

# Microsoft Azure Administrator: Manage Data in Azure Storage

---

WORKING WITH AZURE IMPORT/EXPORT SERVICE



**Michael Bender**

AUTHOR EVANGELIST - PLURALSIGHT

@michaelbender



# 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



# Exercise Files

Slides

Code

Links to Resources

The screenshot shows the course page for "PowerShell: Getting Started" by Michael Bender. The page has a dark theme. At the top, there's a search bar and the author's name "Michael Bender" with his email "mbender@bentech.net". The main heading is "PowerShell: Getting Started" by Michael Bender. Below it, a description states: "This is an introductory course on PowerShell and how to use it for basic IT Operations support." There are four buttons: "Resume Course" (orange), "Bookmark", "Add to Channel", and "Download Course". To the right, a "Course Breakdown" section lists topics like "Introduction to PowerShell", "PowerShell Basics", "Gathering Information with PowerShell", "Working with PowerShell", and "Managing PowerShell". Below this, a "Course author" section features Michael Bender's profile and a bio: "Michael is a six-time Microsoft Most Valuable Professional, author, technical trainer, and community leader. Having been in the IT industry since the 90's, his experiences covers the gamut of...". The "Course info" section shows the level as "Beginner", a rating of "★★★★★ (602)", a "My rating" of "★★★★★", a duration of "3h 5m", and an update date of "22 May 2019". At the bottom, there are social media icons for Facebook, Twitter, and LinkedIn. The "Exercise files" tab is highlighted with a yellow box, and the "Download exercise files" button is also highlighted with a yellow box. The text below the tab reads: "These exercise files are intended to provide you with the assets you need to create a video-based hands-on experience. With the exercise files, you can follow along with the author and re-create the same solution on your computer. We find this to be even more effective than written lab exercises."



# Migrating Data into Azure



Over the wire



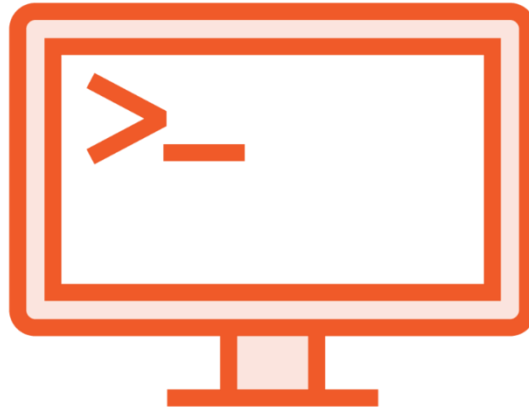
Ship physical media



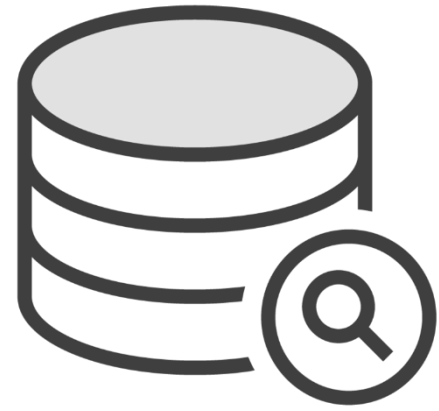
# Data Management Tools



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



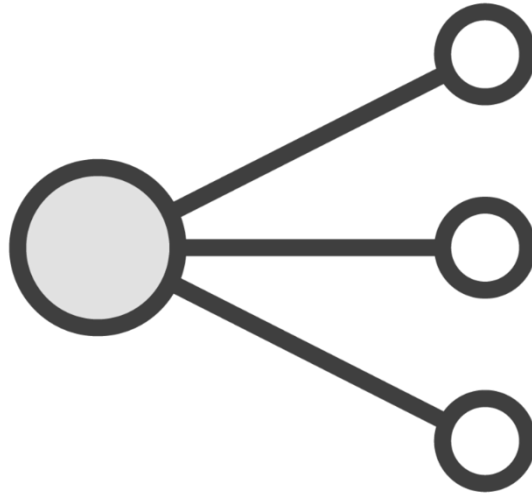
Supports General Purpose v1, v2, and BlobStorage storage accounts



# 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 `WALImportExport 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

```
Administrator: Command Prompt

c:\scripts\waimportexporttool\v1>WAImportExport.exe PrepImport /J:export-demo.jrn /id:session#01 /t:F /bk:302104-137742-316492-334015-125268-514877-010736-507089 /dstdir:blobimport/ /blobtype:BlockBlob /srcdir:h:/

WAImportExport, a client tool for Microsoft Azure Import/Export Service. Microsoft c 2020

Before you begin, make sure that you review the drive requirements for the import/export job at https://aka.ms/ie-drive-reqs.

Press any key to continue or Ctrl-C to exit if your drive doesn't meet the above requirement...

Starting new session for block blobs...
Calculating disk space required...
(if there are millions of files, this may take up to 30+ minutes)
Disk space required (estimate): 260266 bytes, available: 993012461568 bytes.

| Elapsed time      | Files failed      | Files processed   | Bytes processed   |
| 00:00:00         | 0                 | 3                 | 260137            |

Validation completed successfully for block blobs with no errors.

Use the following journal file to create an import job. More information at https://aka.ms/ie-import-job.

    export-demo_DriveInfo_S3Z8NB0M334139P.xml

Logs are located at c:\scripts\waimportexporttool\v1\Logs\2020-10-20\20201020_220643_465_MB-PS-WS01_22848_WAImportExport.log
```



# 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



```
c:\scripts\waimportexporttool\v1>manage-bde -protectors -get f:
BitLocker Drive Encryption: Configuration Tool version 10.0.19041
Copyright (C) 2013 Microsoft Corporation. All rights reserved.

Volume F: [Recording-Temp]
All Key Protectors

    Password:
        ID: {A0691D06-94E5-462A-A30D-2A9A0F9AB0B4}

    Numerical Password:
        ID: {019874F3-1AAE-4256-9005-0F4334BABE44}
        Password:
            302104-137742-316492-334015-125268-514877-010736-507089

c:\scripts\waimportexporttool\v1>
```

