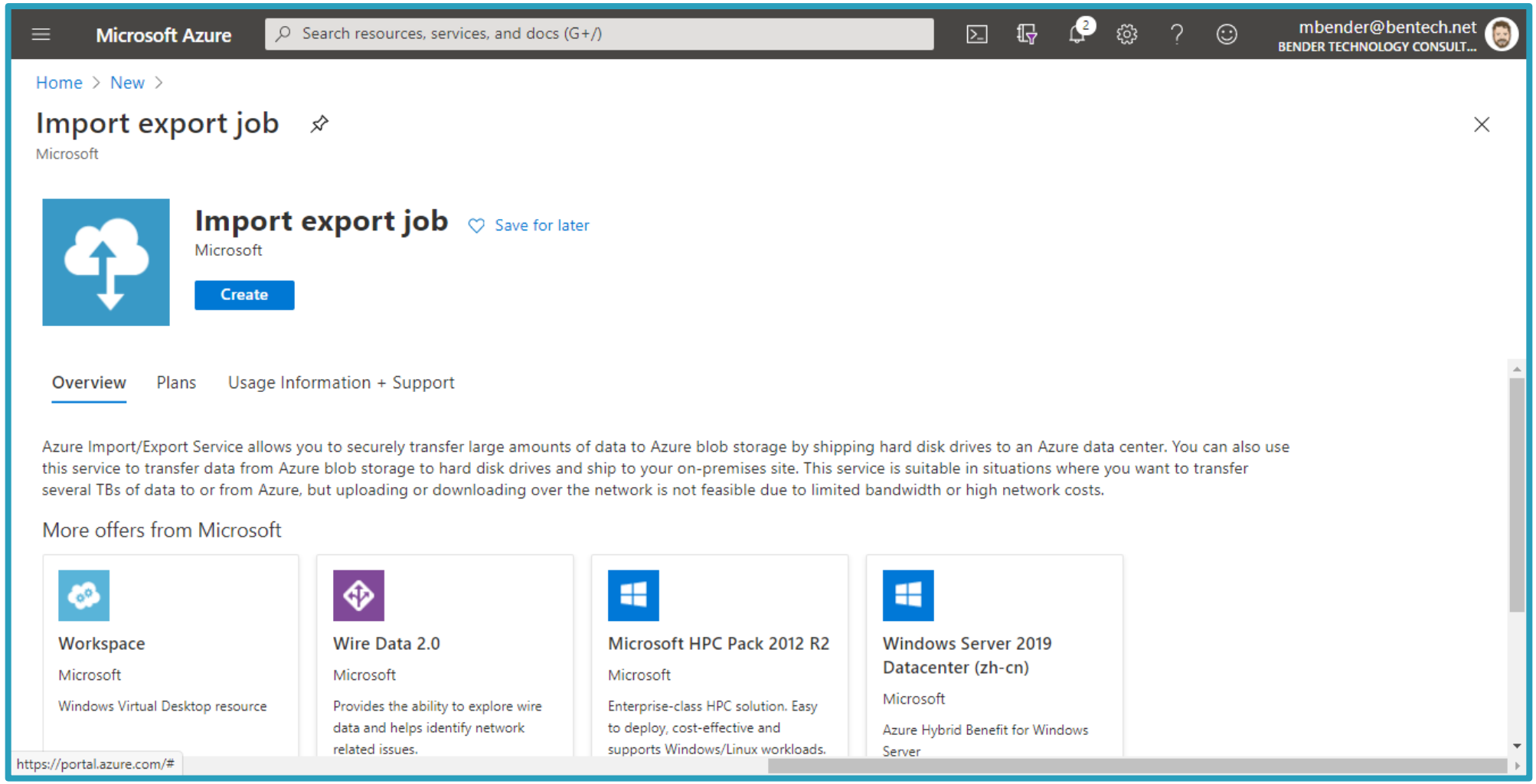

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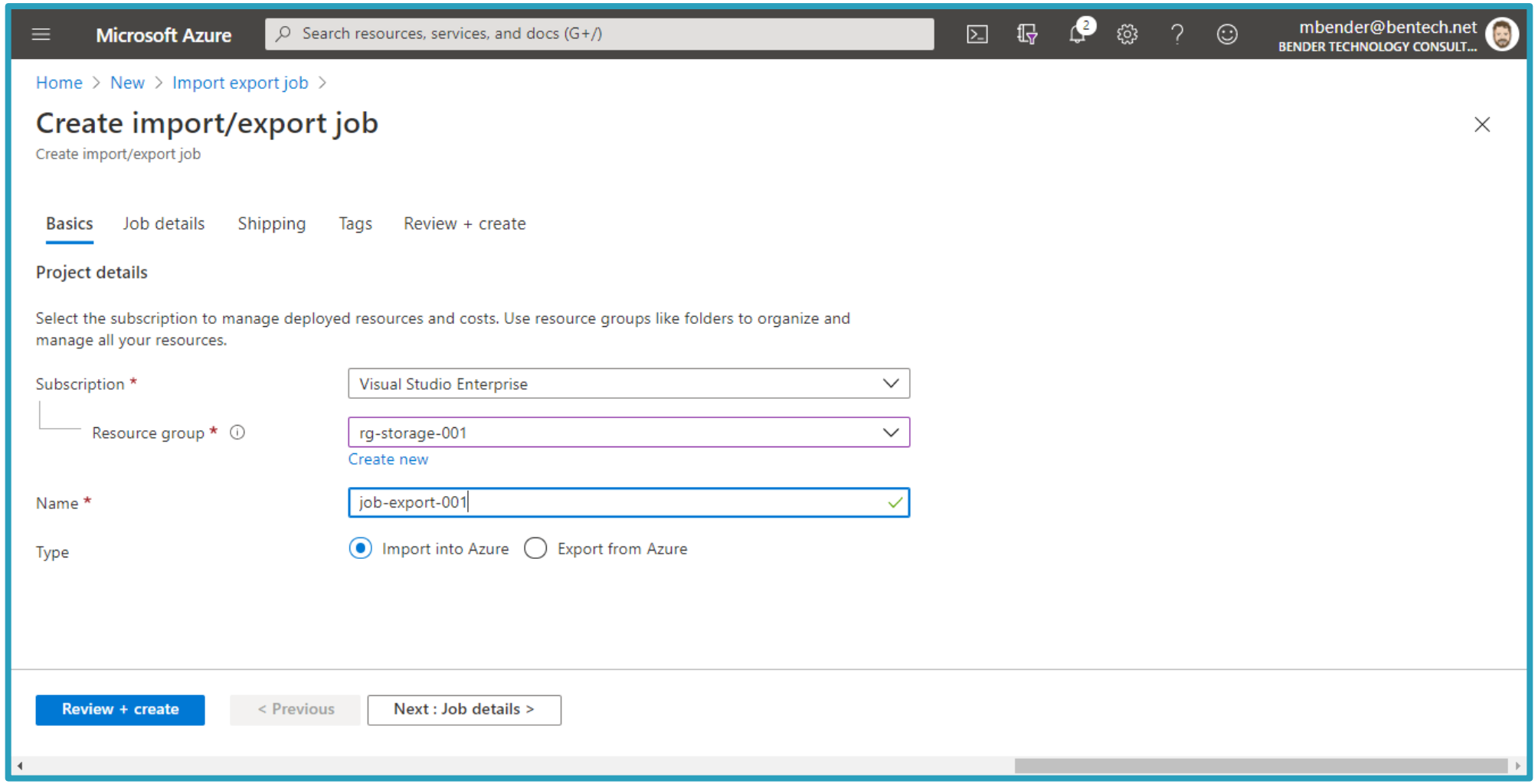

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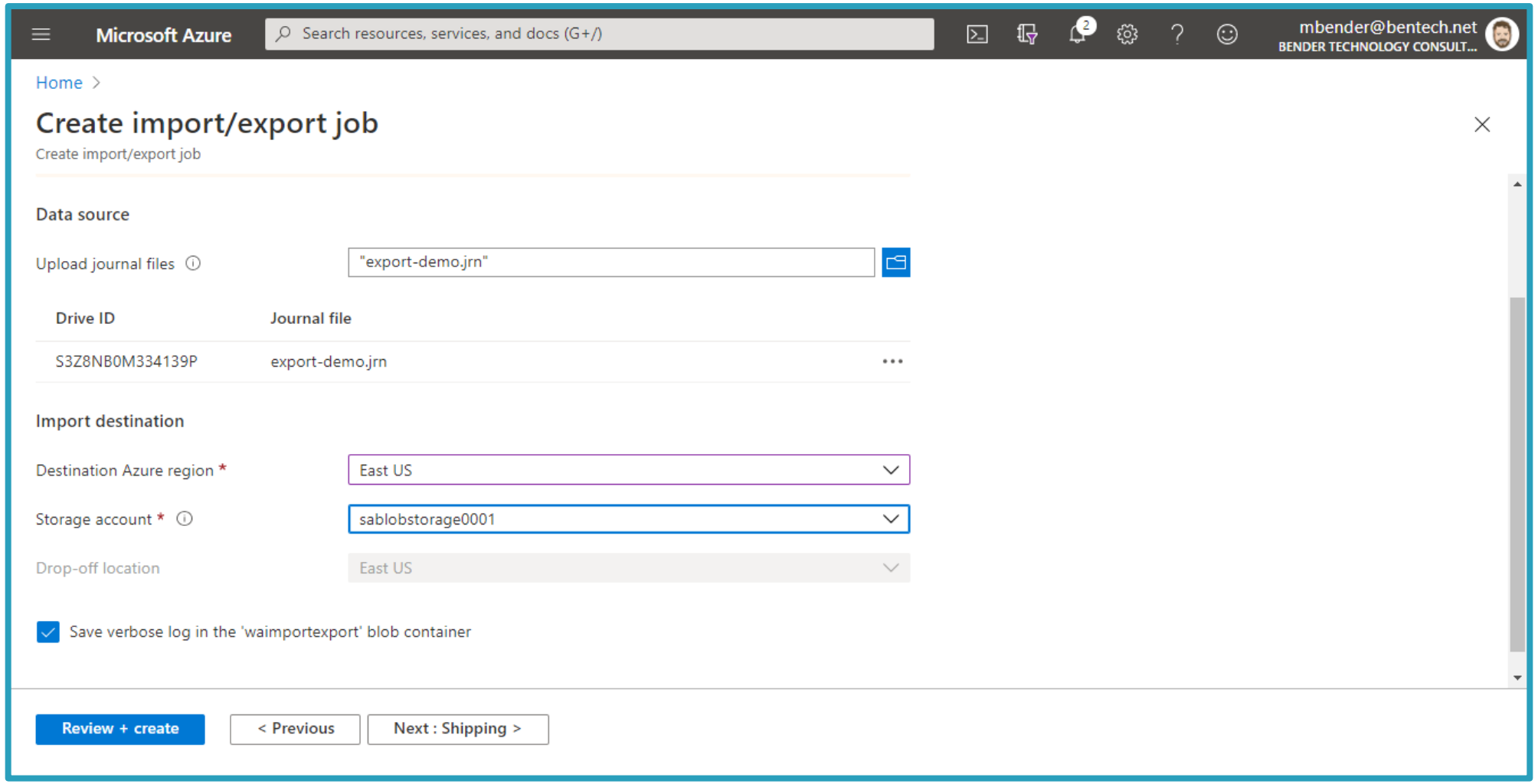

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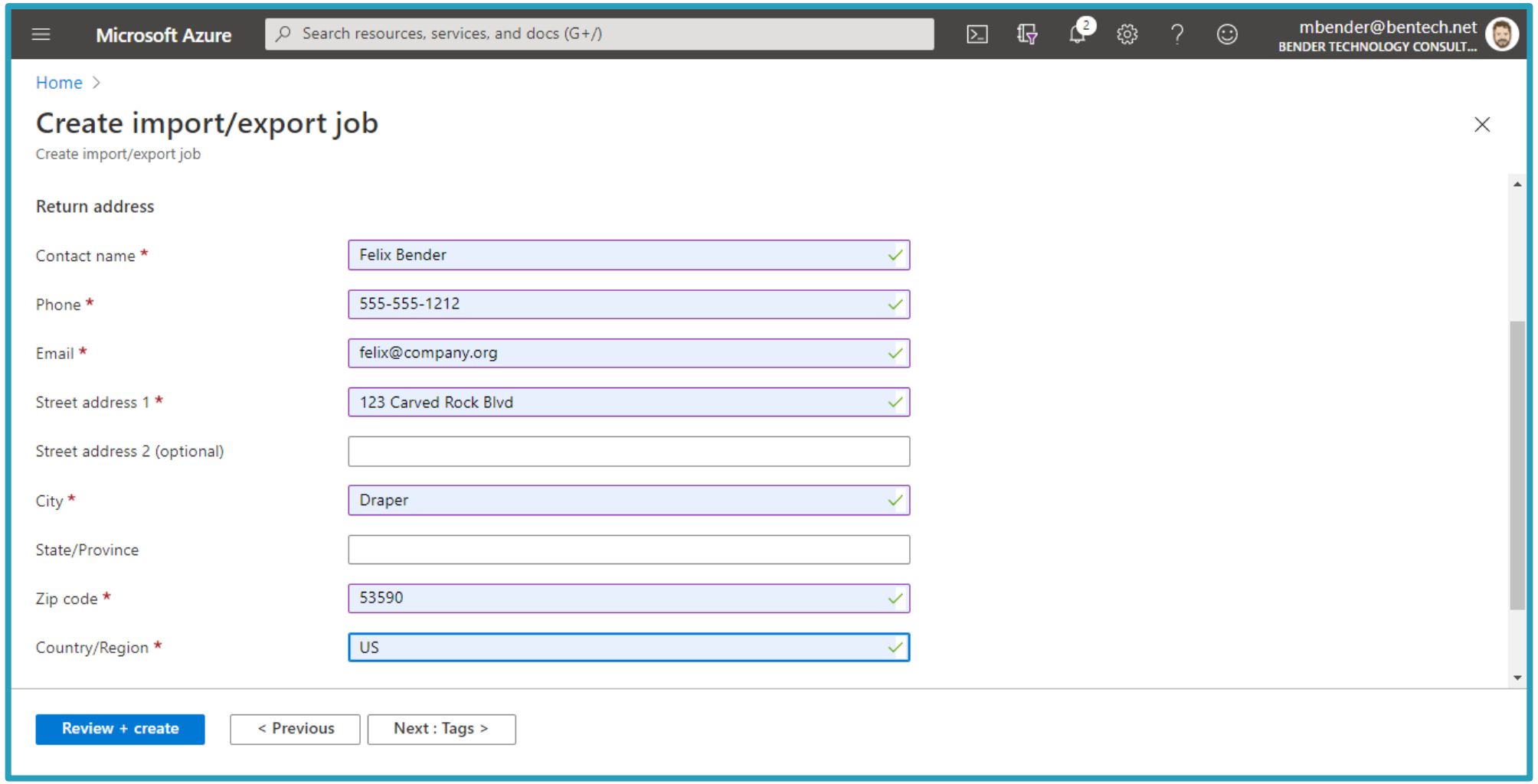

