Getting started with an object storage admin account

This page describes and shows how to get started as an admin for the Stratus object storage system.

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Using the web GUI to log into your S3 admin account

After connecting to the UCAR internal network or the VPN:

- Set your browser to point to this URL: https://stratus-admin.ucar.edu:10443/asview
- Enter your access ID and secret key

ActiveSo) Cale™ View	
Secret Key		
Secret Key	Login	
Figure 1.		

Creating buckets

Figure 2 shows the screen where you'll create buckets. To create a bucket, press the "Create Bucket" button and you'll be prompted for a bucket name. Note that the bucket name must be globally unique for the entire system. If a different account holder on the system already has a bucket with that name, you'll get an error. This behavior conforms with the AWS S3 API. (See also https://stackoverflow.com/a/59656742/25891)

cale View					💄 hdig@ucaredu
Buckets Users 0 0					Buckets As of 11:13:04 AM Feb 21, 2020
Type a prefix to search for buckets Q Search	h Create Bucket				A Download CSV
Bucket Name	Created	Size	Total Objects	Actions	
		No Bucke	Next ©		
3	ale View uckets Users 0 0 Type a prefix to search for buckets Q Search Bucket Name↑	ale View Iuckets Users 0 0 Create Bucket Bucket Name↑ Created	ale View Iuckets Users 0 0 Users 0 0 Create Bucket Bucket Name Create d Size No Bucke O Previous	ale View	Ale View

Figure 2.

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FIGULE 3 SHOWS	vour new duckei	and will show a	III VOUL DUCKELS AS	vou create them.

×))((Active	Scale View					📥 hdig@ucaredu
Buckets	Buckets Users					Buckets As of 11:13:53 AM Feb 21, 2020
My Account	Successfully created Bucket test-bucket-1					×
2 [- 2. [-	Type a prefix to search for buckets Q Search	Create Bucket				A Download CSV
2	Bucket Name ↑	Created	Size	Total Objects	Actions	
	test-bucket-1	2/21/2020 11:13 AM	O Bytes	0	ŧ	
			@ Previous	Next O		

Figure 3.

Now that a bucket has been created, you can write objects to the bucket and read from it using the access and secret keys that you used to log onto the web interface.

There are many clients that can be used to take S3 actions, such as transferring objects to/from the system, listing buckets, etc.

- For example, the *cyberduck* desktop client can be utilized.
- Or python scripts (using the boto3 library) can be used to perform S3 operations. CISL has tried alternative access libraries bucketstore and apache-libcloud, but they lack the ability to select the URL where to connect, and therefore cannot be used with CISL's hardware (only with AWS).

These other clients can also be used to create buckets and manage your account (not everything has to be done through this web interface).

When connecting to the system with a client to perform S3 operations (e.g., transfer data, etc.), use the IP name stratus.ucar.edu rather than stratusadmin.ucar.edu. The IP name stratus-admin.ucar.edu should only be used to connect to the administrative web GUI.

Granting permissions to other users

By default, only the account owner has the privileges to write to and read from buckets in the account. It's possible to grant other users on the system and even anonymous users (those without any keys) write and read privileges.

The account owner is responsible for informing additional users of CISL communications regarding this system, such as announcements of planned downtime, or ensuring that they subscribe to the "Stratus Object Storage" Notifier list.

To grant other users access, you may need to first add the user. Press the "Users" link on the left side of the screen and add the user. Once the user has been added click on a specific bucket name shown in the list of buckets in Figure 3. Figure 4 shows the options you will see for granting access. Selecting "User Permission" will allow you to grant access to a specific user.



Figure 4.

Grant User Permiss	sions		×
Select Users in your A	ccount		
Search users by Email			Search
Add Other Account of	r User		
Select Permissions		Decil D. J. J.	
Read Objects	Write Objects	Read Bucket Permissions	Write Bucket Permissions
			Cancel
			Gancer Grant

In the section titled "Add Other Account or User" as shown in Figure 5, enter the email address of the person you would like to grant access to. Next, select the permissions you want to grant:

Permission	Meaning
Read objects	Allows the user to read objects from the bucket
Write objects	Allows the user to write objects to the bucket

Read bucket permissions	Allows the user to read the permissions on the bucket and, for example, see what other users have permissions on the bucket
Write bucket permissions	Allows the user to change the permissions on a bucket. For example, a user could grant another user permissions on the bucket

Once granted, the specific user will have the permissions that you've configured for that bucket. Since each bucket has its own permissions, you'll need to set permissions for each bucket if you want other users to be able to access it.

