Connecting an s3 API Compatible Third-Party Utility to work with IBM Cloud Object Storage

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Introduction

If you're a user of IBM Cloud Object Storage, you will know that there are two main ways that IBM provides to interact with your provisioned service – programmatically through the REST API and visually via the IBM Cloud console.

The IBM Cloud console is the easier of the two for most users, but it has certain limitations, such as a fundamental need for access to the console and a file size of 200MB.

Fortunately, the Cloud Object Storage API also supports the most common set of s3 API operations, which means that many s3 compatible tools, such as Cyberduck or Transmit as well as backup utilities such as Cloudberry and Duplicati can connect and be used. The advantage of this is that it gives users a much richer interface, the 200MB file size limit is removed and of course, there is no need to sign into IBM Cloud each time a user wants to upload or download an object. In the case of backup utilities, it offers a real alternative to tape and of course provides resilient, off site storage for backup files.

This guide provides step by step instructions on how to configure and use Transmit with Cloud Object Storage but in general, it provides the information you need to connect and use Cloud Object Storage with any third-party utility that is s3 compatible.

Requirements

It is assumed that you have an IBM Cloud account and have an instance of Cloud Object Storage provisioned, with one or more buckets. For more information on creating instances of Cloud Object Storage and buckets, refer to the user documentation.
It is also assumed that you have downloaded and installed Transmit. If not, it can be obtained here.

## Part One – Create Cloud Object Storage Credentials

In order for Transmit to connect to Cloud Object Storage, it needs a few details including some credentials. Because this will use S3 API compatible calls, HMAC credentials are required. These are referred to as an Access Key ID and a Secret. An address will also be required.

1. Create credentials to obtain the Access Key ID and Secret

You will need to create some new credentials to enable Transmit to connect. To do this, ensure that you are logged into your IBM Cloud account and from the Dashboard, you have accessed your Cloud Object Storage instance. You should see a screen similar to the following:
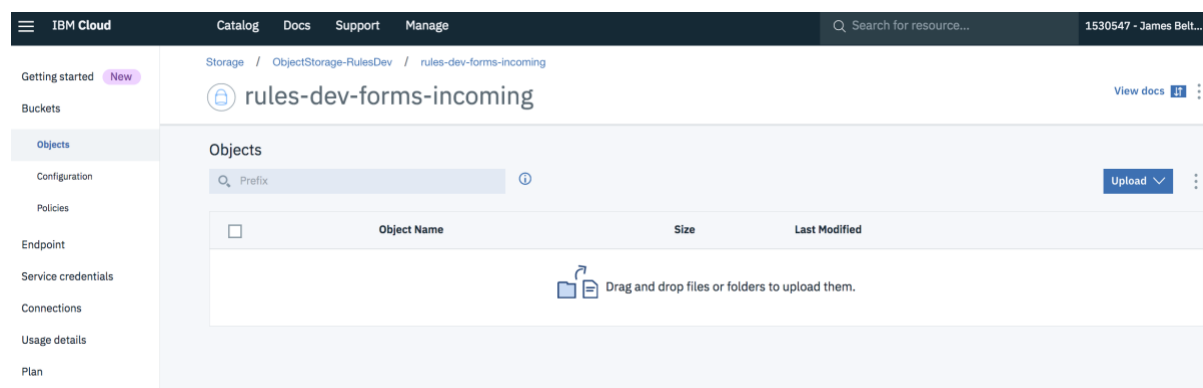
Click Service Credentials and then click the New Credentials button:
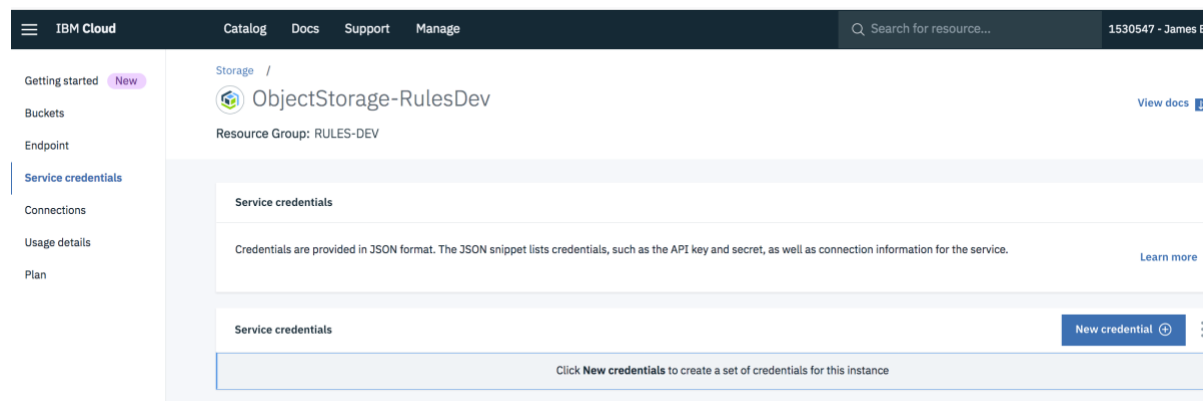
In the panel that appears, provide a name for your new credential. One is provided by default, you can use this or specify your own. Set the role field to Writer. In the Select Service ID drop down, if you already have a Service ID for your Object Storage, then select this. If not, then select Create New Service ID and type a name for the service in the next field. In the Add Inline Configuration Parameters box, type: {"HMAC":true} – note that if you leave this out, you will not get the credentials that you need. You should end up with a panel similar to that in the next screen shot.