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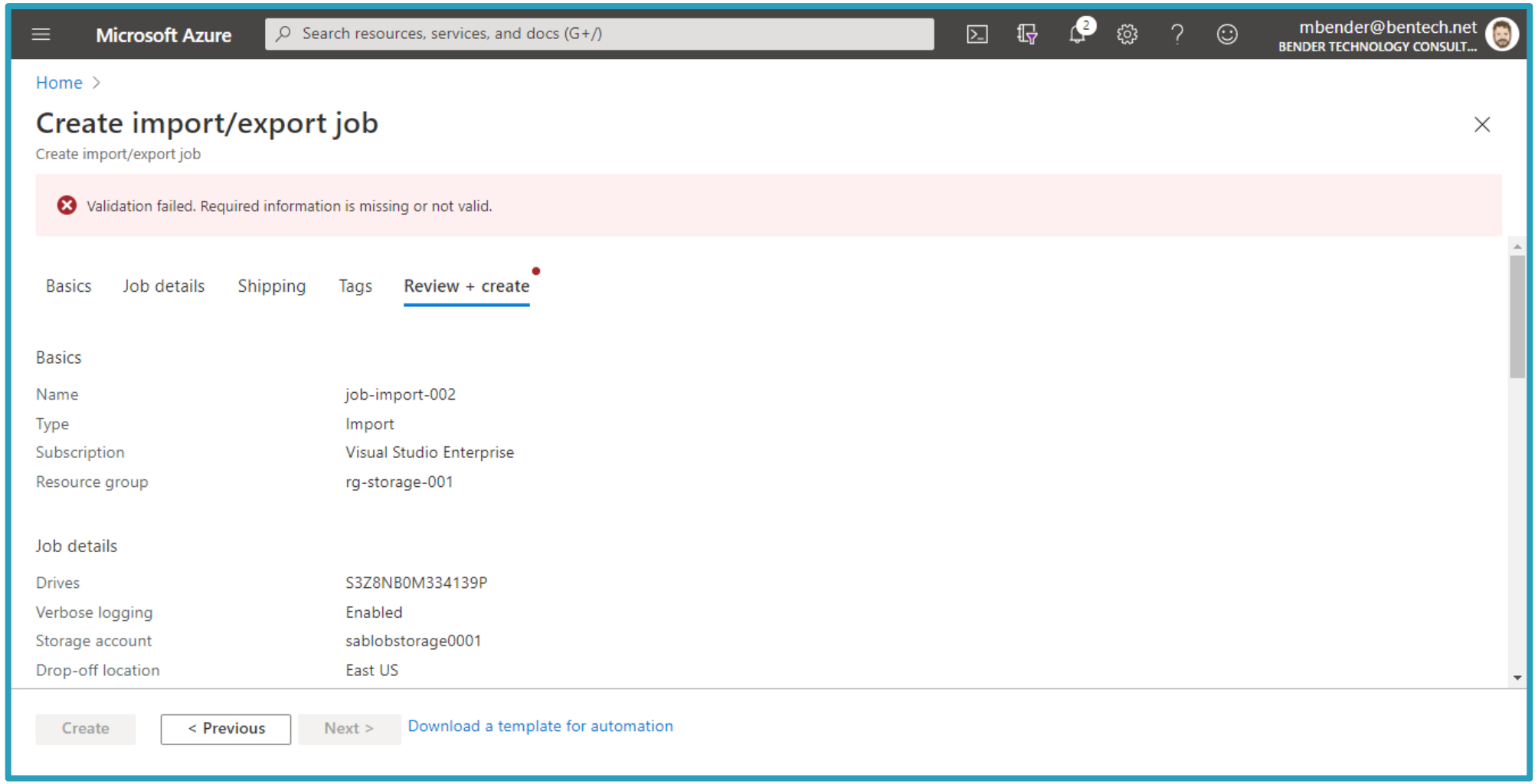

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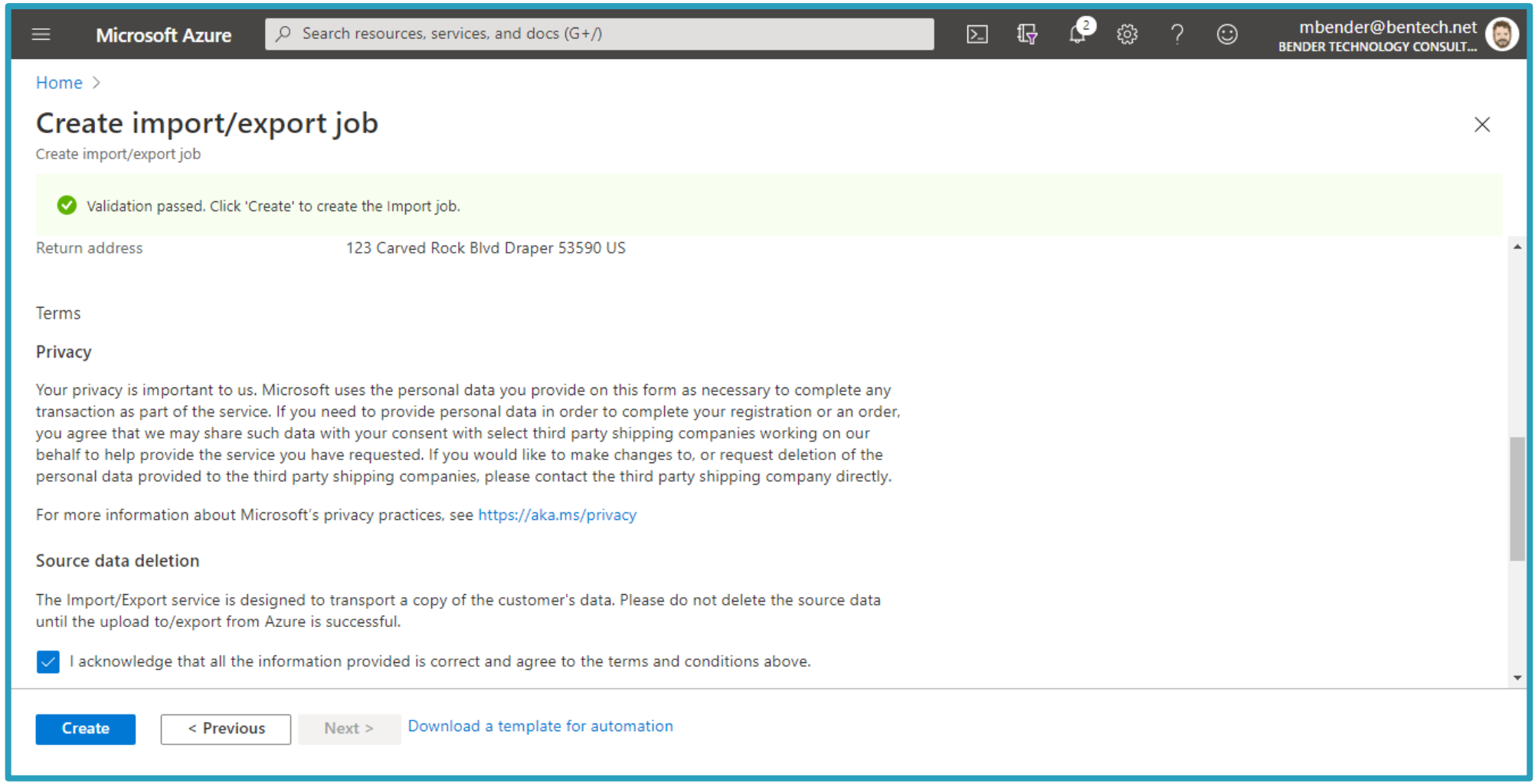
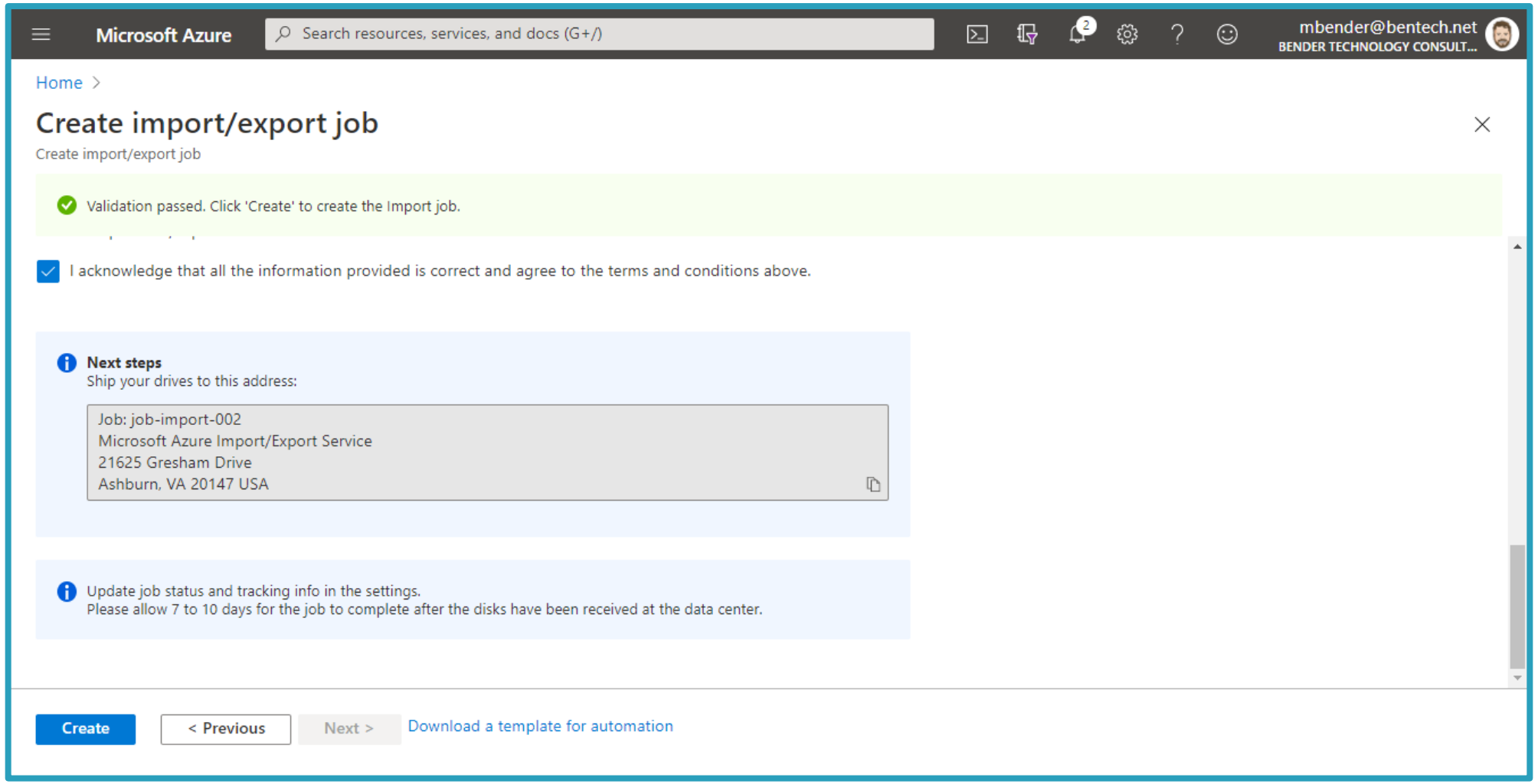
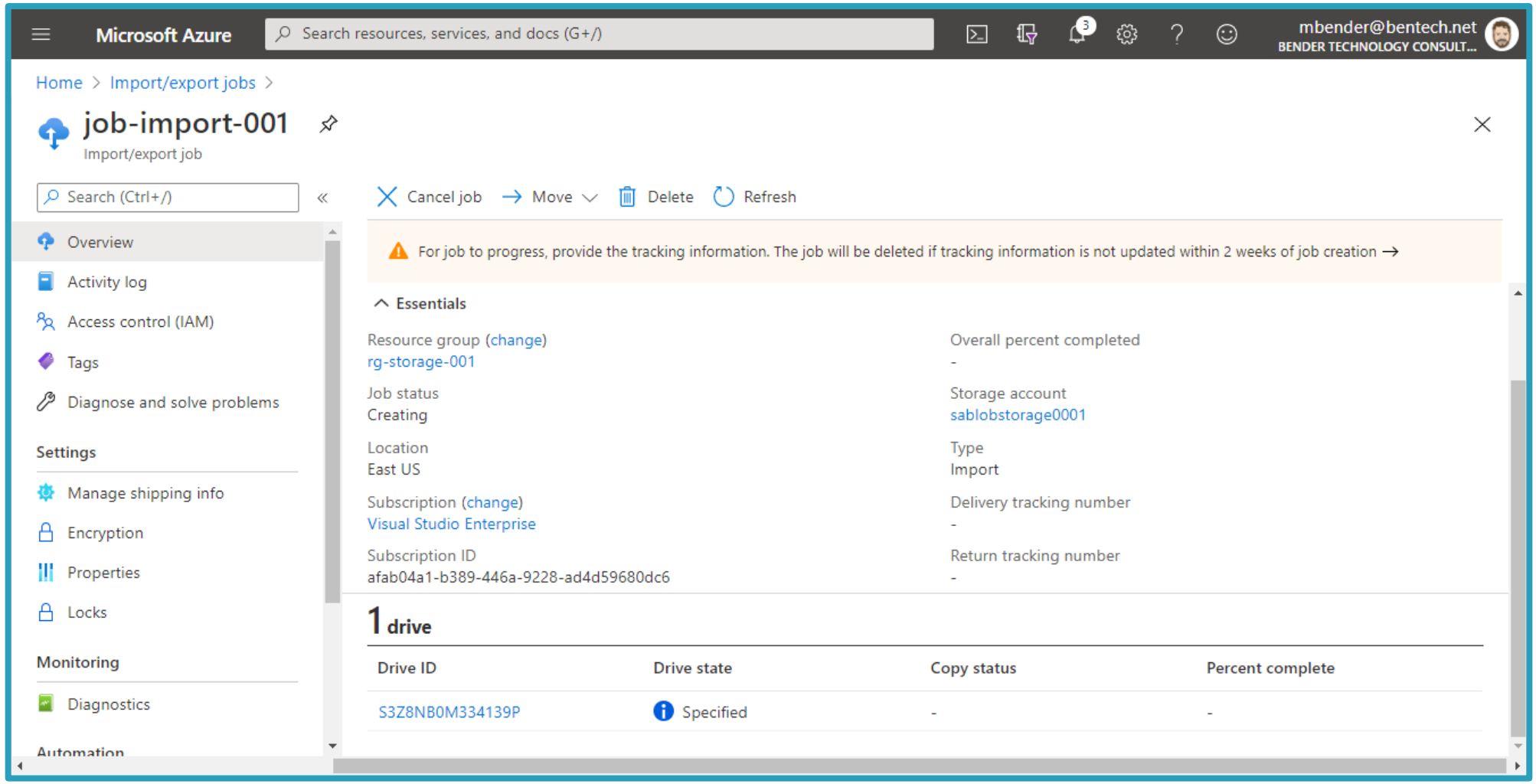


