# Script to Restore Files and Folders from Azure Blob Storage

Contents

[Script to Restore Files and Folders from Azure Blob Storage 1](#_Toc149311211)

[Introduction 1](#_Toc149311212)

[Pre-requisites 2](#_Toc149311213)

[Script Location 2](#_Toc149311214)

[Parameters 2](#_Toc149311215)

[Usage Examples 2](#_Toc149311216)

[Restore a Single File 2](#_Toc149311217)

[Restore a Directory 2](#_Toc149311218)

[Script Explanation 2](#_Toc149311219)

[Read Command-Line Arguments 3](#_Toc149311220)

[Configuration Values 3](#_Toc149311221)

[Generate Restore Command 3](#_Toc149311222)

[Restore Operation 3](#_Toc149311223)

[Validation 3](#_Toc149311224)

[Troubleshooting 3](#_Toc149311225)

[Summary 3](#_Toc149311226)

[Soft Delete for Blob Items in Azure Blob Storage 4](#_Toc149311227)

[Overview 4](#_Toc149311228)

[Enabling Soft Delete in Azure Blob Storage 4](#_Toc149311229)

[Steps to Undelete a Blob Item 4](#_Toc149311230)

[Note 4](#_Toc149311231)

[Summary 4](#_Toc149311232)

## Introduction

The **restoreData.sh** script is a utility to restore files and directories from Azure Blob storage to a local filesystem that utilizes Lustre. This script automates several operations like reading configurations, forming restore commands, and restoring data.

This document provides an in-depth guide on how to use this script effectively.

### Pre-requisites

* Bash environment.
* Read and write permissions to the target filesystem.
* Azure CLI tool installed and configured.
* Configuration files **/etc/azurestorage.env** and **/etc/lhsmd/lhsm-plugin-az** available with necessary Azure storage credentials.

### Script Location

Place this script in the **/usr/sbin** directory of the Robinhood Policy server. You can run this script as **/usr/sbin/restoreData.sh**.

### Parameters

The script accepts the following command-line parameters:

* **--blob-path** : Specifies the path to the item in Azure Blob storage that needs to be restored.

## Usage Examples

### Restore a Single File

To restore a single file, run the script as follows:

* /usr/sbin/restoreData.sh --blob-path restoreTest/mydata.txt

This will restore the **mydata.txt** file from the **restoreTest** directory in Azure Blob storage to the Lustre filesystem location specified in the configuration.

### Restore a Directory

To restore an entire directory, including subfolders execute:

* /usr/sbin/restoreData.sh --blob-path labwork/mydata

This will restore the entire **mydata** directory as well as any subfolders and files from the **labwork** directory in Azure Blob storage.

## Script Explanation

### Read Command-Line Arguments

The script starts by reading any command-line arguments passed to it. It currently supports the **--blob-path** parameter to specify which item (file/directory) to restore.

### Configuration Values

The script reads Azure storage credentials and other required information from the configuration files **/etc/azurestorage.env** and **/etc/lhsmd/lhsm-plugin-az**. This is the reason the Robinhood server is a requirement.

### Generate Restore Command

The restore command is generated based on the blob path provided and the values read from the configuration files.

### Restore Operation

The actual restore operation is performed using the **azure-import** command. The script sets the necessary environment variables and executes the restore command.

### Validation

After the restore operation, the script checks whether the item was successfully restored and provides appropriate messages.

### Troubleshooting

* If you encounter an "Unknown parameter passed" error, make sure you are using the **--blob-path** argument correctly.
* If the message "One or more required configurations are missing" appears, check your configuration files for missing or incorrect entries.

### Summary

The **restoreData.sh** script simplifies the process of restoring files and directories from Azure Blob storage to a local filesystem. By abstracting away many manual steps, it makes it easy to automate your backup and restore process.

That's it! You now know how to use the **restoreData.sh** script to restore your files and directories from Azure Blob storage.

## Soft Delete for Blob Items in Azure Blob Storage

### Overview

Before you can make use of the **restoreData.sh** script for restoring blob items, it's essential to enable the Soft Delete feature in your Azure Blob Storage. This feature retains deleted blobs for a specified period, making it possible to restore them when required.

### Enabling Soft Delete in Azure Blob Storage

1. **Azure Portal:** Navigate to your Azure Blob Storage account on the Azure Portal.
2. **Blob Service:** Under the "Blob service" section, click on "Data protection".
3. **Enable Soft Delete:** Find the "Soft delete" option and enable it. Configure how long the deleted blob data should be retained.

### Steps to Undelete a Blob Item

To undelete a blob item that has been soft deleted, you can follow the following method:

1. **Azure Portal:**

* Navigate to your Azure Blob Storage account.
* Go to the container where the blob was initially stored.
* Click on "Show deleted blobs" at the top.
* Select the blob you want to undelete and click "Undelete".

### Note

The Soft Delete feature incurs extra costs for storing the soft-deleted items for the retention period. Make sure you are aware of these costs.

### Summary

Enabling Soft Delete in Azure Blob Storage is crucial for the effectiveness of the **restoreData.sh** script in scenarios that require data restoration. Always ensure that Soft Delete is enabled and configured correctly to make the most of your data backup and restore processes.