It's also possible to grant permissions to what are termed public users. A public user is defined as either an *anonymous* user or an *authenticated* user. An anonymous user means a user who does not need any keys to access the bucket; *anonymous* users can only read objects from buckets. An *authenticated* user means any user on the system. To grant permissions to public users, click on "Public Permissions" in the screen that was visited earlier and shown in Figure 6.

Buckets	Buckets Users			Buckets As of 10:02:04 AM Feb 25, 2020
My Account	All buckets > test-bucket-1			
	Properties Public Permissions	User Permissions		
	Versioning	2-Site Replication	Object Lifecycle	
	Keep multiple versions of an object in the same bucket.	Automate copying of objects to second site.	Object Lifecycle manage lifecycle of objects in the bucket.	
	Disabled	Disabled	No lifecycle policy applied	
Figure 6.				
Buckets	Buckets Users			Buckets As of 10:03:59 AM Feb 25, 2020
Buckets Users My Account	Buckets 1 Users 1 0 All buckets > test-bucket-1			Buckets As of 10:03:59 AM Feb 25, 2020
Buckets Users My Account	Buckets Users 1 0 All buckets > test-bucket-1 Properties Properties Public Permissions	User Permissions		Buckets As of 10:03:59 AM Feb 25, 2020
Buckets Users My Account	Buckets Users 1 0 All buckets > test-bucket-1 Properties Public Permissions Authenticated Users	User Permissions		Buckets As of 10:03:59 AM Feb 25, 2020
Buckets Users My Account	Buckets Users 1 0 All buckets > test-bucket-1 Properties Public Permissions Authenticated Users Read Objects Write Objects	User Permissions Read Bucket Write Bucket Permissions Permissions		Buckets As of 10:03:59 AM Feb 25, 2020
Buckets Users My Account	Buckets Users 1 0 All buckets > test-bucket-1 Properties Public Permissions Authenticated Users Read Objects Write Objects X X	User Permissions Read Bucket Write Bucket Permissions Permissions X X		Buckets As of 10:03:59 AM Feb 25, 2020
Buckets Users My Account	Buckets Users 1 0 All buckets > test-bucket-1 Properties Public Permissions Authenticated Users Read Objects Write Objects * * X X Anonymous Users	Read Bucket Write Bucket Permissions Permissions X X		Buckets As of 10:03:59 AM Feb 25, 2020
Buckets Users My Account	Buckets Users 1 0 All buckets > test-bucket-1 Properties Public Permissions Authenticated Users Read Objects Write Objects X X Anonymous Users Read Objects	User Permissions Read Bucket Write Bucket Permissions Permissions X X		Buckets As of 10:03:59 AM Feb 25, 2020
Buckets Users My Account	Buckets Users 1 0 All buckets > test-bucket-1 Properties Public Permissions Authenticated Users Read Objects Write Objects X X Anonymous Users Read Objects X	User Permissions Read Bucket Permissions Permissions X X X		Buckets As of 10:03:59 AM Feb 25, 2020
 Buckets Users My Account 	Buckets Users 1 0 All buckets > test-bucket-1 Properties Public Permissions Authenticated Users Read Objects Write Objects X X Anonymous Users Read Objects X	User Permissions Read Bucket Write Bucket Permissions Permissions X X	ły	Buckets As of 10:03:59 AM Feb 25, 2020

Figure 7.

Select the permissions you want to grant, as shown in Figure 7, to enable access for *authenticated* users or *anonymous* users. Note that the Data Commons System is currently only reachable from devices on the internal UCAR network. Devices outside of the UCAR network are not able to access the storage system, even for *anonymous* access.

Vendor documentation

Here is a link to vendor documentation that may help you:

S3 API Reference

Glossary

AWS SDK - Amazon Web Services Software Development Kit for Python (Boto3) (http://aws.amazon.com/sdk-for-python/)

Bucket - Container to store objects, similar to a directory

Cyberduck - Cloud storage browser (http://cyberduck.io)

Object - data structure that stores both file metadata and data