Create Import Job in Azure Portal



Verify Job Status



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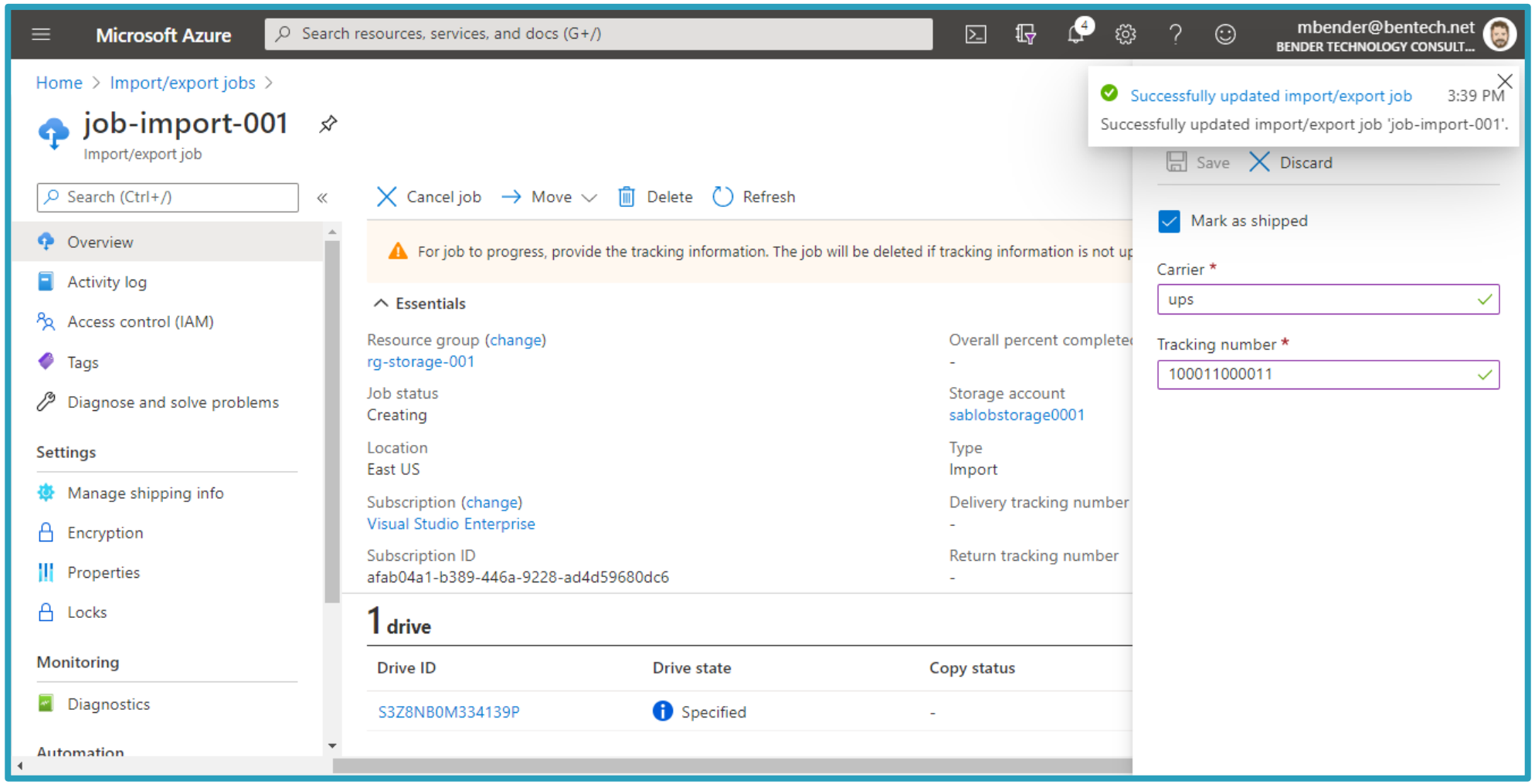

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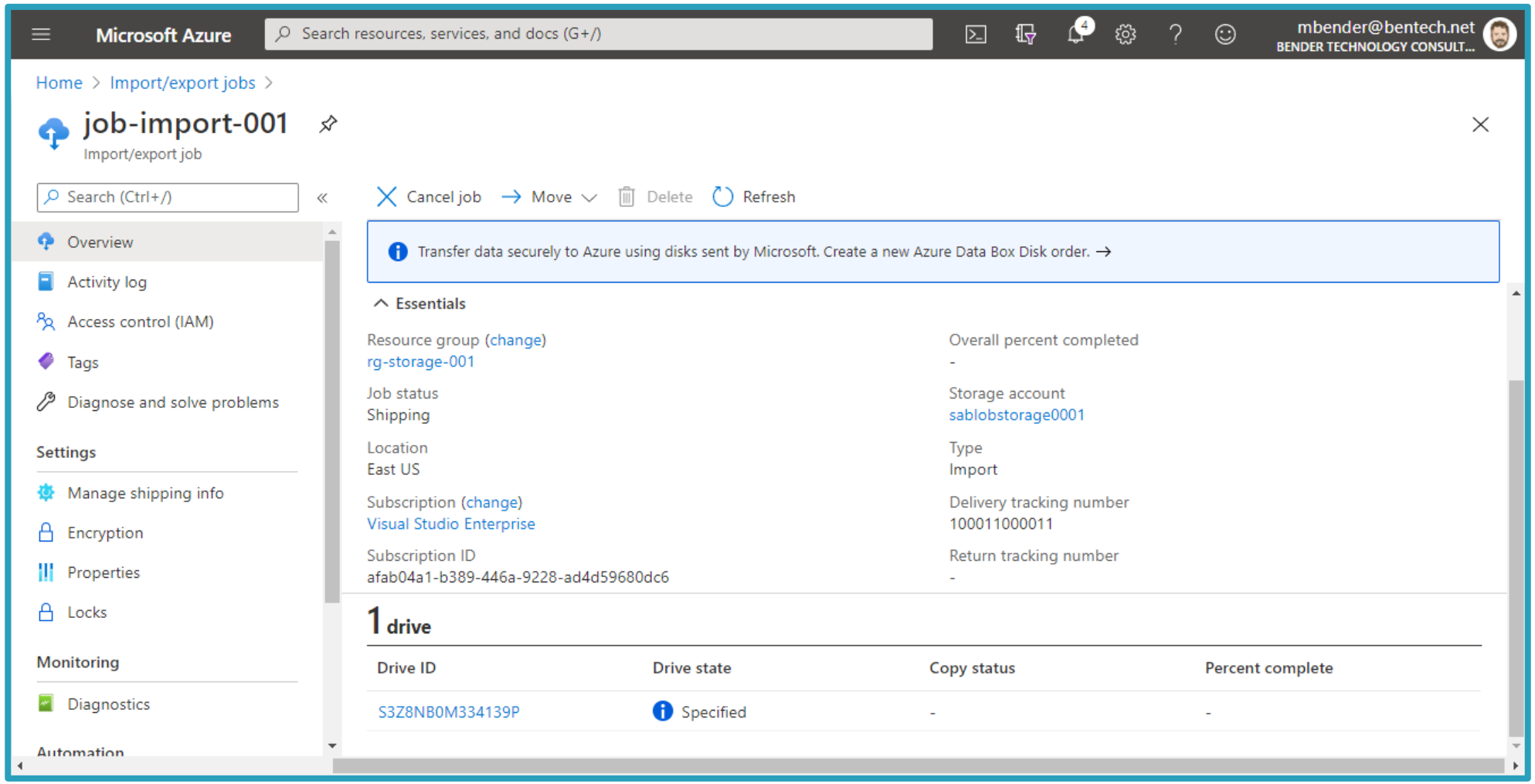

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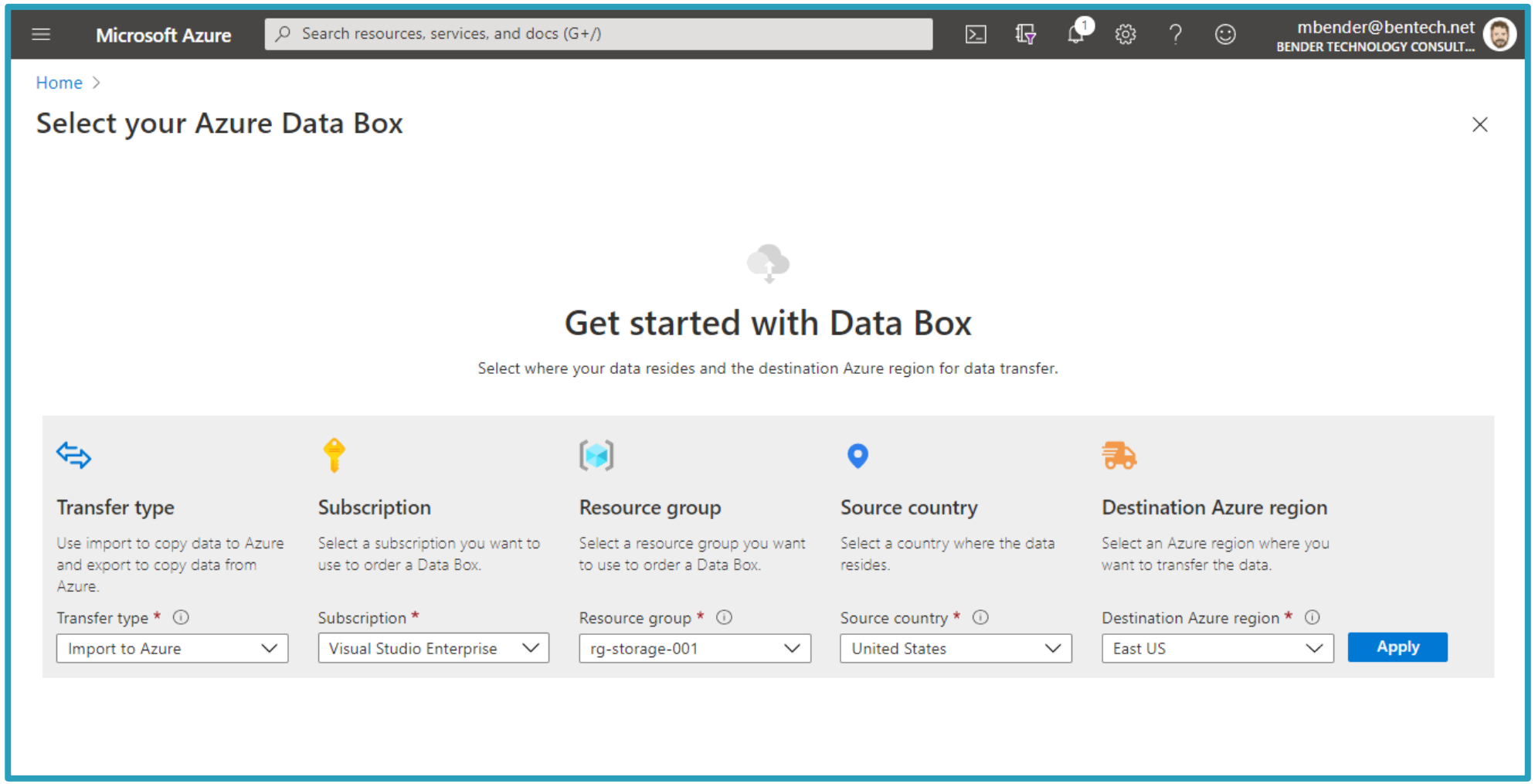

