

# How to Migrate Amazon S3 Storage to Vultr Object Storage

Learn how to seamlessly migrate your data from Amazon S3 to Vultr Object Storage with our step-by-step guide covering tools, best practices, and cost benefits.

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# Introduction

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Migrating Object Storage requires strategic planning to ensure minimal downtime for active applications. Vultr Object Storage is a managed cloud storage solution that securely stores data as objects. Migrating from Amazon S3 to Vultr Object Storage lets you store, optimize, and retrieve your data and applications with high availability.

Follow this guide to migrate from Amazon S3 to Vultr Object Storage and automate all data transfers to automatically synchronize buckets.

## Prerequisites

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Before you begin, you need to:

- Have an existing Amazon S3 subscription.
- [Retrieve the Amazon S3 access credentials](#) from the Amazon Identity and Access Management (IAM) dashboard.
- [Provision a Vultr Object Storage subscription](#) and retrieve the S3 Credentials in the **Overview** tab.
- Deploy an [Ubuntu 24.04 instance on Vultr](#) to use as the management workstation and [enable the Limited User Login feature](#).
- Access the instance [using SSH](#).

## Set Up the Migration Environment

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Rclone is an open-source application used to manage and migrate cloud storage solutions. It supports S3-compatible storage such as Vultr Object Storage to manage files as objects. Follow the steps below to install and configure Rclone to authenticate with Amazon S3 and Vultr Object Storage on your workstation.

1. Update the server's package index.

CONSOLE

```
$ sudo apt update
```

2. Download the latest Rclone installation script.

CONSOLE

```
$ wget -O rclone.sh https://rclone.org/install.sh
```

3. Run the script to install Rclone.

CONSOLE

```
$ sudo bash rclone.sh
```

4. View the installed Rclone version.

CONSOLE

```
$ rclone version
```

Your output should be similar to the one below.

```
rclone v1.68.2
- os/version: ubuntu 24.04 (64 bit)
- os/kernel: 6.8.0-51-generic (x86_64)
- os/type: linux
- os/arch: amd64
- go/version: go1.23.3
- go/linking: static
- go/tags: none
```

## Configure Rclone to Authenticate with Amazon S3 and Vultr Object Storage

The default Rclone configuration does not include any storage configurations. Follow the steps below to [configure Rclone](#) to securely authenticate with Amazon S3 and Vultr Object Storage to migrate existing buckets and objects.

1. Generate a new Rclone configuration in your user environment.

CONSOLE

```
$ rclone config file
```

Your output should be similar to the one below.

```
Configuration file doesn't exist, but rclone will use this path:  
/home/linuxuser/.config/rclone/rclone.conf
```

2. Create the Rclone configuration using the generated path.

CONSOLE

```
$ nano /home/linuxuser/.config/rclone/rclone.conf
```

3. Add the following Amazon S3 configuration block to the file. Replace `YOUR_AWS_ACCESS_KEY` and `YOUR_AWS_SECRET_ACCESS_KEY` with your actual credentials.

INI

```
[aws]  
type = s3  
provider = AWS  
access_key_id = YOUR_AWS_ACCESS_KEY  
secret_access_key = YOUR_AWS_SECRET_ACCESS_KEY  
env_auth = false
```

4. Add the following Vultr Object Storage configuration block to the file. Replace `ewr1.vultrobjects.com` with your actual Vultr Object Storage hostname and `YOUR_VULTR_ACCESS_KEY`, `YOUR_VULTR_SECRET_ACCESS_KEY` with your S3 credentials.

```
INI

[vultr]
type = s3
provider = Other
access_key_id = YOUR_VULTR_ACCESS_KEY
secret_access_key = YOUR_VULTR_SECRET_ACCESS_KEY
endpoint = ewr1.vultrobjects.com
env_auth = false
```

Save and close the file.