Bitlocker  
Key



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
```

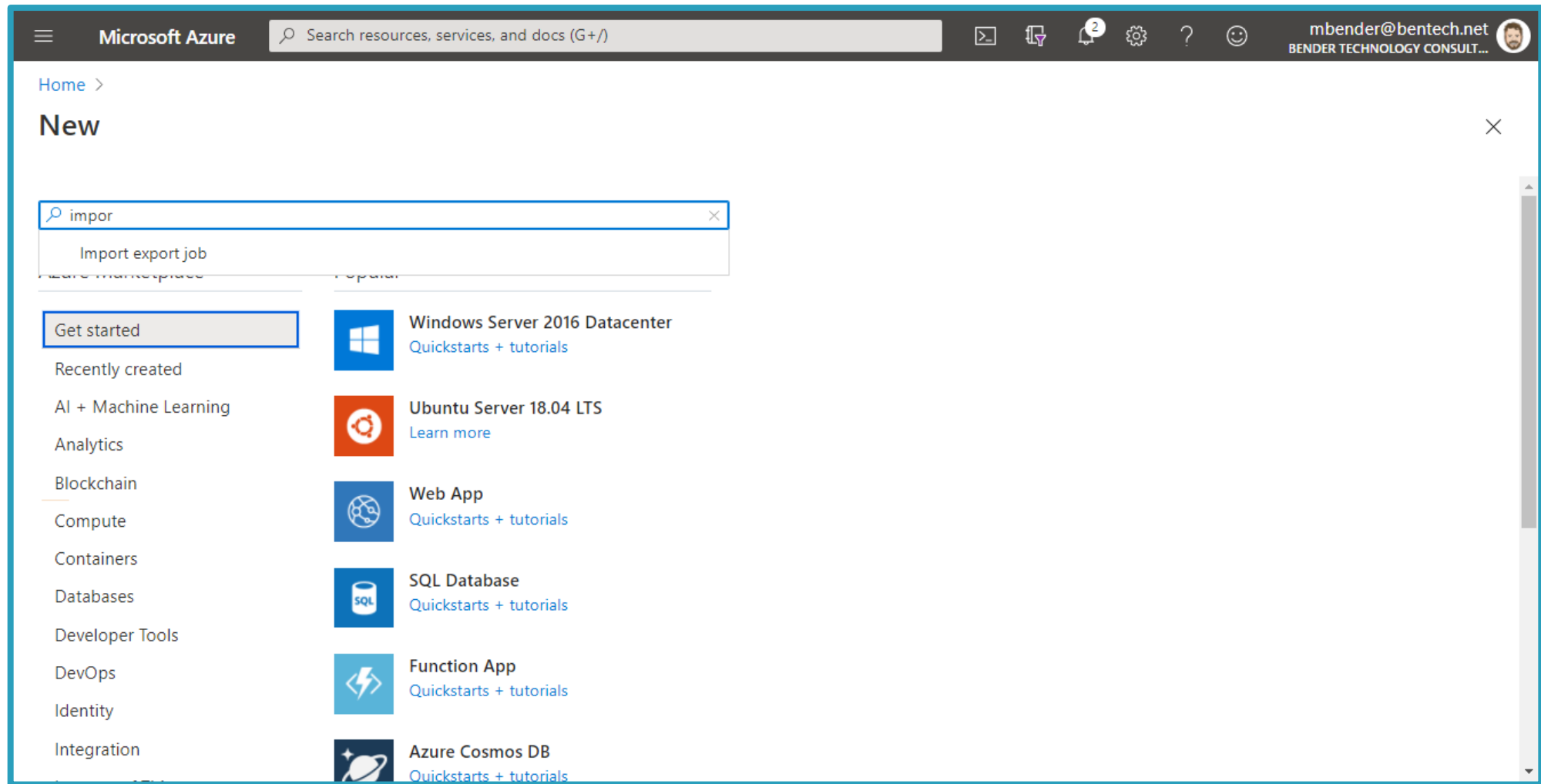


# Import Job in the Azure Portal Walkthrough

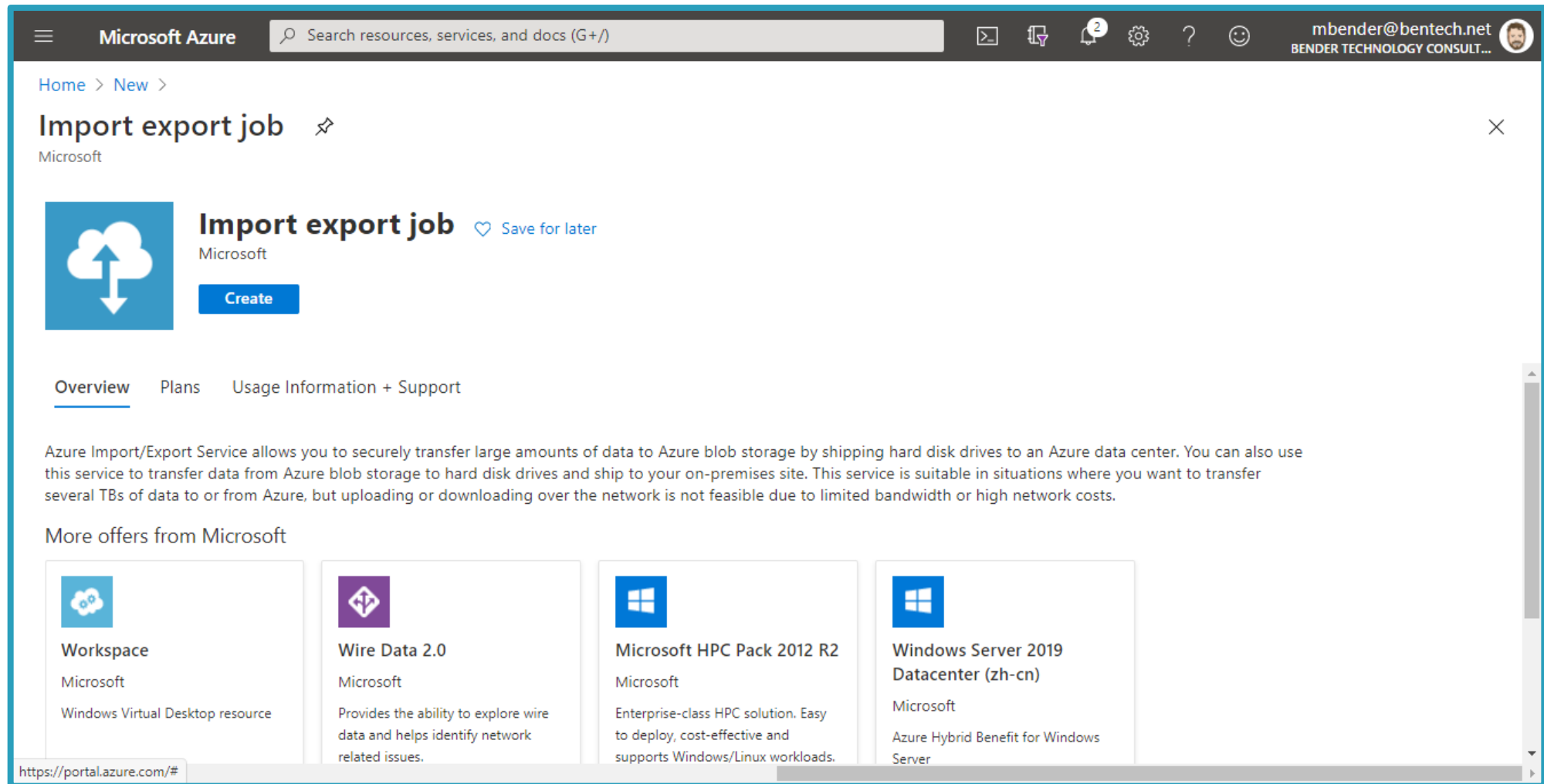
---



# Create Import Job in Azure Portal



# Create Import Job in Azure Portal



The screenshot displays the Microsoft Azure portal interface. At the top, the navigation bar includes the 'Microsoft Azure' logo, a search bar with the placeholder text 'Search resources, services, and docs (G+)', and user information for 'mbender@bentech.net' with the role 'BENDER TECHNOLOGY CONSULT...'. Below the navigation bar, the breadcrumb trail shows 'Home > New >'. The main heading is 'Import export job' with a pin icon and a close button (X). Below the heading, the Microsoft logo is displayed next to the service name 'Import export job', which is accompanied by a 'Save for later' link and a blue 'Create' button. The 'Overview' tab is selected, showing a description of the Azure Import/Export Service: 'Azure Import/Export Service allows you to securely transfer large amounts of data to Azure blob storage by shipping hard disk drives to an Azure data center. You can also use this service to transfer data from Azure blob storage to hard disk drives and ship to your on-premises site. This service is suitable in situations where you want to transfer several TBs of data to or from Azure, but uploading or downloading over the network is not feasible due to limited bandwidth or high network costs.' Below the description, the section 'More offers from Microsoft' features four tiles: 'Workspace' (Windows Virtual Desktop resource), 'Wire Data 2.0' (network analysis tool), 'Microsoft HPC Pack 2012 R2' (enterprise-class HPC solution), and 'Windows Server 2019 Datacenter (zh-cn)' (Azure Hybrid Benefit for Windows Server). The browser address bar at the bottom shows 'https://portal.azure.com/#'.

Microsoft Azure

Search resources, services, and docs (G+)

Home > New >

## Import export job

Microsoft

**Import export job** Save for later

Create

Overview Plans Usage Information + Support

Azure Import/Export Service allows you to securely transfer large amounts of data to Azure blob storage by shipping hard disk drives to an Azure data center. You can also use this service to transfer data from Azure blob storage to hard disk drives and ship to your on-premises site. This service is suitable in situations where you want to transfer several TBs of data to or from Azure, but uploading or downloading over the network is not feasible due to limited bandwidth or high network costs.

More offers from Microsoft

- Workspace**  
Microsoft  
Windows Virtual Desktop resource
- Wire Data 2.0**  
Microsoft  
Provides the ability to explore wire data and helps identify network related issues.
- Microsoft HPC Pack 2012 R2**  
Microsoft  
Enterprise-class HPC solution. Easy to deploy, cost-effective and supports Windows/Linux workloads.
- Windows Server 2019 Datacenter (zh-cn)**  
Microsoft  
Azure Hybrid Benefit for Windows Server

https://portal.azure.com/#



# Create Import Job in Azure Portal

Microsoft Azure Search resources, services, and docs (G+)

Home > New > Import export job >

## Create import/export job

Create import/export job

Basics Job details Shipping Tags Review + create

### Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription \* Visual Studio Enterprise

Resource group \* ① rg-storage-001 [Create new](#)

Name \* job-export-001 ✓

Type ☒ Import into Azure ☐ Export from Azure

[Review + create](#) [< Previous](#) [Next : Job details >](#)





# Create Import Job in Azure Portal

Microsoft Azure

Search resources, services, and docs (G+)

mbender@bentech.net  
BENDER TECHNOLOGY CONSULT...

[Home](#) >

Create import/export job

Create import/export job

Data source

Upload journal files ⓘ

export-demo.jrn

Drive ID	Journal file	
S3Z8NB0M334139P	export-demo.jrn	...

Import destination

Destination Azure region \* 

East US

Storage account \* ⓘ 

sablobstorage0001

Drop-off location 

East US


☒ Save verbose log in the 'waimportexport' blob container

Review + create


< Previous

Next : Shipping >

# Create Import Job in Azure Portal

 **Microsoft Azure**

Search resources, services, and docs (G+)



mbender@bentech.net  
BENDER TECHNOLOGY CONSULT...

[Home](#) >

## Create import/export job

Create import/export job

Return address

Contact name \*

Felix Bender

✓

Phone \*

555-555-1212

✓

Email \*

felix@company.org

✓

Street address 1 \*

123 Carved Rock Blvd

✓

Street address 2 (optional)

City \*

Draper

✓

State/Province

Zip code \*

53590

✓

Country/Region \*

US

✓


Review + create

< Previous


Next : Tags >



# Create Import Job in Azure Portal

 Microsoft Azure

Search resources, services, and docs (G+)



mbender@bentech.net  
BENDER TECHNOLOGY CONSULT...

Home >

## Create import/export job

Create import/export job

Validation failed. Required information is missing or not valid.

BasicsJob detailsShippingTagsReview + create

Basics

Name	job-import-002
Type	Import
Subscription	Visual Studio Enterprise