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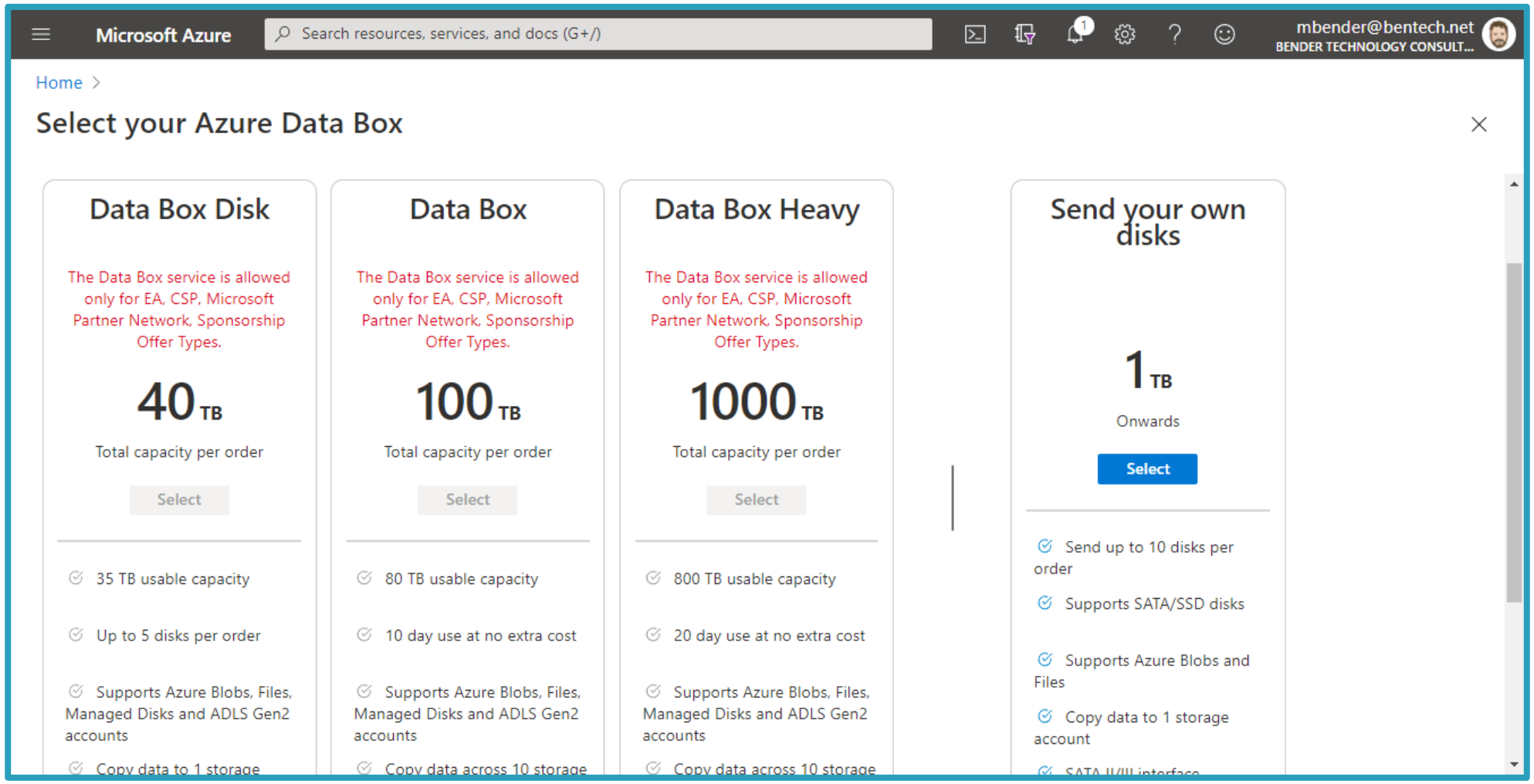

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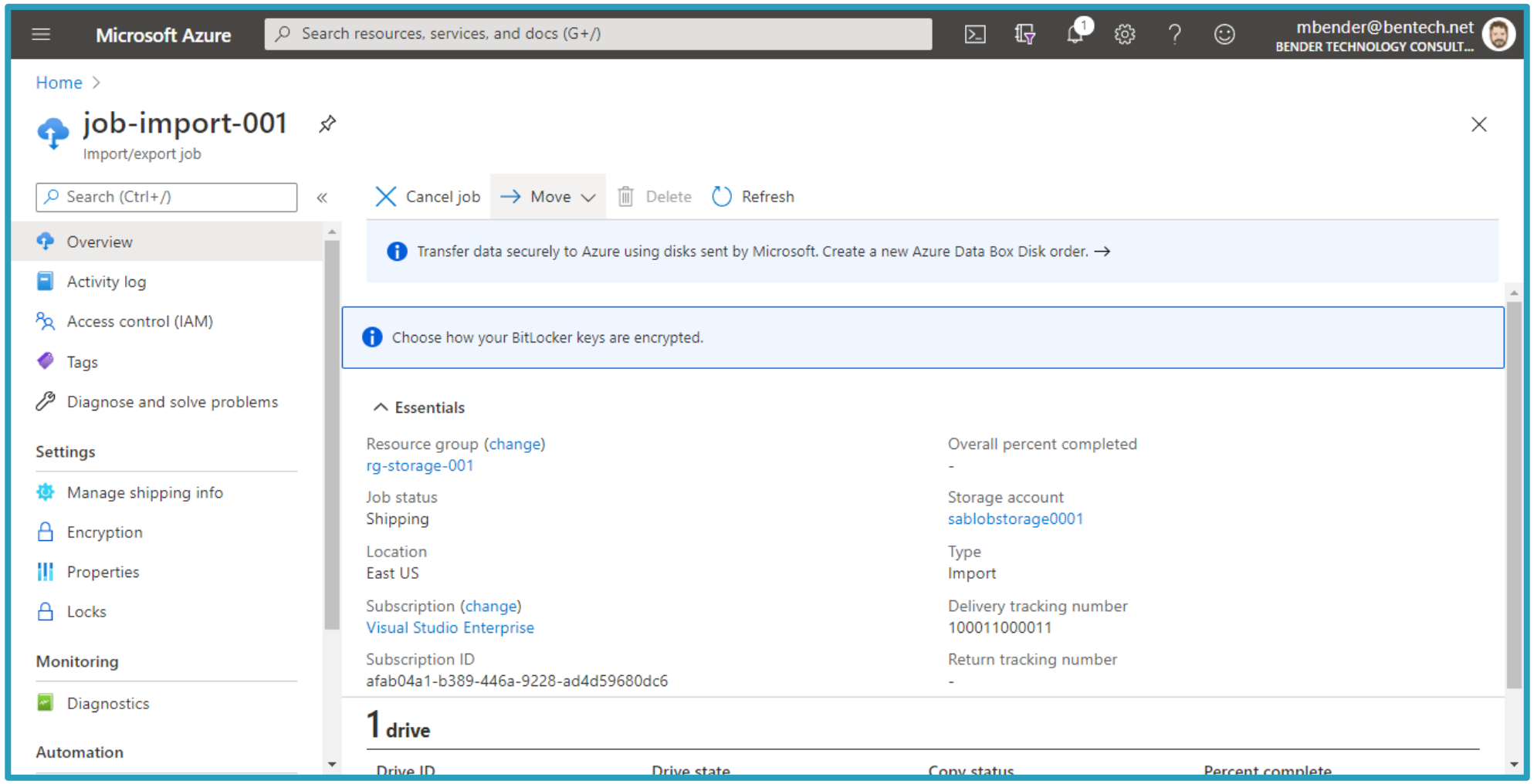

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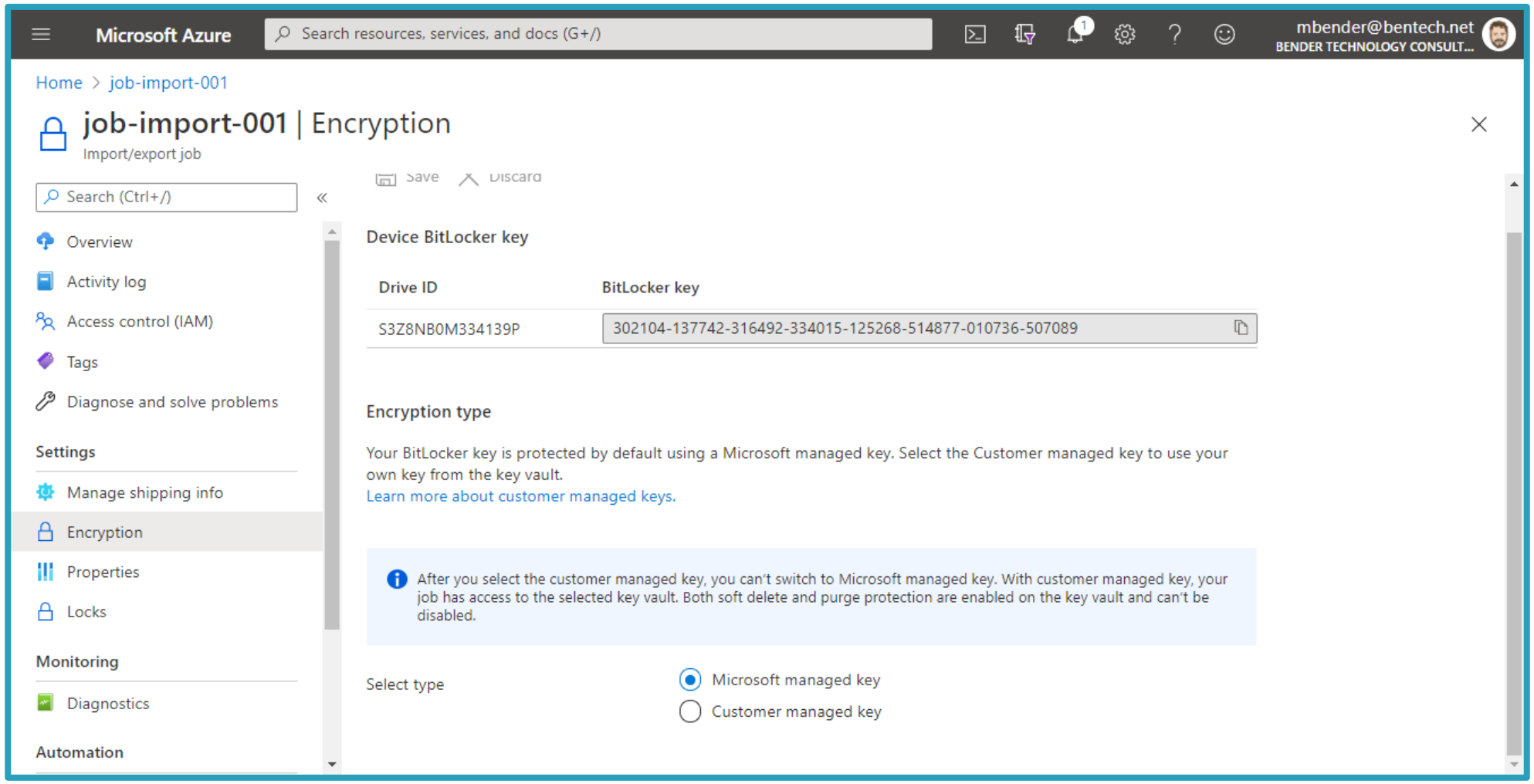