5. Test the Rclone configuration and verify that both `aws` and `vultr` remotes are active.

```
CONSOLE

$ rclone config
```

Output:

```
Current remotes:

Name                Type
====                ==
aws                 s3
vultr               s3
```

6. Enter `Q` to exit the Rclone configuration mode. Then, run the following command to verify your configuration values.

```
CONSOLE

$ rclone config show
```

Your output should be similar to the one below.

```
[aws]
type = s3
provider = AWS
access_key_id = example-access-key123
secret_access_key = example-secret-key123
env_auth = false

[vultr]
type = s3
provider = Other
access_key_id = example-access-key123
secret_access_key = example-secret-key123
endpoint = ewr1.vultrobjects.com
env_auth = false
```

## Migrate Amazon S3 Buckets to Vultr Object Storage

You can migrate specific Amazon S3 objects or entire storage buckets to Vultr Object Storage. Follow the steps below to migrate all Amazon S3 buckets to Vultr Object Storage including all existing objects.

1. Migrate all Amazon S3 buckets to Vultr Object Storage and monitor the transfer process.

CONSOLE

```
$ rclone sync aws: vultr: --progress
```

Your output should be similar to the one below when successful.

```
Transferred:      1.191 MiB / 1.191 MiB, 100%, 287.950 KiB/s, ETA 0s
Checks:          10 / 10, 100%
Deleted:         10 (files), 0 (dirs), 725.997 KiB (freed)
```

```
Transferred:      19 / 19, 100%  
Elapsed time:     5.8s
```

The above transfer may take some time to complete depending on the size of your Amazon S3 storage. Monitor the process and verify that the transfer is successful with a `100%` prompt in your output.

2. Run the following command to migrate a specific bucket to Vultr Object Storage. Replace `avultrmigration` with your actual bucket name.

#### CONSOLE

```
$ rclone sync aws:awsavultrmigration vultr:awsavultrmigration  
--progress
```

Output:

```
Transferred:      4.424 MiB / 4.424 MiB, 100%, 0 B/s, ETA -  
Checks:           1 / 1, 100%  
Transferred:      1 / 1, 100%  
Elapsed time:     1.8s
```

## Set Up Automatic Object Storage Migration Using Cron

You can set up automatic migrations to Vultr Object Storage using Cron to run Rclone at specific intervals. Automating the migration process is important when the source Amazon S3 storage is actively in-use and requires real-time migration to the destination Vultr Object Storage subscription. Follow the steps below to create a new cron job that runs every 30 minutes to synchronize Amazon S3 buckets to Vultr Object Storage.

1. Open the Crontab file.

#### CONSOLE

```
$ sudo nano /etc/crontab
```

2. Add the following cron entry at the end of the file.

```
INI
*/30 * * * * linuxuser /usr/bin/rclone sync aws: vultr: --
progress >> /var/log/awsvultrmigration.log 2>&1
```

Save and close the file.

The above cron job runs the Rclone migration command every 30 minutes and redirects all logs to the `/var/log/awsvultrmigration.log` file.

## Test Vultr Object Storage and Cut-over Applications

Follow the steps below to test the migrated Vultr Object Storage buckets and verify that the data matches with the source Amazon S3 storage.

1. Run the following command to verify that the source Amazon S3 data matches with the destination Vultr Object Storage.

```
CONSOLE
$ rclone check aws: vultr:
```

Your output should be similar to the one below.

```
2025/01/09 18:04:39 NOTICE: S3 root: 0 differences found
2025/01/09 18:04:39 NOTICE: S3 root: 19 matching files
```

2. Run the following command to verify that a specific Amazon S3 bucket matches the destination Vultr Object Storage bucket. Replace `awsvultrmigration` with your actual bucket name.

```
CONSOLE
```

```
$ rclone check aws:awsvultrmigration vultr:awsvultrmigration
```

Your output should be similar to the one below.

```
2025/01/09 18:06:07 NOTICE: S3 bucket awsvultrmigration: 0 differences found  
2025/01/09 18:06:07 NOTICE: S3 bucket awsvultrmigration: 10 matching files
```

### Note

You have migrated from Amazon S3 to Vultr Object Storage and verified that the source objects match the destination. Cut over all existing applications to Vultr Object Storage before deleting any objects in your Amazon S3 buckets.

## Conclusion

You have migrated from Amazon S3 to Vultr Object Storage using Rclone. You can migrate specific buckets to actively use both storage solutions to meet your application needs or move all existing buckets and objects to Vultr Object Storage. For more information on managing your Vultr Object Storage subscription, visit the [product documentation page](#).



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