Resource group	rg-storage-001


Job details

Drives	S3Z8NB0M334139P
Verbose logging	Enabled
Storage account	sablobstorage0001
Drop-off location	East US







Create< PreviousNext >Download a template for automation



# Create Import Job in Azure Portal


 **Microsoft Azure**

Search resources, services, and docs (G+ /)


     

mbender@bentech.net  
BENDER TECHNOLOGY CONSULT...

Home >

Create import/export job 

Create import/export job

 Validation passed. Click 'Create' to create the Import job.

Return address123 Carved Rock Blvd Draper 53590 US

Terms

Privacy

Your privacy is important to us. Microsoft uses the personal data you provide on this form as necessary to complete any transaction as part of the service. If you need to provide personal data in order to complete your registration or an order, you agree that we may share such data with your consent with select third party shipping companies working on our behalf to help provide the service you have requested. If you would like to make changes to, or request deletion of the personal data provided to the third party shipping companies, please contact the third party shipping company directly.

For more information about Microsoft's privacy practices, see <https://aka.ms/privacy>

Source data deletion

The Import/Export service is designed to transport a copy of the customer's data. Please do not delete the source data until the upload to/export from Azure is successful.

☒ I acknowledge that all the information provided is correct and agree to the terms and conditions above.

Create


< Previous


Next >


[Download a template for automation](#)



# Create Import Job in Azure Portal

 Microsoft Azure

 Search resources, services, and docs (G+)




mbender@bentech.net  
BENDER TECHNOLOGY CONSULT...


Home >

Create import/export job


Create import/export job


 Validation passed. Click 'Create' to create the Import job.

☒ I acknowledge that all the information provided is correct and agree to the terms and conditions above.

 **Next steps**  
Ship your drives to this address:

Job: job-import-002  
Microsoft Azure Import/Export Service  
21625 Gresham Drive  
Ashburn, VA 20147 USA



 Update job status and tracking info in the settings.  
Please allow 7 to 10 days for the job to complete after the disks have been received at the data center.

Create

< Previous

Next >

[Download a template for automation](#)



# Verify Job Status

The screenshot displays the Microsoft Azure portal interface for an Import/export job named 'job-import-001'. The job is currently in the 'Creating' state. A warning message at the top states: 'For job to progress, provide the tracking information. The job will be deleted if tracking information is not updated within 2 weeks of job creation →'. The left sidebar contains navigation links for Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Settings (Manage shipping info, Encryption, Properties, Locks), Monitoring (Diagnostics), and Automation. The main content area shows job details under the 'Essentials' section, including Resource group (rg-storage-001), Location (East US), Subscription (Visual Studio Enterprise), and Subscription ID (afab04a1-b389-446a-9228-ad4d59680dc6). Below this, a table titled '1 drive' lists the drive details.

Drive ID	Drive state	Copy status	Percent complete
<a href="#">S3Z8NB0M334139P</a>	Specified	-	-



# Verify Job Status

Microsoft Azure

Search resources, services, and docs (G+)

Home > Import/export jobs >

**job-import-001**  
Import/export job

Search (Ctrl+ /)

Cancel job → Move ▾ Delete Refresh

⚠ For job to progress, provide the tracking information. The job will be deleted if tracking information is not up

**Essentials**

Resource group (change)	Overall percent completed
rg-storage-001	-
Job status	Storage account
Creating	sablobstorage0001
Location	Type
East US	Import
Subscription (change)	Delivery tracking number
Visual Studio Enterprise	-
Subscription ID	Return tracking number
afab04a1-b389-446a-9228-ad4d59680dc6	-

**1 drive**

Drive ID	Drive state	Copy status
S3Z8NB0M334139P	<i>i</i> Specified	-

Successfully updated import/export job 3:39 PM  
Successfully updated import/export job 'job-import-001'.

Save Discard

☒ Mark as shipped

Carrier \*  
ups ✓

Tracking number \*  
100011000011 ✓



# Verify Job Status


The screenshot displays the Microsoft Azure portal interface for an import/export job. The top navigation bar includes the 'Microsoft Azure' logo, a search bar, and user information for 'mbender@bentech.net'. The breadcrumb trail shows 'Home > Import/export jobs >'. The job name 'job-import-001' is prominently displayed with a cloud upload icon and a link icon. Below the job name is a search bar and a set of action buttons: 'Cancel job', 'Move', 'Delete', and 'Refresh'. A blue information banner at the top of the job details section states: 'Transfer data securely to Azure using disks sent by Microsoft. Create a new Azure Data Box Disk order. →'. The left sidebar contains navigation links for Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Settings (Manage shipping info, Encryption, Properties, Locks), Monitoring (Diagnostics), and Automation. The main content area is divided into two columns under the 'Essentials' section. The left column lists key attributes: Resource group (rg-storage-001), Job status (Shipping), Location (East US), Subscription (Visual Studio Enterprise), and Subscription ID (afab04a1-b389-446a-9228-ad4d59680dc6). The right column lists: Overall percent completed (-), Storage account (sablostorage0001), Type (Import), Delivery tracking number (100011000011), and Return tracking number (-). Below this, a section titled '1 drive' contains a table with the following data:

Drive ID	Drive state	Copy status	Percent complete
<a href="#">S3Z8NB0M334139P</a>	Specified	-	-











# Verify Job Status

 **Microsoft Azure**


Search resources, services, and docs (G+ /)

mbender@bentech.net  
BENDER TECHNOLOGY CONSULT...


Home >

Select your Azure Data Box ×



## Get started with Data Box

Select where your data resides and the destination Azure region for data transfer.




### Transfer type

Use import to copy data to Azure and export to copy data from Azure.

Transfer type \* ⓘ

Import to Azure ▼




### Subscription

Select a subscription you want to use to order a Data Box.

Subscription \*

Visual Studio Enterprise ▼




### Resource group

Select a resource group you want to use to order a Data Box.

Resource group \* ⓘ

rg-storage-001 ▼




### Source country

Select a country where the data resides.

Source country \* ⓘ

United States ▼



### Destination Azure region

Select an Azure region where you want to transfer the data.

Destination Azure region \* ⓘ

East US ▼

Apply



# Verify Job Status

**Microsoft Azure** Search resources, services, and docs (G+)

Home >

## Select your Azure Data Box

### Data Box Disk

The Data Box service is allowed only for EA, CSP, Microsoft Partner Network, Sponsorship Offer Types.

# 40<sub>TB</sub>

Total capacity per order

Select

- ✓ 35 TB usable capacity
- ✓ Up to 5 disks per order
- ✓ Supports Azure Blobs, Files, Managed Disks and ADLS Gen2 accounts
- ✓ Copy data to 1 storage

### Data Box

The Data Box service is allowed only for EA, CSP, Microsoft Partner Network, Sponsorship Offer Types.

# 100<sub>TB</sub>

Total capacity per order

Select

- ✓ 80 TB usable capacity
- ✓ 10 day use at no extra cost
- ✓ Supports Azure Blobs, Files, Managed Disks and ADLS Gen2 accounts
- ✓ Copy data across 10 storage

### Data Box Heavy

The Data Box service is allowed only for EA, CSP, Microsoft Partner Network, Sponsorship Offer Types.

# 1000<sub>TB</sub>

Total capacity per order

Select

- ✓ 800 TB usable capacity
- ✓ 20 day use at no extra cost
- ✓ Supports Azure Blobs, Files, Managed Disks and ADLS Gen2 accounts
- ✓ Copy data across 10 storage

### Send your own disks

# 1<sub>TB</sub>

Onwards

Select

- ✓ Send up to 10 disks per order
- ✓ Supports SATA/SSD disks
- ✓ Supports Azure Blobs and Files
- ✓ Copy data to 1 storage account
- ✓ SATA II/III interface



# Verify Job Status

The screenshot displays the Microsoft Azure portal interface for an import/export job named 'job-import-001'. The top navigation bar includes the 'Microsoft Azure' logo, a search bar, and user information for 'mbender@bentech.net'. The left sidebar contains navigation links for 'Home', 'Overview', 'Activity log', 'Access control (IAM)', 'Tags', 'Diagnose and solve problems', 'Settings', 'Monitoring', and 'Automation'. The main content area shows the job details for 'job-import-001', including a search bar, action buttons (Cancel job, Move, Delete, Refresh), and two informational messages. The 'Essentials' section provides key job information in a table format. At the bottom, a table lists the drives involved in the job.

**Microsoft Azure** Search resources, services, and docs (G+)

Home > **job-import-001** Import/export job

Search (Ctrl+/) << Cancel job → Move ▾ Delete Refresh

Transfer data securely to Azure using disks sent by Microsoft. Create a new Azure Data Box Disk order. →

Choose how your BitLocker keys are encrypted.

**Essentials**

Resource group ( <a href="#">change</a> )	Overall percent completed
<a href="#">rg-storage-001</a>	-
Job status	Storage account
Shipping	<a href="#">sablostorage0001</a>
Location	Type
East US	Import
Subscription ( <a href="#">change</a> )	Delivery tracking number
<a href="#">Visual Studio Enterprise</a>	100011000011
Subscription ID	Return tracking number
afab04a1-b389-446a-9228-ad4d59680dc6	-

**1 drive**

Drive ID	Drive state	Copy status	Percent complete
----------	-------------	-------------	------------------