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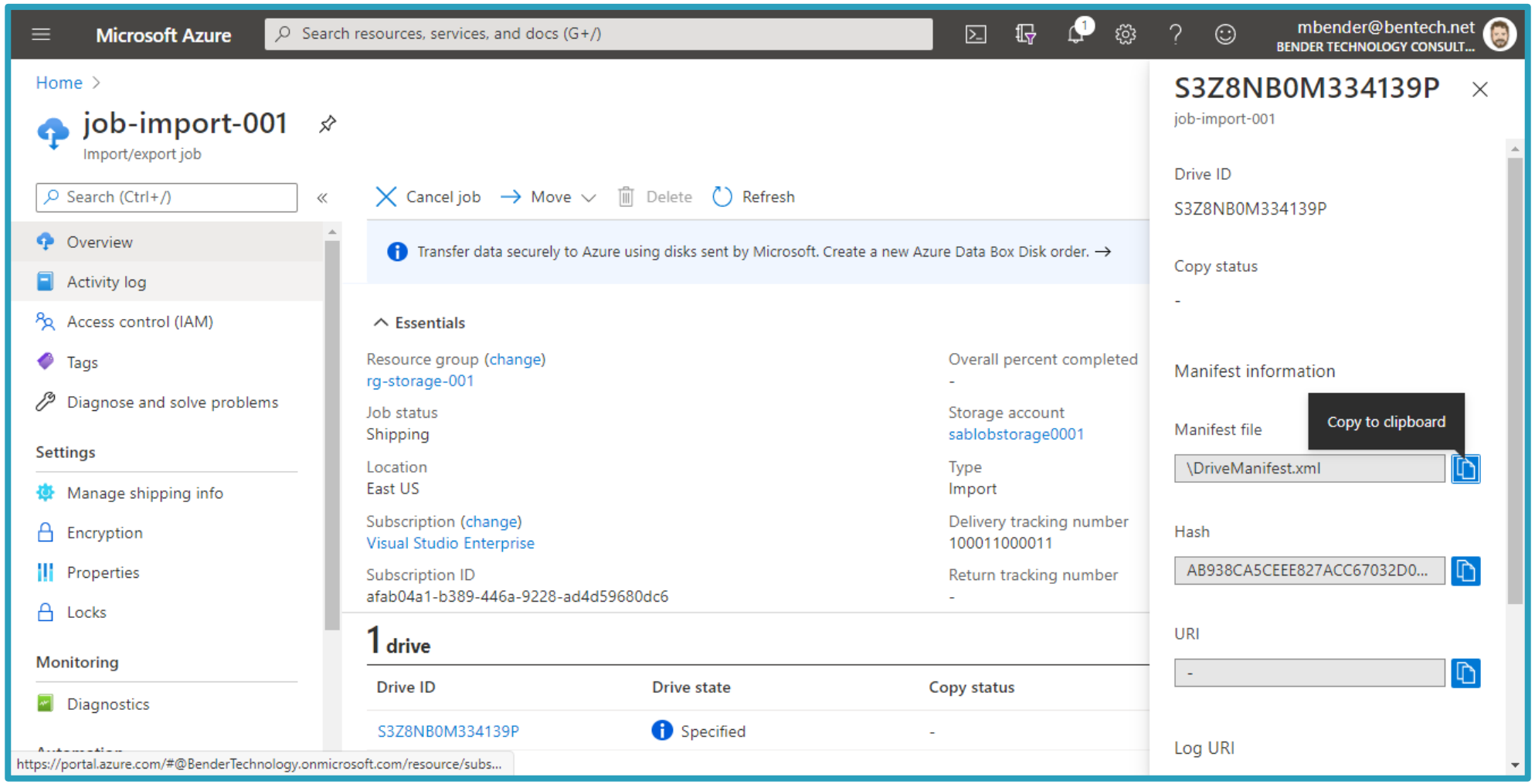

Export Job in the Azure Portal Walkthrough

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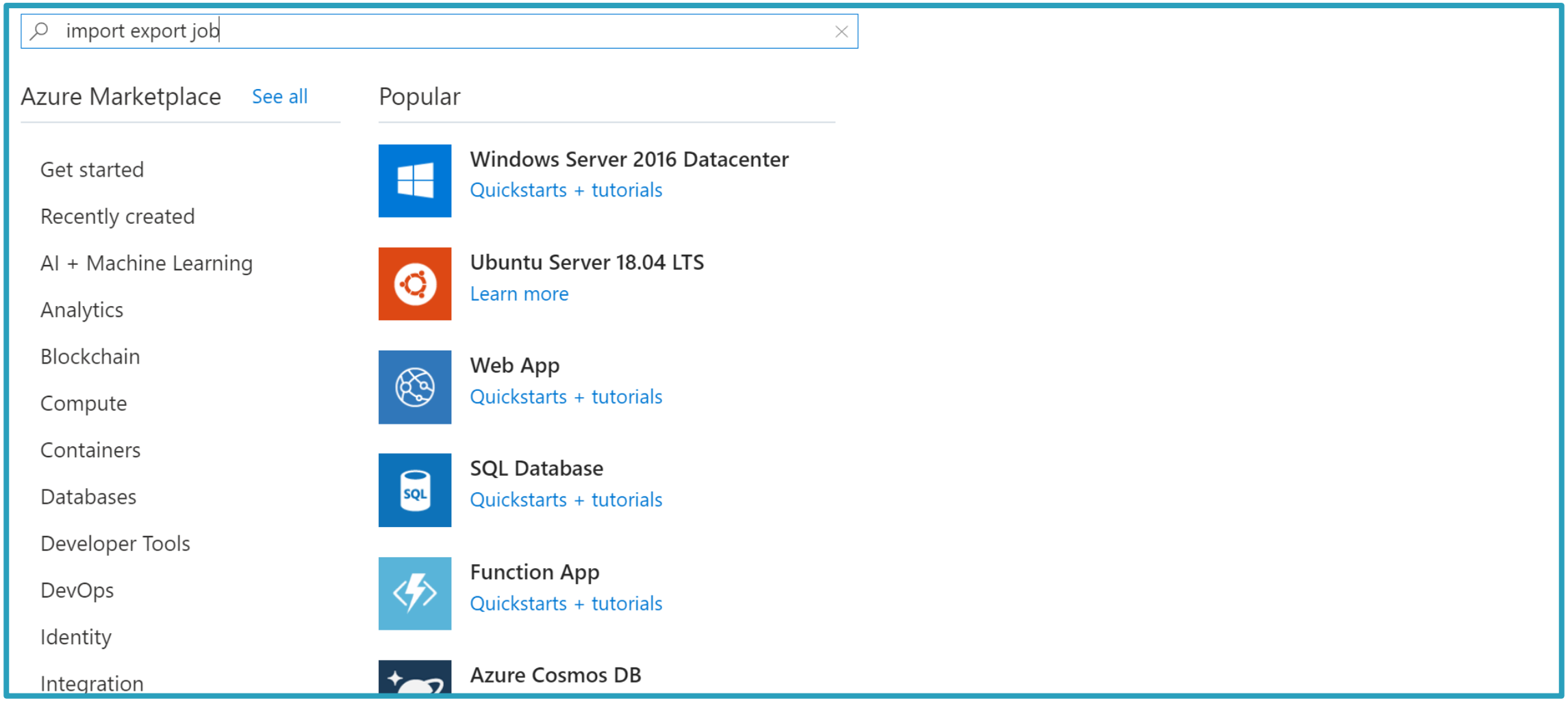

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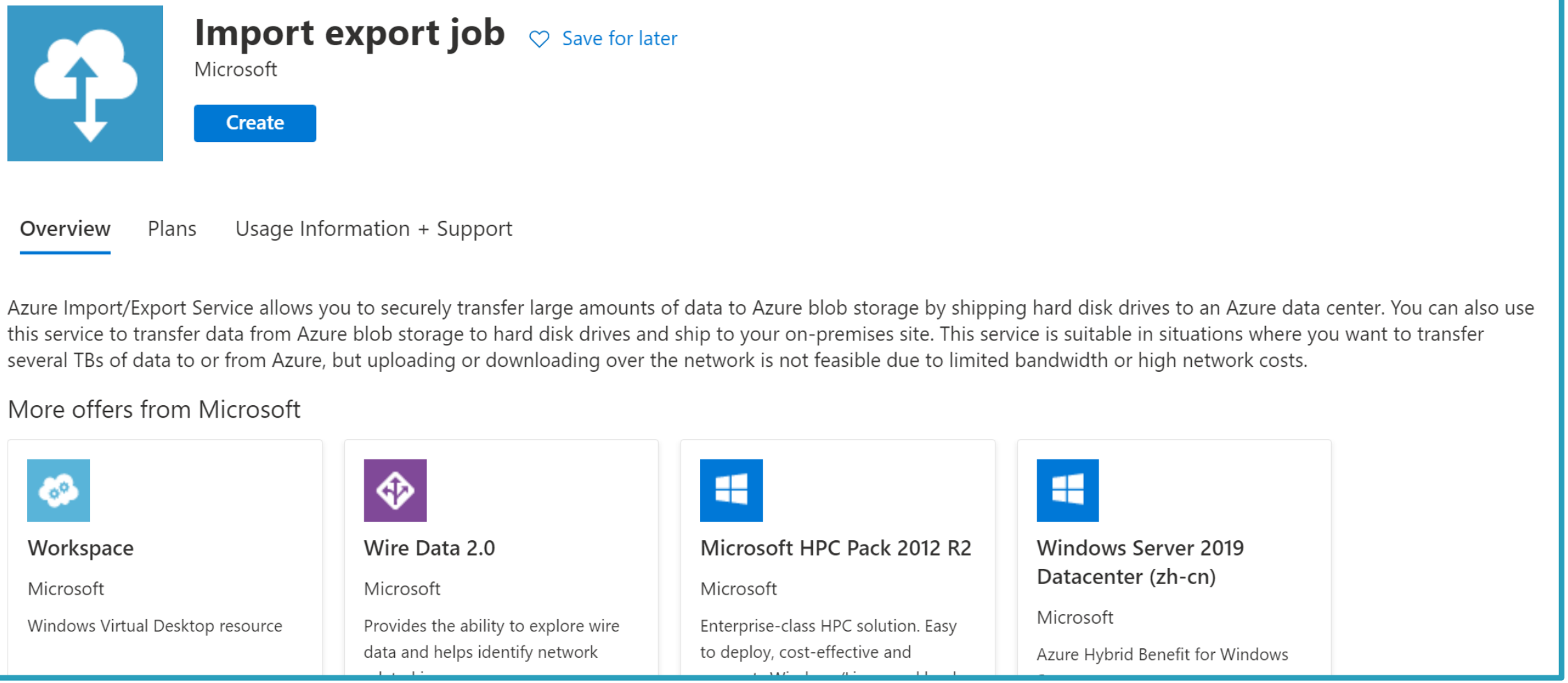

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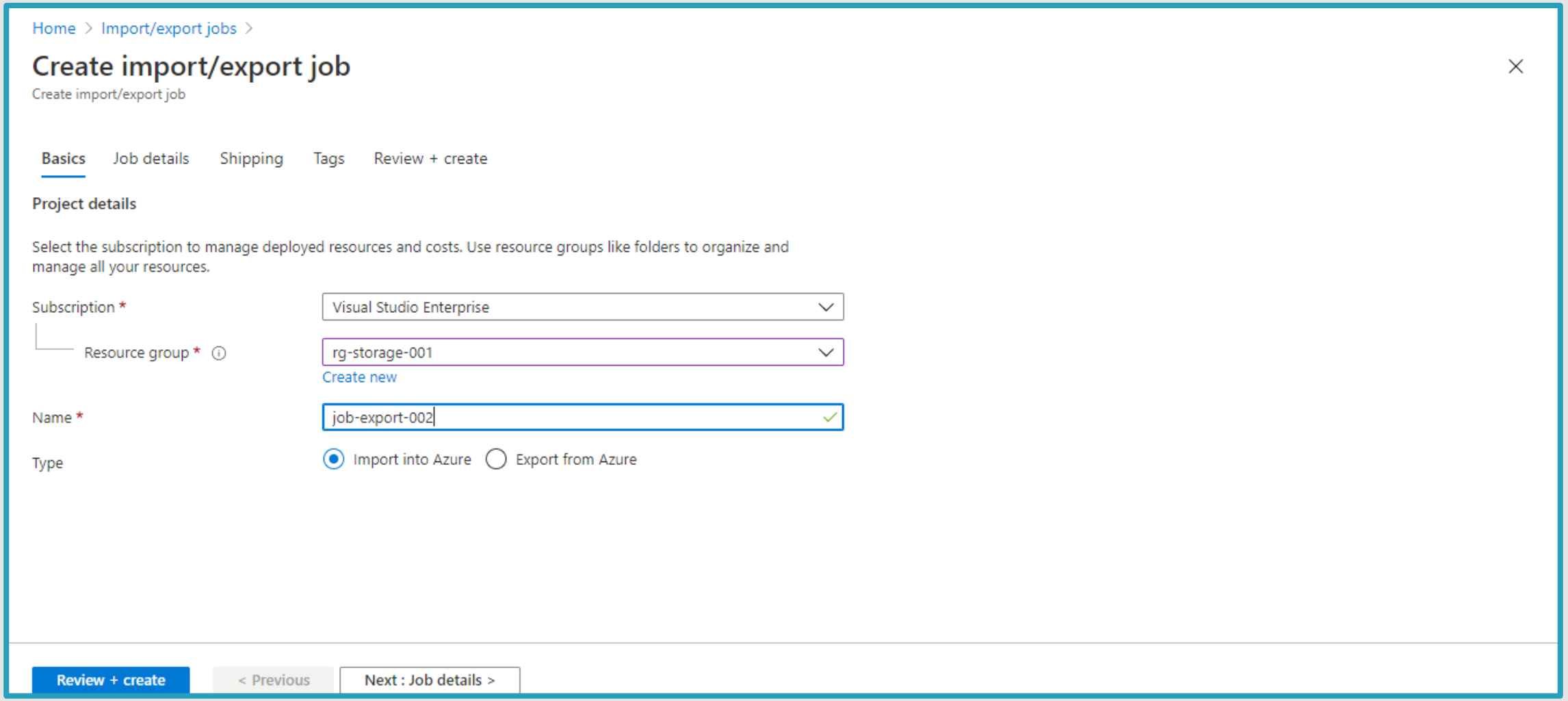

