# **Azure Blob Storage: Guide to Downloading Files**

This guideline is intended to show how to download files from an Azure blob container using two different methods. You can download files using the *azcopy* utility (available on all macOS/Windows/Linux platforms) and Azure Storage Explorer (also available for all platforms). The Azure Storage Explorer method is the easiest, as it does not require any experience with command line.

## **1. Azure Storage Explorer**

Azure Storage Explorer provides a GUI to manage Azure Storage. [Download it from the official website and install it on your system](https://azure.microsoft.com/en-us/products/storage/storage-explorer/).

This tool simplifies managing and downloading files without using command-line tools. Use the following steps to download blob files using Azure Storage Explorer:

1. Open Azure Storage explorer and click on **Open Connect Dialog** on the upper right corner of the screen. Select **Blob Container or directory** as shown on the screenshot below:

A screenshot of a computer

Description automatically generated

1. Select **Shared access signature URL (SAS)** and click ‘Next’:

A screenshot of a computer

Description automatically generated

1. Fill **Display name** (any name can be specified) and **Blob container or directory SAS URL** fields. Use the following values:

* For **Display Name**: sample-data
* For **Blob container or directory SAS URL:** <https://euaswhackaton2024data.blob.core.windows.net/sample-data?si=hackaton-students-r&spr=https&sv=2022-11-02&sr=c&sig=7hzGTl807njGmdJ%2B6jWcD5BNs4IMDEyKzw1gIIDPhAs%3D>

A screenshot of a computer

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1. Click ‘Next’ and then click on ‘Connect’
2. Make sure you now can access files in container:

A screenshot of a computer

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1. To download the entire folder: Select the folder -> Click **Download** button on the top bar -> Select a local folder for downloading:

A screenshot of a computer

Description automatically generated

1. Click on ‘Show in folder’

A black screen with white text

Description automatically generated

1. To Download a single file: Navigate to the folder containing a file -> Select the file -> Click **Download** button on the top bar -> Select a local folder for downloading:

A screenshot of a computer

Description automatically generated

## **2. AZCopy**

AZCopy is a command-line utility for copying data to/from Azure Storage.

1. To use it for downloading files, first ensure it's installed. You can download [AZCopy from the official Microsoft website](https://learn.microsoft.com/en-us/azure/storage/common/storage-use-azcopy-v10).
2. Navigate to the folder where *azcopy* archive has been downloaded.
3. Extract *azcopy* binary file from downloaded tar/zip archive:

* For MacOS: unzip example.zip
* For Windows users:
  + Navigate to the Download Folder: After downloading, navigate to the folder where the AZCopy archive has been saved.
  + Extract the Archive: Use 7zip or a similar utility to extract the files from the downloaded archive.
  + Open PowerShell in the Folder: In the folder where AZCopy is extracted, press on an empty space while holding Shift, then right-click and select "Open PowerShell window here."
  + Execute AZCopy Command: In the PowerShell terminal, execute the AZCopy command to begin copying data. For example:

azcopy copy "https://euaswhackaton2024data.blob.core.windows.net/sample-data/<path-to-the-blob>?<SAS-token>" "<local-destination-path>" --recursive

A computer screen with white text

Description automatically generated

* For Linux/MacOS Users:
  + Navigate to the Download Folder: Move to the directory where the AZCopy tar.gz archive has been downloaded.
  + Extract the Archive: Use the command below to extract the AZCopy binary from the downloaded archive: tar -xvf <fileName>.tar.gz
  + Check AZCopy Version: Verify the AZCopy version by navigating to the directory where it's extracted and running: ./azcopy –version
  + Add AZCopy to PATH (Optional): To easily run AZCopy from any location, add the binary to your PATH environment variable using: export PATH=$PATH:/path/to/azcopy
  + Execute AZCopy Command: In the PowerShell terminal, execute the AZCopy command to begin copying data.

**Common Steps for Copying Files:**

* Download Files from a Blob Container: Use the following command format to download files. Replace <SAS-token>, <path-to-the-blob>, and specify the local destination path:
* azcopy copy "https://euaswhackaton2024data.blob.core.windows.net/data/<path-to-the-blob>?<SAS-token>" "<local-destination-path>" --recursive

Example #1:  
azcopy copy "https://euaswhackaton2024data.blob.core.windows.net/sample-data/data?si=hackaton-students-r&spr=https&sv=2022-11-02&sr=c&sig=7hzGTl807njGmdJ%2B6jWcD5BNs4IMDEyKzw1gIIDPhAs%3D" "/home/User.Name/hackaton\_dir" --recursive

In this example, the entire **data** folder will be downloaded at **/home/User.Name/hackaton\_dir** local path.

Example #2:  
azcopy copy "https://euaswhackaton2024data.blob.core.windows.net/sample-data/data/dimensions/bu.csv.gz?si=hackaton-students-r&spr=https&sv=2022-11-02&sr=c&sig=7hzGTl807njGmdJ%2B6jWcD5BNs4IMDEyKzw1gIIDPhAs%3D" "/home/User.Name/hackaton\_dir"

In this example, a single file **bu.csv.gz** located at /**data/dimensions** will be downloaded at **/home/User.Name/hackaton\_dir** local path.

If you do not know the exact name and path to a particular blob, the following command can be used to view the contents of the container:

**azcopy list**

"https://euaswhackaton2024data.blob.core.windows.net/sample-data?si=hackaton-students-r&spr=https&sv=2022-11-02&sr=c&sig=7hzGTl807njGmdJ%2B6jWcD5BNs4IMDEyKzw1gIIDPhAs%3D"

**Recieved output:**

INFO: data/dimensions/bu.csv.gz; Content Length: 121.00 B

INFO: data/dimensions/customer\_mit.csv.gz; Content Length: 11.26 MiB

INFO: data/dimensions/product\_mit.csv.gz; Content Length: 469.98 KiB

INFO: data/dimensions/store\_mit.csv.gz; Content Length: 7.63 KiB

INFO: data/transactions\_mit/transaction\_mit\_30.csv.gz; Content Length: 1.00 MiB