# Verify Job Status

The screenshot displays the Microsoft Azure portal interface. At the top, the header includes the 'Microsoft Azure' logo, a search bar, and user information for 'mbender@bentech.net'. The breadcrumb trail shows 'Home > job-import-001'. The main section is titled 'job-import-001 | Encryption' with a sub-label 'Import/export job'. A left-hand navigation pane lists various settings and monitoring options, with 'Encryption' currently selected. The main content area shows the 'Device BitLocker key' section, which includes a table with 'Drive ID' and 'BitLocker key' columns. The 'Encryption type' section below explains the difference between Microsoft managed and Customer managed keys, with a note indicating that switching to a Microsoft managed key is not possible once a Customer managed key is selected. At the bottom, there are radio buttons to 'Select type', with 'Microsoft managed key' currently selected.

Microsoft Azure Search resources, services, and docs (G+)

Home > job-import-001

job-import-001 | Encryption  
Import/export job

Search (Ctrl+ /)

Overview  
Activity log  
Access control (IAM)  
Tags  
Diagnose and solve problems

Settings  
Manage shipping info  
Encryption  
Properties  
Locks

Monitoring  
Diagnostics

Automation

Device BitLocker key

Drive ID	BitLocker key
S3Z8NB0M334139P	302104-137742-316492-334015-125268-514877-010736-507089

Encryption type

Your BitLocker key is protected by default using a Microsoft managed key. Select the Customer managed key to use your own key from the key vault.  
[Learn more about customer managed keys.](#)

After you select the customer managed key, you can't switch to Microsoft managed key. With customer managed key, your job has access to the selected key vault. Both soft delete and purge protection are enabled on the key vault and can't be disabled.

Select type

☒ Microsoft managed key  
☐ Customer managed key



# Verify Job Status

**Microsoft Azure** Search resources, services, and docs (G+)

Home > **job-import-001** Import/export job

Search (Ctrl+/) << Cancel job → Move ▾ Delete Refresh

Transfer data securely to Azure using disks sent by Microsoft. Create a new Azure Data Box Disk order. →

**Essentials**

Resource group (change) <a href="#">rg-storage-001</a>	Overall percent completed -
Job status Shipping	Storage account <a href="#">sablostorage0001</a>
Location East US	Type Import
Subscription (change) <a href="#">Visual Studio Enterprise</a>	Delivery tracking number 100011000011
Subscription ID afab04a1-b389-446a-9228-ad4d59680dc6	Return tracking number -

**1 drive**

Drive ID	Drive state	Copy status
<a href="#">S3Z8NB0M334139P</a>	<b>Specified</b>	-

**S3Z8NB0M334139P** job-import-001

Drive ID  
S3Z8NB0M334139P

Copy status  
-

Manifest information

Manifest file **Copy to clipboard**  
[\DriveManifest.xml](#)

Hash  
[AB938CA5CEEE827ACC67032D0...](#)

URI  
-

Log URI

https://portal.azure.com/#@BenderTechnology.onmicrosoft.com/resource/subs...



# Export Job in the Azure Portal Walkthrough

---



# Create Export Job in Azure Portal

Azure Marketplace

[See all](#)

Get started

Recently created

AI + Machine Learning

Analytics

Blockchain

Compute

Containers

Databases


Developer Tools

DevOps


Identity

Integration


Popular




Windows Server 2016 Datacenter  
[Quickstarts + tutorials](#)




Ubuntu Server 18.04 LTS  
[Learn more](#)




Web App  
[Quickstarts + tutorials](#)



SQL Database  
[Quickstarts + tutorials](#)



Function App  
[Quickstarts + tutorials](#)



Azure Cosmos DB



# Create Export Job in Azure Portal



## Import export job

Microsoft

[Save for later](#)

Create

Overview

Plans

Usage Information + Support

Azure Import/Export Service allows you to securely transfer large amounts of data to Azure blob storage by shipping hard disk drives to an Azure data center. You can also use this service to transfer data from Azure blob storage to hard disk drives and ship to your on-premises site. This service is suitable in situations where you want to transfer several TBs of data to or from Azure, but uploading or downloading over the network is not feasible due to limited bandwidth or high network costs.

### More offers from Microsoft



#### Workspace

Microsoft

Windows Virtual Desktop resource



#### Wire Data 2.0

Microsoft

Provides the ability to explore wire data and helps identify network



#### Microsoft HPC Pack 2012 R2

Microsoft

Enterprise-class HPC solution. Easy to deploy, cost-effective and



#### Windows Server 2019 Datacenter (zh-cn)

Microsoft

Azure Hybrid Benefit for Windows





# Create Export Job in Azure Portal

[Home](#) > [Import/export jobs](#) >

## Create import/export job

Create import/export job

[Basics](#) [Job details](#) [Shipping](#) [Tags](#) [Review + create](#)

### Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription \*

Visual Studio Enterprise

Resource group \* ⓘ

rg-storage-001

[Create new](#)

Name \*

job-export-002

Type

☒ Import into Azure ☐ Export from Azure

[Review + create](#) [< Previous](#) [Next : Job details >](#)

# Create Export Job in Azure Portal


Home > Import/export jobs >


## Create import/export job


Create import/export job

Basics Job details Shipping Tags Review + create

**Data source**

Source Azure region \* East US 

Storage account \* ⓘ sablobstorage0001 

Drop-off location East US 

Blobs to export

- ☒ Export all
- ☐ Selected containers and blobs
- ☐ Export from blob list file (XML format)

☒ Save verbose log in the 'waimportexport' blob container