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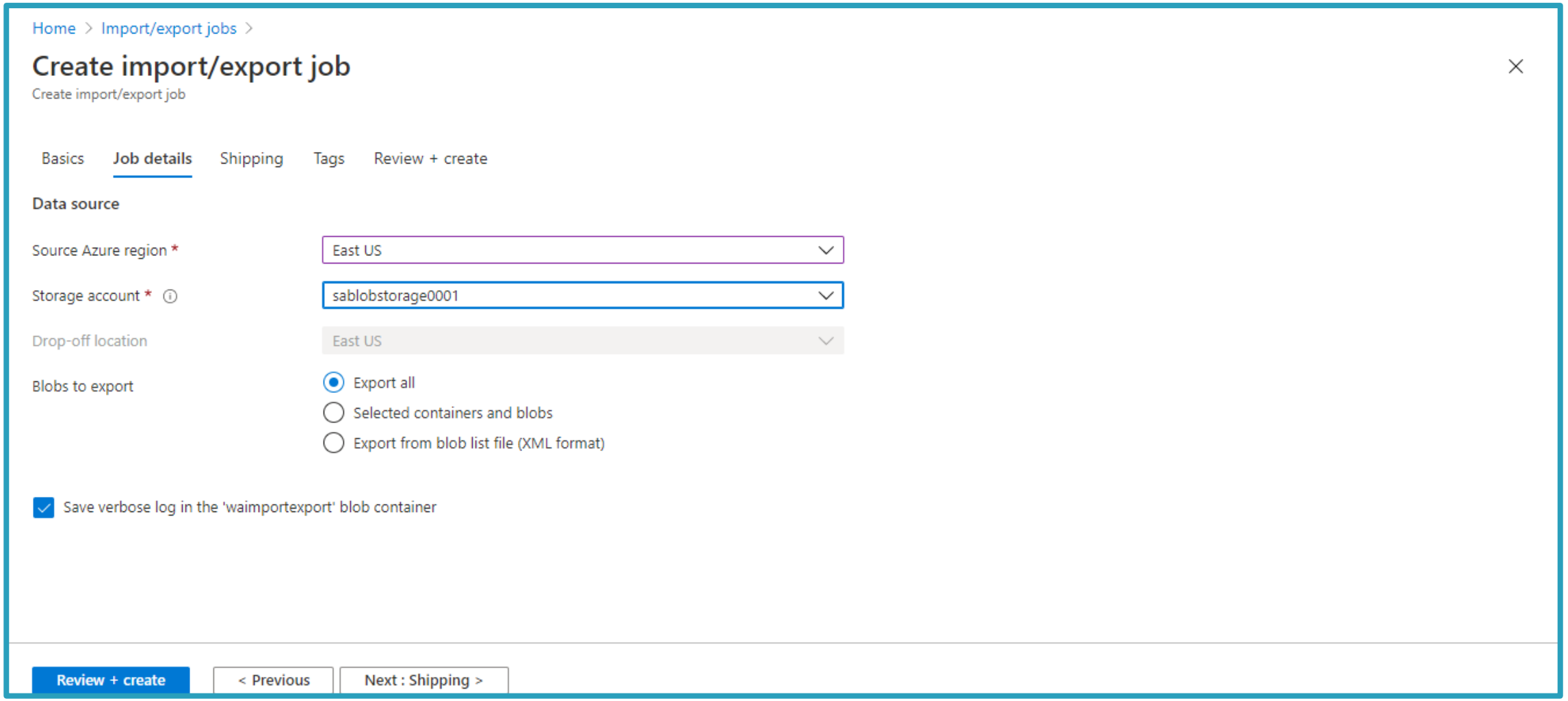

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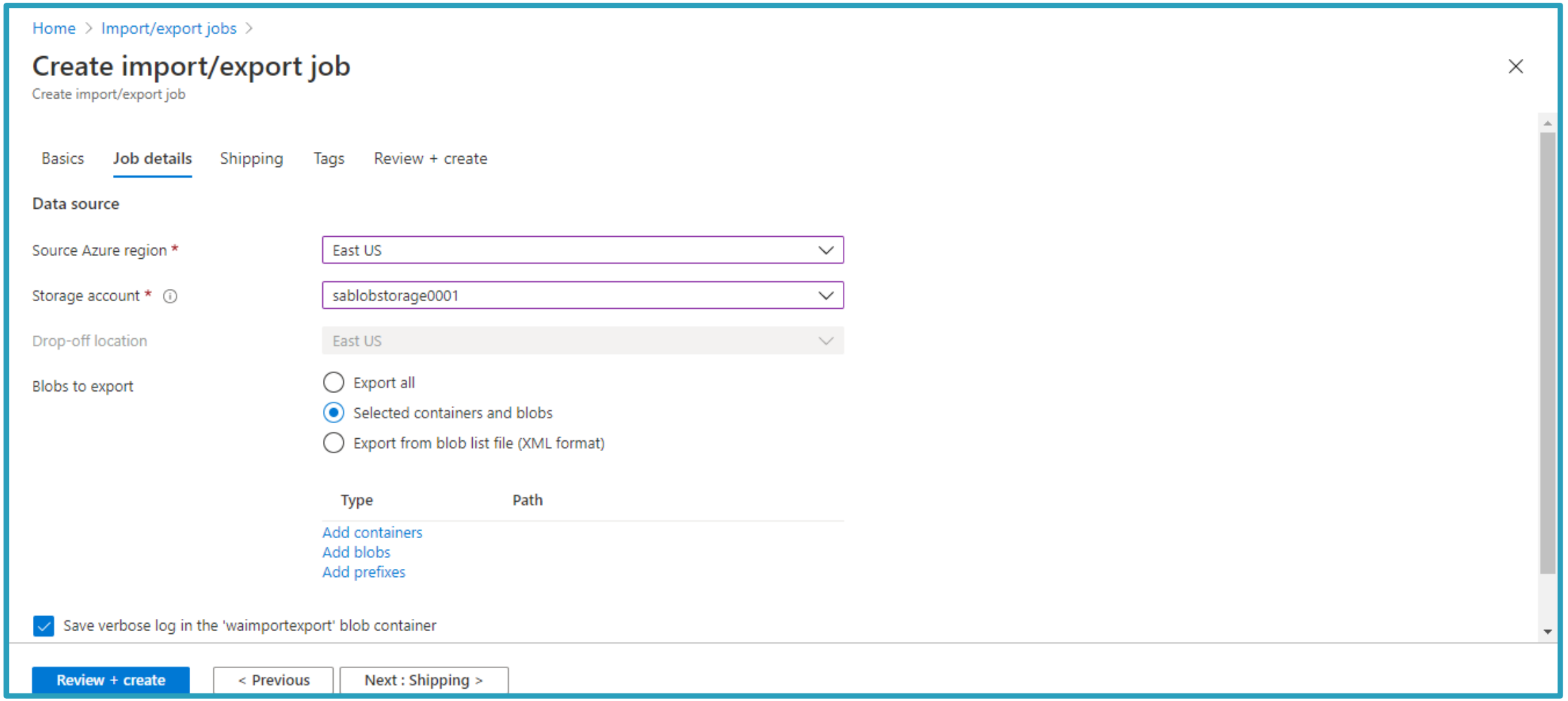

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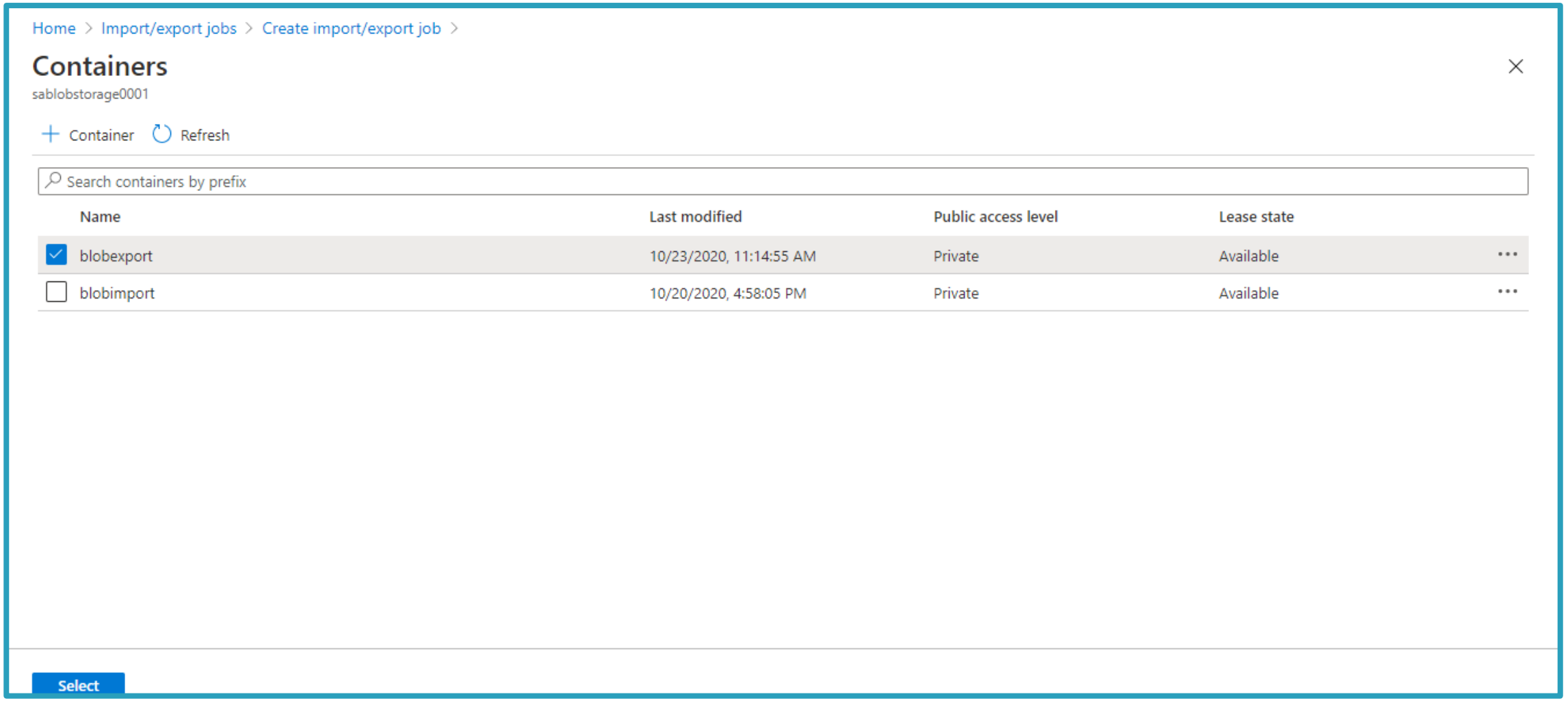

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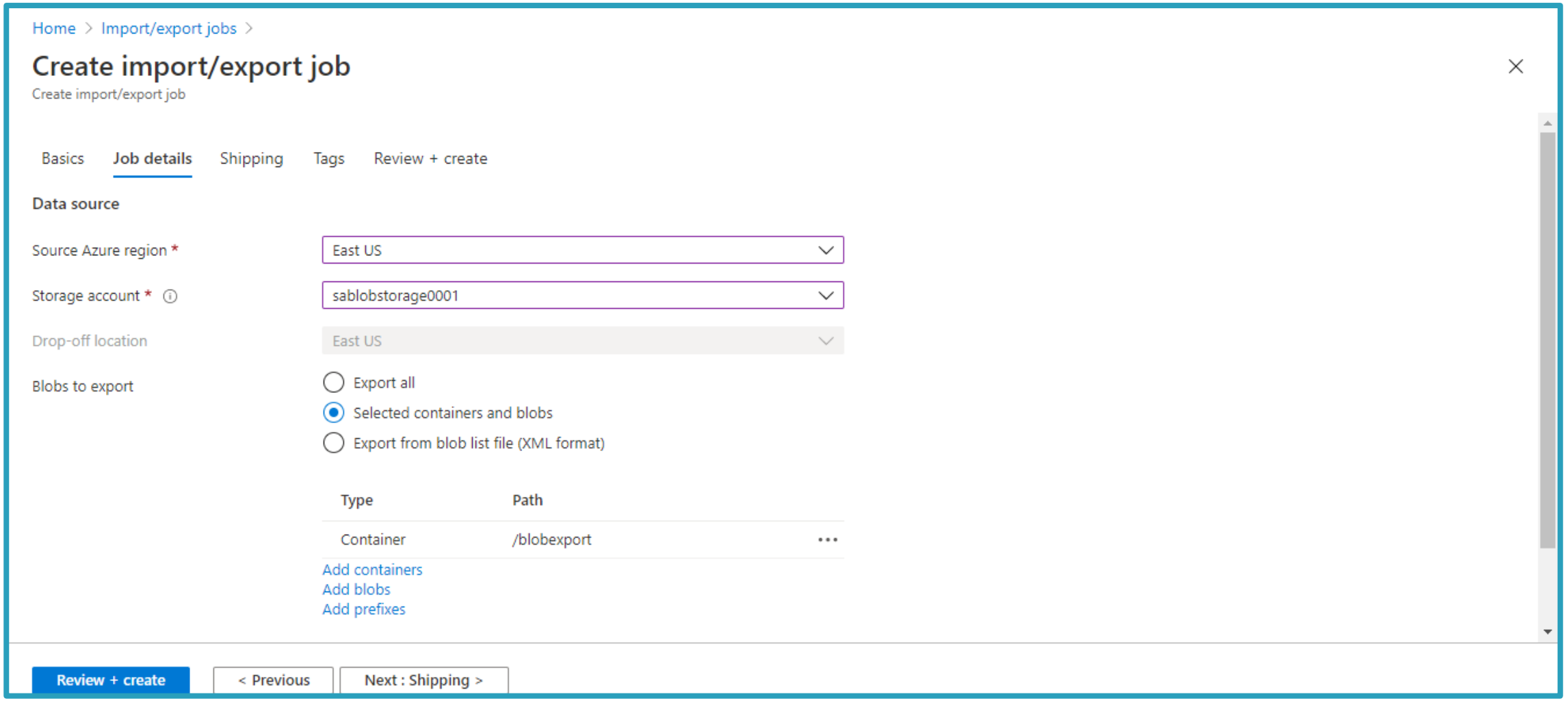

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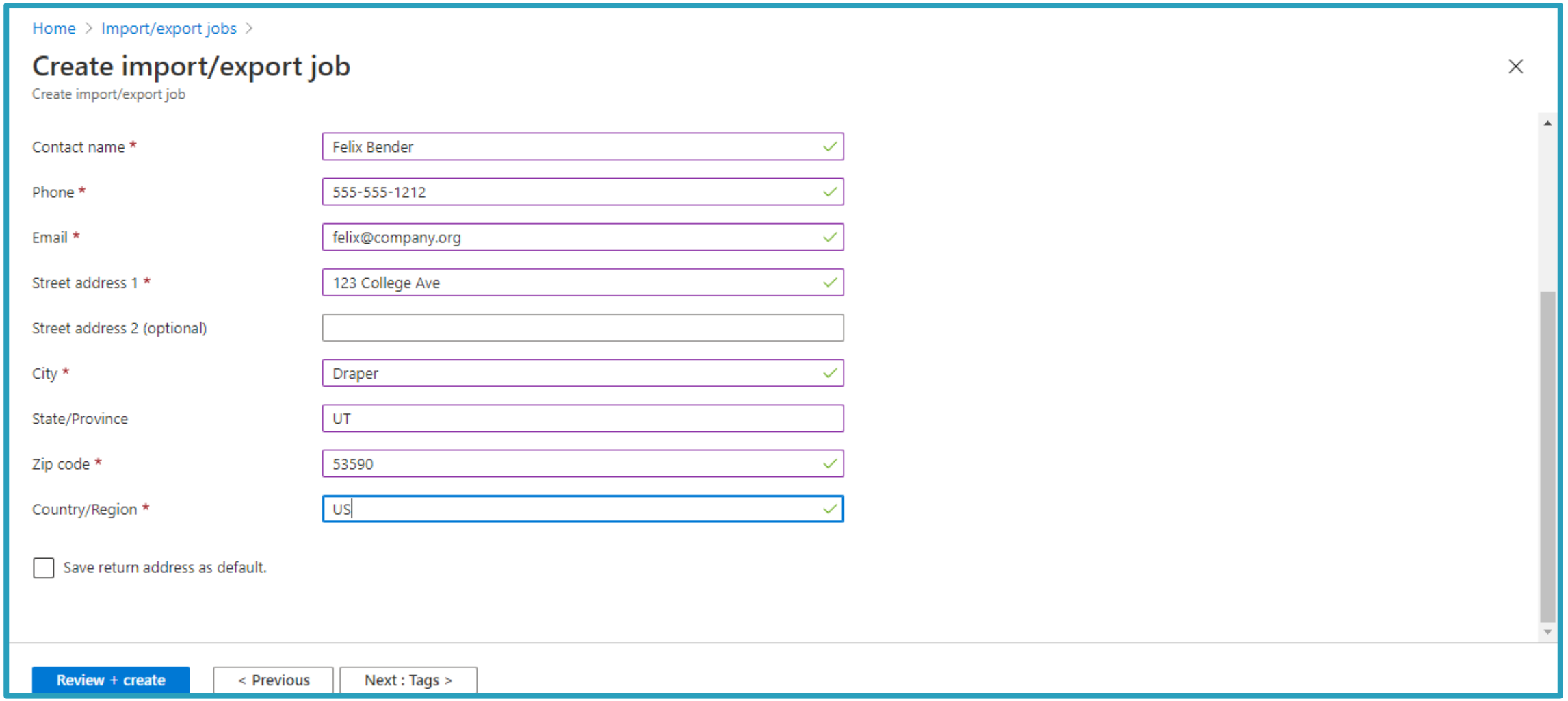

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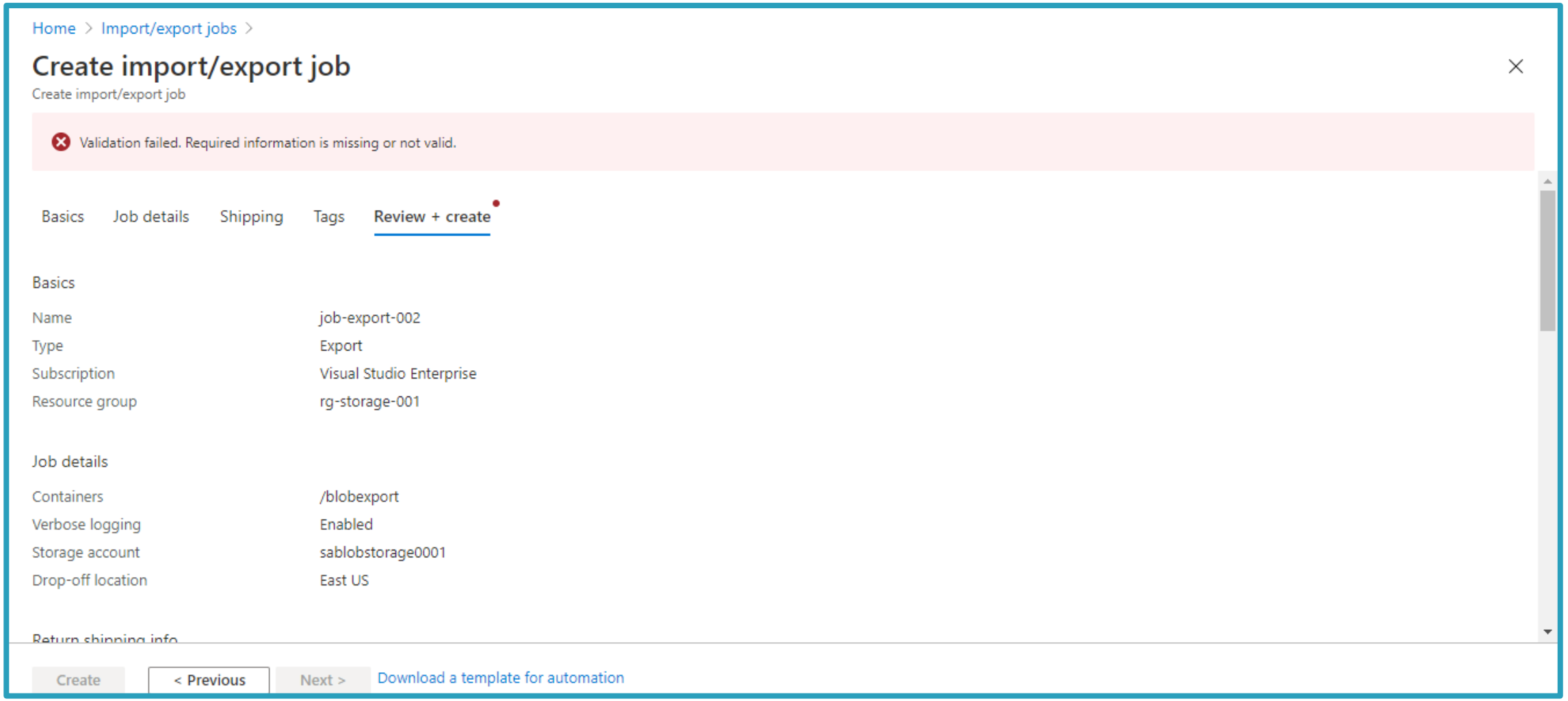

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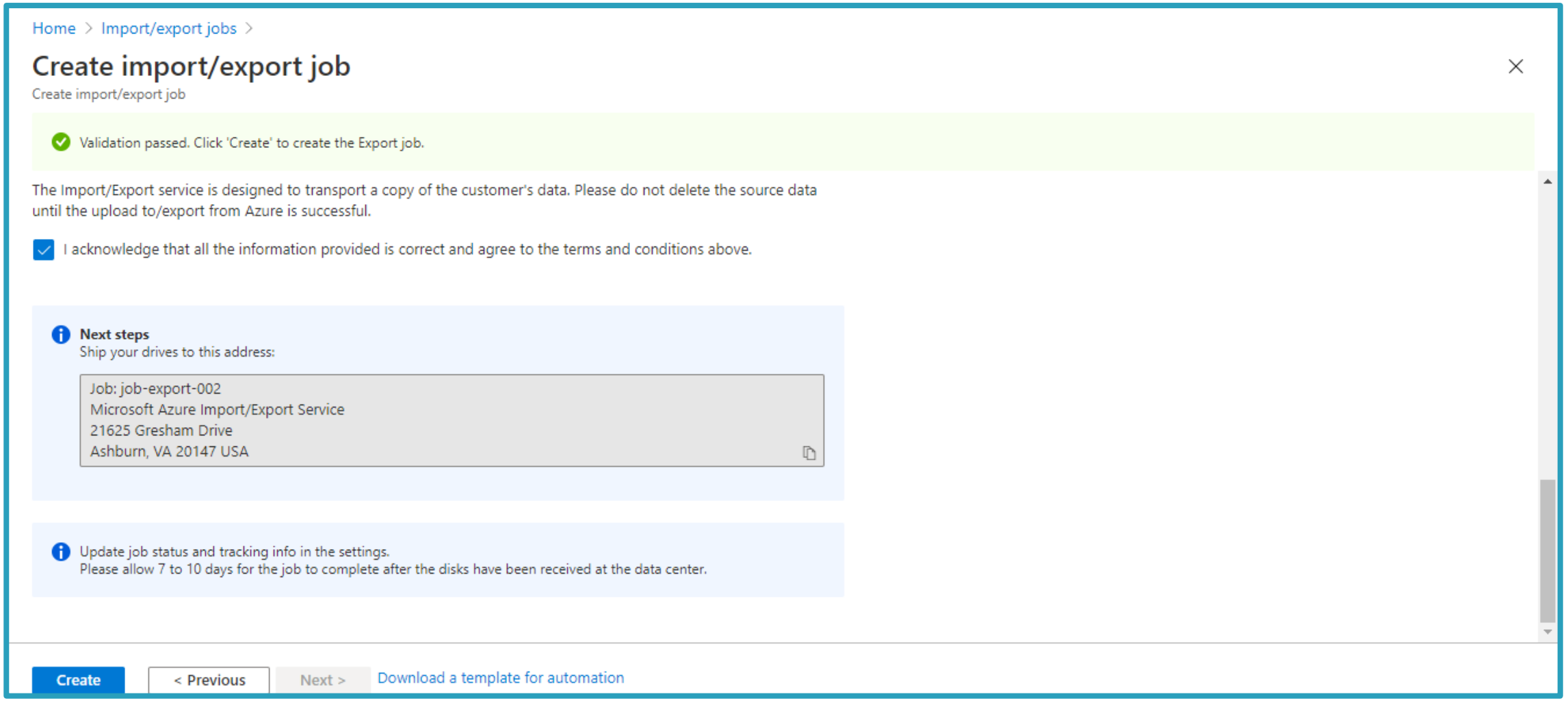
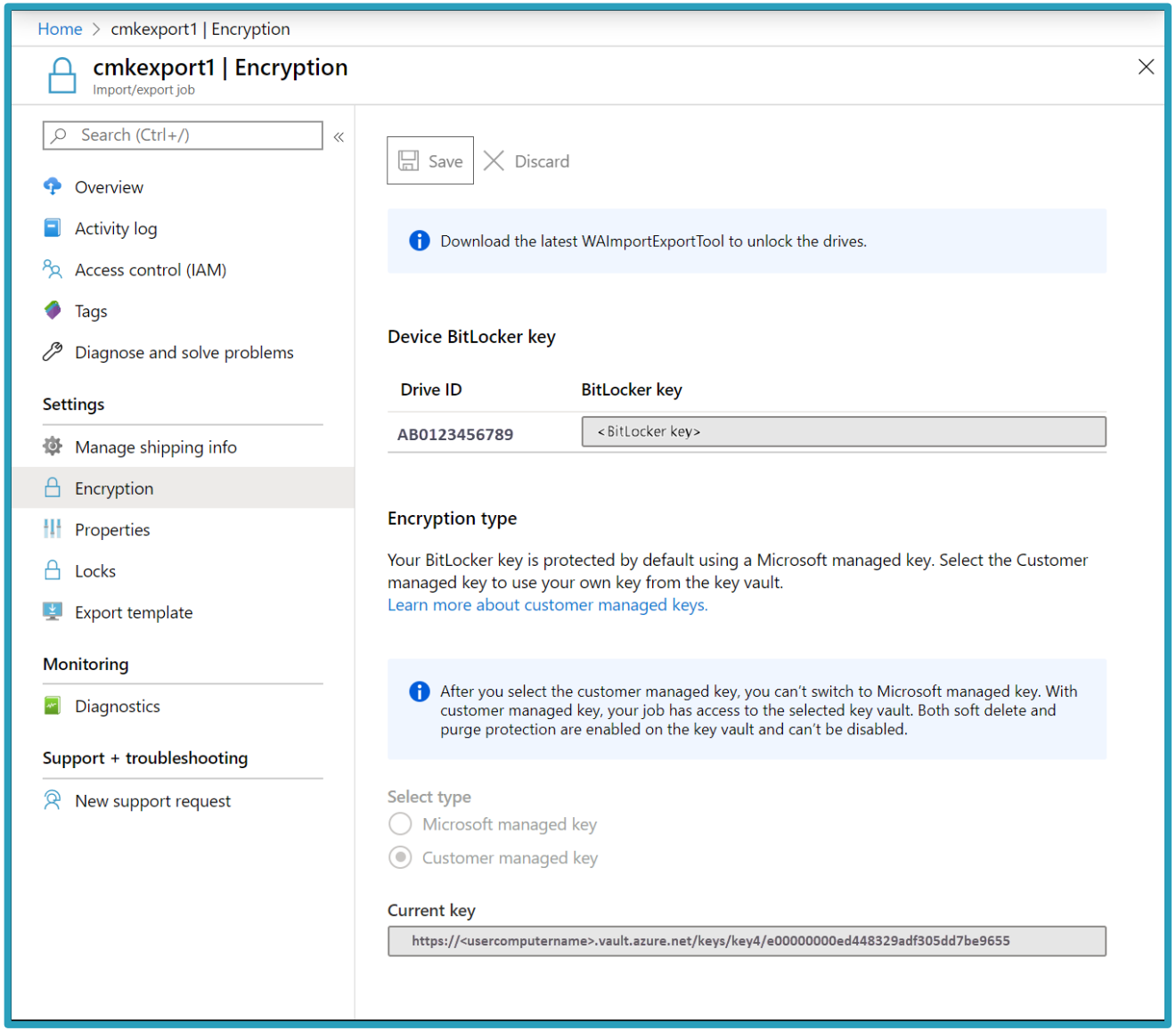