[Review + create](#) [< Previous](#) [Next : Shipping >](#)



# Create Export Job in Azure Portal

[Home](#) > [Import/export jobs](#) >

## Create import/export job

Create import/export job

[Basics](#) [Job details](#) [Shipping](#) [Tags](#) [Review + create](#)

### Data source

Source Azure region \*

Storage account \* ⓘ

Drop-off location

Blobs to export

☐ Export all

☒ Selected containers and blobs

☐ Export from blob list file (XML format)

Type	Path
<a href="#">Add containers</a>	
<a href="#">Add blobs</a>	
<a href="#">Add prefixes</a>	

☒ Save verbose log in the 'waimportexport' blob container

[Review + create](#) [< Previous](#) [Next : Shipping >](#)

# Create Export Job in Azure Portal

Home > Import/export jobs > Create import/export job >

## Containers ×

sablobstorage0001

[+ Container](#) [↻ Refresh](#)

🔍 Search containers by prefix

Name	Last modified	Public access level	Lease state	
<input checked="" type="checkbox"/> blobexport	10/23/2020, 11:14:55 AM	Private	Available	...
<input type="checkbox"/> blobimport	10/20/2020, 4:58:05 PM	Private	Available	...

Select



# Create Export Job in Azure Portal

Home > Import/export jobs >

## Create import/export job

Create import/export job

Basics **Job details** Shipping Tags Review + create

**Data source**

Source Azure region \*

Storage account \* ⓘ

Drop-off location

Blobs to export

☐ Export all

☒ Selected containers and blobs

☐ Export from blob list file (XML format)

Type	Path
Container	/blobexport ...

[Add containers](#)

[Add blobs](#)

[Add prefixes](#)

**Review + create** < Previous Next : Shipping >



# Create Export Job in Azure Portal

[Home](#) > [Import/export jobs](#) >

## Create import/export job

Create import/export job

✕

Contact name *	<input type="text" value="Felix Bender"/>	✓
Phone *	<input type="text" value="555-555-1212"/>	✓
Email *	<input type="text" value="felix@company.org"/>	✓
Street address 1 *	<input type="text" value="123 College Ave"/>	✓
Street address 2 (optional)	<input type="text"/>	
City *	<input type="text" value="Draper"/>	✓
State/Province	<input type="text" value="UT"/>	
Zip code *	<input type="text" value="53590"/>	✓
Country/Region *	<input type="text" value="US"/>	✓

☐ Save return address as default.

[Review + create](#) [< Previous](#) [Next : Tags >](#)



# Create Export Job in Azure Portal

[Home](#) > [Import/export jobs](#) >

## Create import/export job ×

Create import/export job

✖ Validation failed. Required information is missing or not valid.

[Basics](#) [Job details](#) [Shipping](#) [Tags](#) [Review + create](#)

### Basics

Name	job-export-002
Type	Export
Subscription	Visual Studio Enterprise
Resource group	rg-storage-001

### Job details

Containers	/blobexport
Verbose logging	Enabled
Storage account	sablobstorage0001
Drop-off location	East US

[Return shipping info](#)

[Create](#) [< Previous](#) [Next >](#) [Download a template for automation](#)



# Create Export Job in Azure Portal

[Home](#) > [Import/export jobs](#) >

## Create import/export job

×

Create import/export job

✓ Validation passed. Click 'Create' to create the Export job.

The Import/Export service is designed to transport a copy of the customer's data. Please do not delete the source data until the upload to/export from Azure is successful.

☒ I acknowledge that all the information provided is correct and agree to the terms and conditions above.

**i** **Next steps**

Ship your drives to this address:

Job: job-export-002  
Microsoft Azure Import/Export Service  
21625 Gresham Drive  
Ashburn, VA 20147 USA

**i**

Update job status and tracking info in the settings.  
Please allow 7 to 10 days for the job to complete after the disks have been received at the data center.

Create

< Previous

Next >

[Download a template for automation](#)





# Retrieving BitLocker Key from Azure Portal

Home > cmkexport1 | Encryption

cmkexport1 | Encryption

Import/export job

Search (Ctrl+ /)

<<

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Settings

Manage shipping info

Encryption

Properties

Locks

Export template

Monitoring

Diagnostics

Support + troubleshooting

New support request

Save

Discard

Download the latest WAImportExportTool to unlock the drives.

Device BitLocker key

Drive ID	BitLocker key
AB0123456789	< BitLocker key >

Encryption type

Your BitLocker key is protected by default using a Microsoft managed key. Select the Customer managed key to use your own key from the key vault.  
[Learn more about customer managed keys.](#)

After you select the customer managed key, you can't switch to Microsoft managed key. With customer managed key, your job has access to the selected key vault. Both soft delete and purge protection are enabled on the key vault and can't be disabled.

Select type

Microsoft managed key

Customer managed key

Current key

https://<usercomputername>.vault.azure.net/keys/key4/e0000000ed448329adf305dd7be9655

# Managing Data with Azure Storage Explorer and AZcopy

---



**Michael Bender**

AUTHOR EVANGELIST - PLURALSIGHT

@michaelbender



# AZCopy Command