Retrieving BitLocker Key from Azure Portal



Managing Data with Azure Storage Explorer and AZcopy

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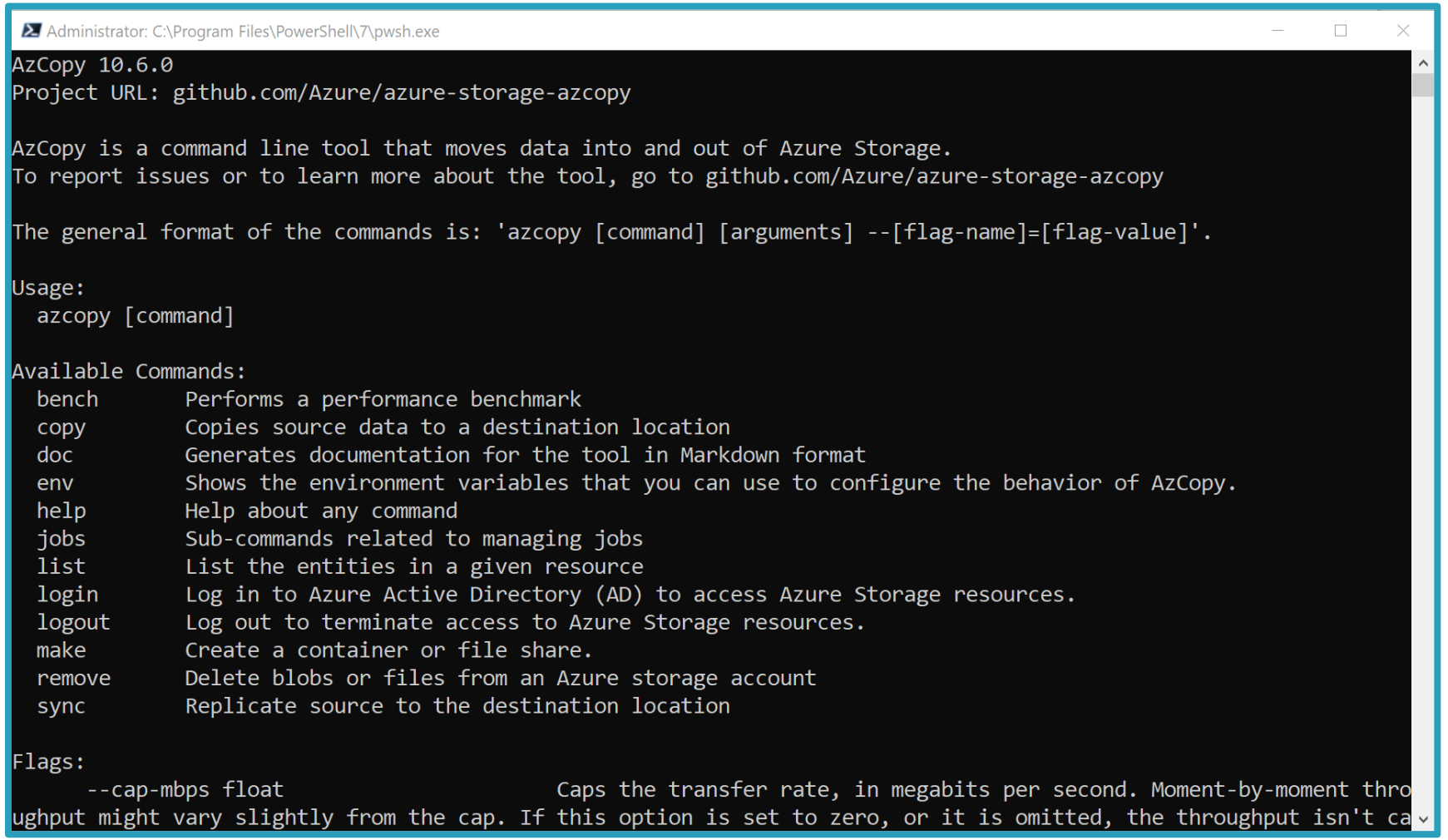
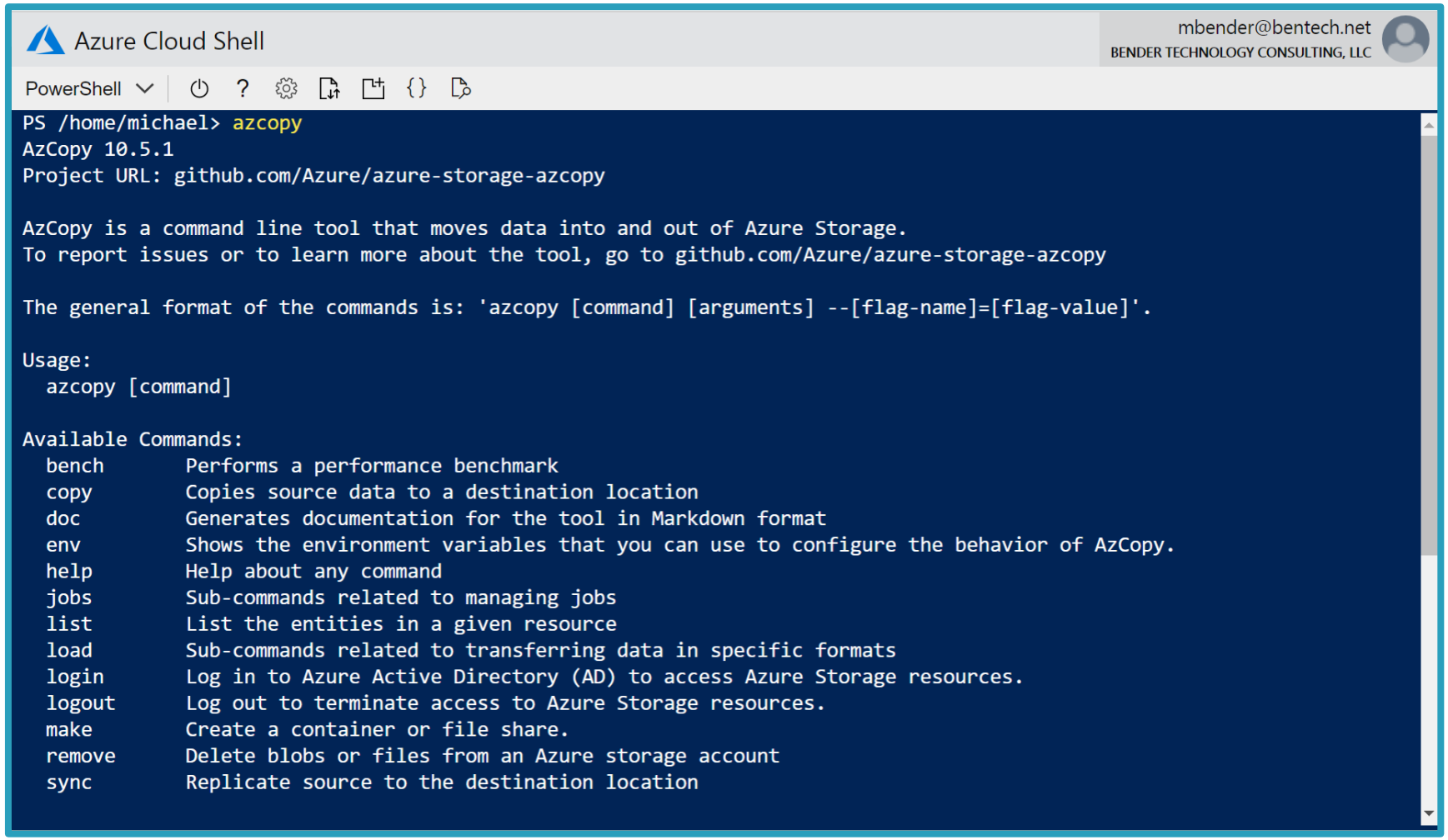
AZCopy Command



AZCopy Command



```
azcopy [command] [arguments]
--[flag-name]=[flag-value]
```

AzCopy Syntax

```
azcopy copy 'H:\data'
'https://sablobstore001.blob.core.windows.net/blobdata' --
recursive
```

AzCopy Syntax

Supported Authentication Credentials for AzCopy

BlobStorage

- Shared Access Signature (SAS)
- Azure AD
  - Ensure proper roles are assigned

FileStorage

- Shared Access Signature (SAS) Only

Ensure proper role assignments

Demo

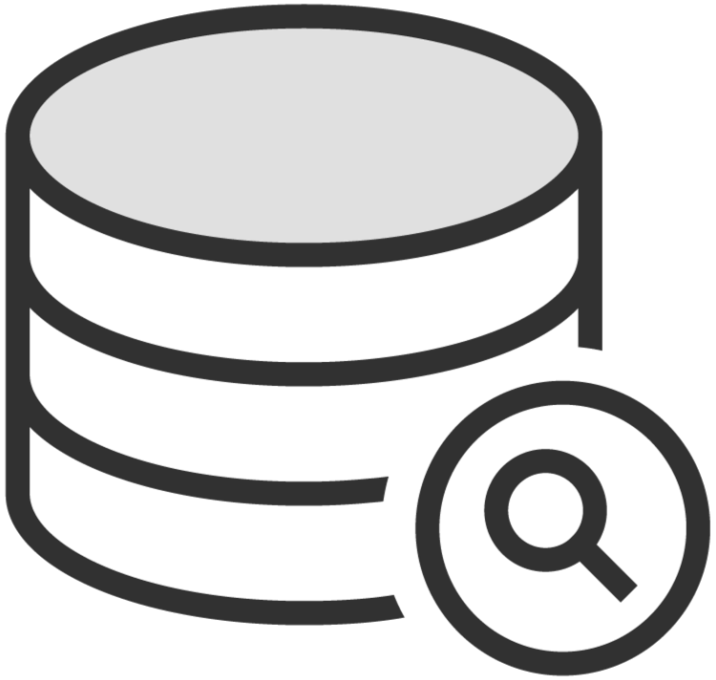
Migrating Data with AZCopy

- Install AzCopy
- List data in Storage Accounts
- Copy data into Storage Account
- Copy data between Storage Accounts

Demo

Demo: Using Azure AD Authentication with AzCopy

Azure Storage Explorer



Manage Azure Storage from your Desktop

Authentication based on storage account

Runs on Windows, MacOS, and Linux

Supports multiple subscriptions

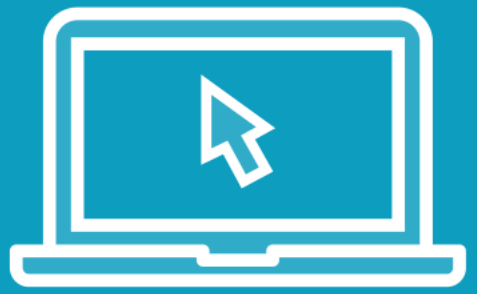
Demo

Install Azure Storage Explorer and connect with AD Azure Account

Demo

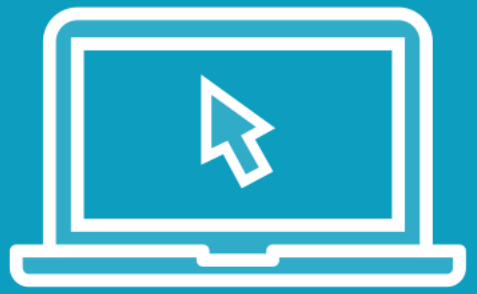
Create Blobs with Azure Storage Explorer

Demo



Configure SoftDelete and manage snapshots with Azure Storage Explorer

Demo



Access Azure Storage using Shared Access Signatures and Storage Explorer

Summary

- Import Files and Blobs
- Export Blobs only
- Prep drives with WAImportExportTool
- AzCopy supports AzureAD and SAS depending on the target
- Use Storage Explorer for management and access items
- Review all the Tools!

For Further Learning

Check out docs.microsoft.com

Remember the module exercise files!

Microsoft Azure Administrator: Managing Storage Accounts by Michael Bender

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