```
Administrator: C:\Program Files\PowerShell\7\pwsh.exe
AzCopy 10.6.0
Project URL: github.com/Azure/azure-storage-azcopy

AzCopy is a command line tool that moves data into and out of Azure Storage.
To report issues or to learn more about the tool, go to github.com/Azure/azure-storage-azcopy

The general format of the commands is: 'azcopy [command] [arguments] --[flag-name]=[flag-value]'.

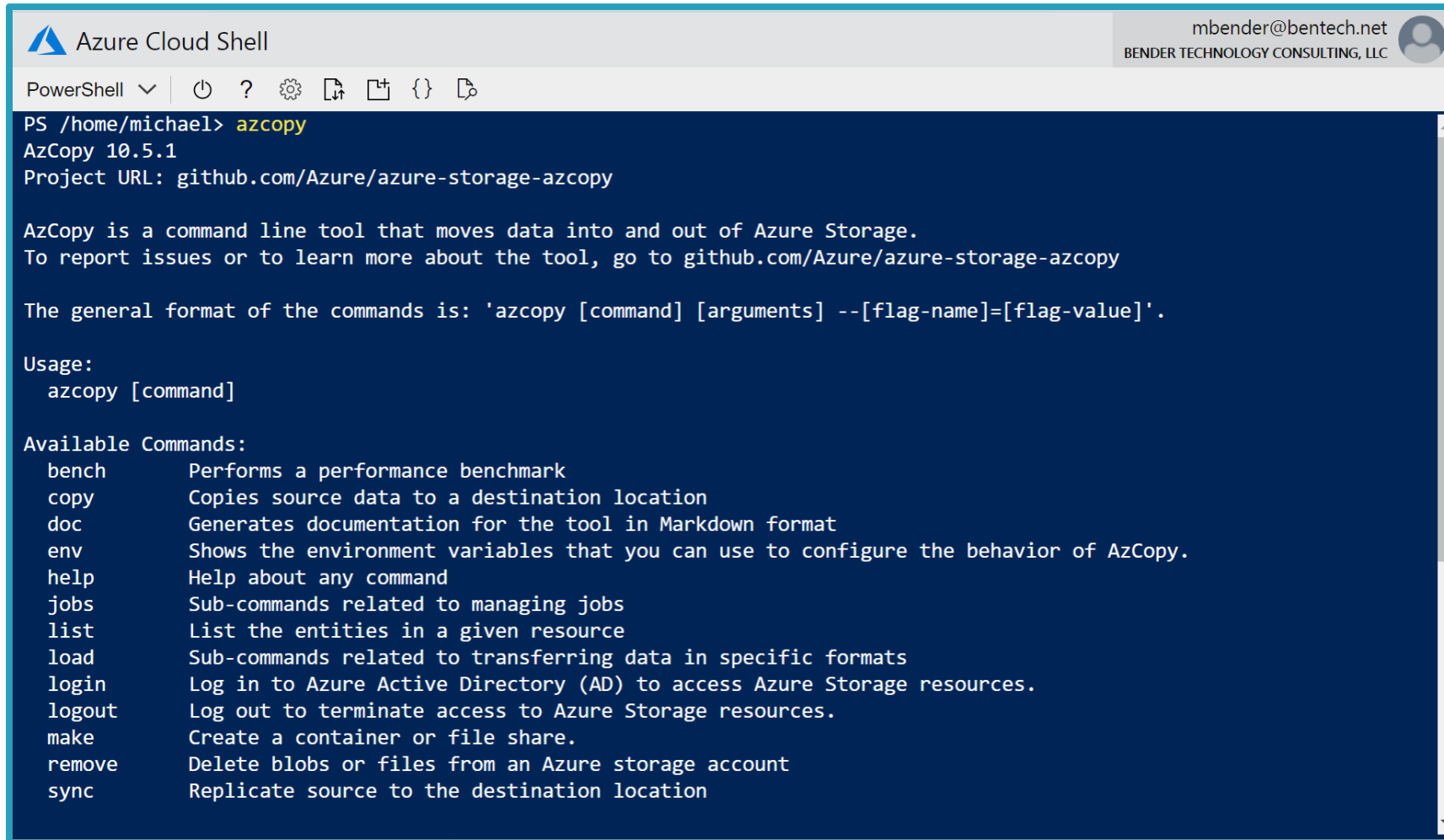
Usage:
  azcopy [command]

Available Commands:
  bench      Performs a performance benchmark
  copy       Copies source data to a destination location
  doc        Generates documentation for the tool in Markdown format
  env        Shows the environment variables that you can use to configure the behavior of AzCopy.
  help       Help about any command
  jobs       Sub-commands related to managing jobs
  list       List the entities in a given resource
  login      Log in to Azure Active Directory (AD) to access Azure Storage resources.
  logout     Log out to terminate access to Azure Storage resources.
  make       Create a container or file share.
  remove     Delete blobs or files from an Azure storage account
  sync       Replicate source to the destination location

Flags:
  --cap-mbps float          Caps the transfer rate, in megabits per second. Moment-by-moment throughput might vary slightly from the cap. If this option is set to zero, or it is omitted, the throughput isn't capped.
```



# AZCopy Command



```
Azure Cloud Shell
PowerShell
PS /home/michael> azcopy
AzCopy 10.5.1
Project URL: github.com/Azure/azure-storage-azcopy

AzCopy is a command line tool that moves data into and out of Azure Storage.
To report issues or to learn more about the tool, go to github.com/Azure/azure-storage-azcopy

The general format of the commands is: 'azcopy [command] [arguments] --[flag-name]=[flag-value]'.

Usage:
  azcopy [command]

Available Commands:
  bench      Performs a performance benchmark
  copy       Copies source data to a destination location
  doc        Generates documentation for the tool in Markdown format
  env        Shows the environment variables that you can use to configure the behavior of AzCopy.
  help       Help about any command
  jobs       Sub-commands related to managing jobs
  list       List the entities in a given resource
  load       Sub-commands related to transferring data in specific formats
  login      Log in to Azure Active Directory (AD) to access Azure Storage resources.
  logout     Log out to terminate access to Azure Storage resources.
  make       Create a container or file share.
  remove     Delete blobs or files from an Azure storage account
  sync       Replicate source to the destination location
```



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

AzCopy Syntax



```
azcopy copy 'H:\data'  
'https://sablostore001.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



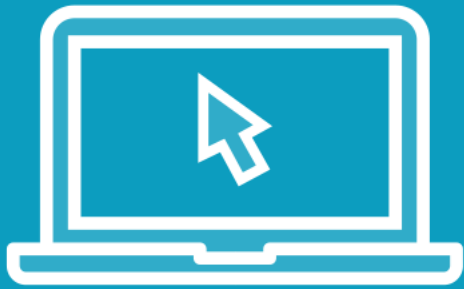
## Migrating Data with AZCopy

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





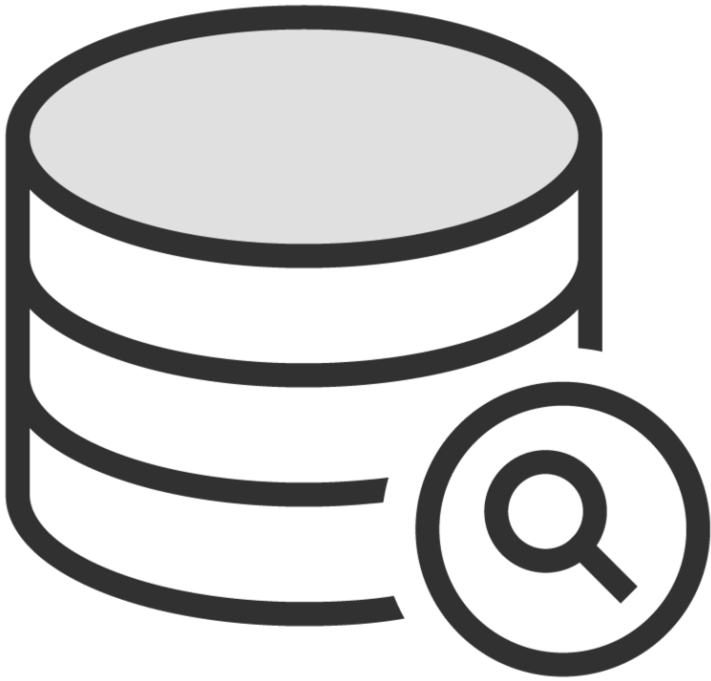
# Demo



**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](https://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](https://pluralsight.com) or  
**@Michaelbender** on Twitter