Click Add.

Once the credentials have created (a matter of a couple of seconds), click View Credentials. This will show a JSON formatted list of credential information. Near the top, you will see values similar to the following:

```
"cos_hmac_keys": {
    "access_key_id": "f2XXXc7a4dbaXX9c92XX0a37XXXd09dX",
    "secret_access_key": "c5XXXX8cb6dXXX83d50f7XXXa5fXXXX8fcdXXXXX580XXXX2"
},
```

The values displayed for `access_key_id` and `secret_access_key` are needed.
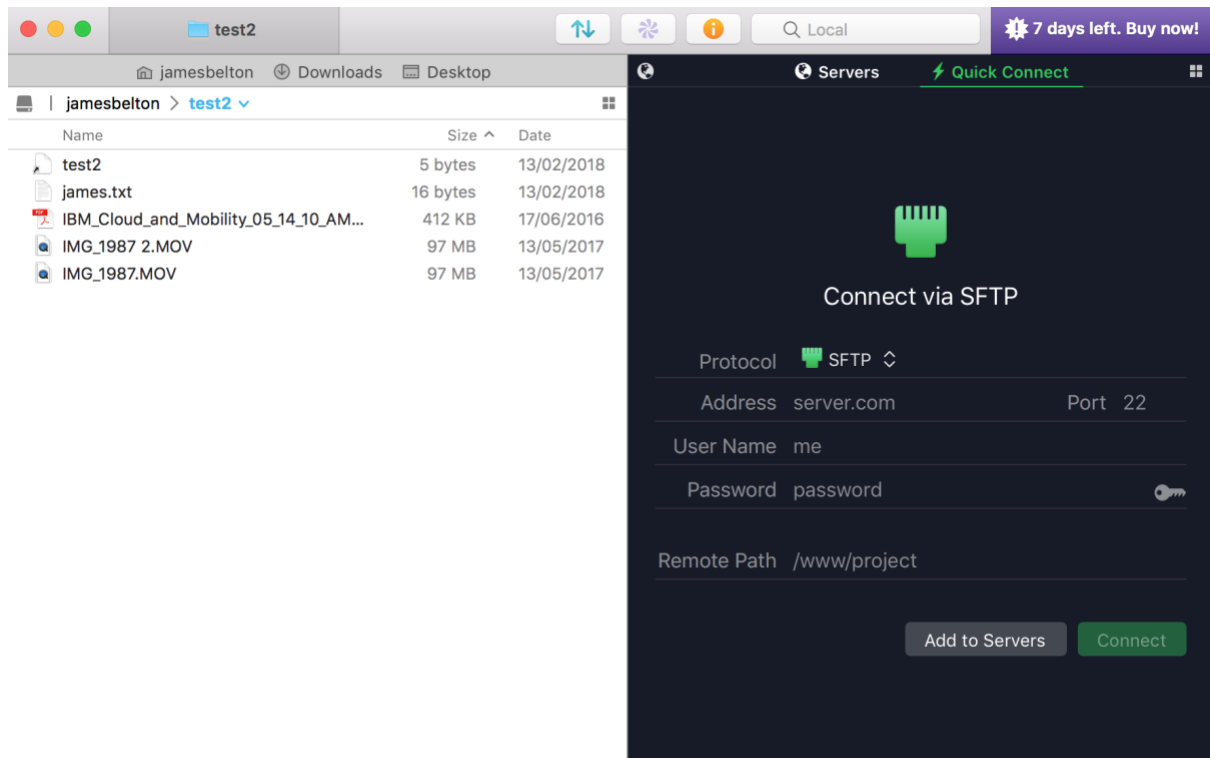
2. Obtain the Address Value

The next step is to determine the address value that Transmit will need. This is simple to find, just:

a. Click Buckets on the left-hand menu
b. Click on one of the bucket names displayed
c. Click Configuration on the left-hand menu
d. Scroll down to the bottom, to the Public endpoints. One or more may be shown, depending on the type of bucket. For example, if it is a single data centre bucket, one endpoint will be show, if it is a cross-regional bucket, several endpoints will be shown. Note, each endpoint will start 's3.'. An example is `s3.eu-geo.objectstorage.softlayer.net`
e. Where there are multiple endpoints, select the one geographically closest as this will typically offer the lowest network latency.

Part Two – Configure Transmit

The next stage is to configure transmit so that it will connect to Cloud Object Storage. This is as simple as supplying the three pieces of information that were obtained in step one, namely the access_key_id, the access_key_secret and the 's3' endpoint value.

When you start Transmit, it will typically look like the following screenshot:

To the right, click the Protocol button and choose 'Amazon s3' from the list.

In the Address filed, enter the 's3' endpoint value that you obtained in Part One. In the Access_key_ID field, enter the value that you got for access_key_id when you created your credentials, and in the Secret field, enter the secret_key_id value.

You should end up with a screen that looks similar to this:
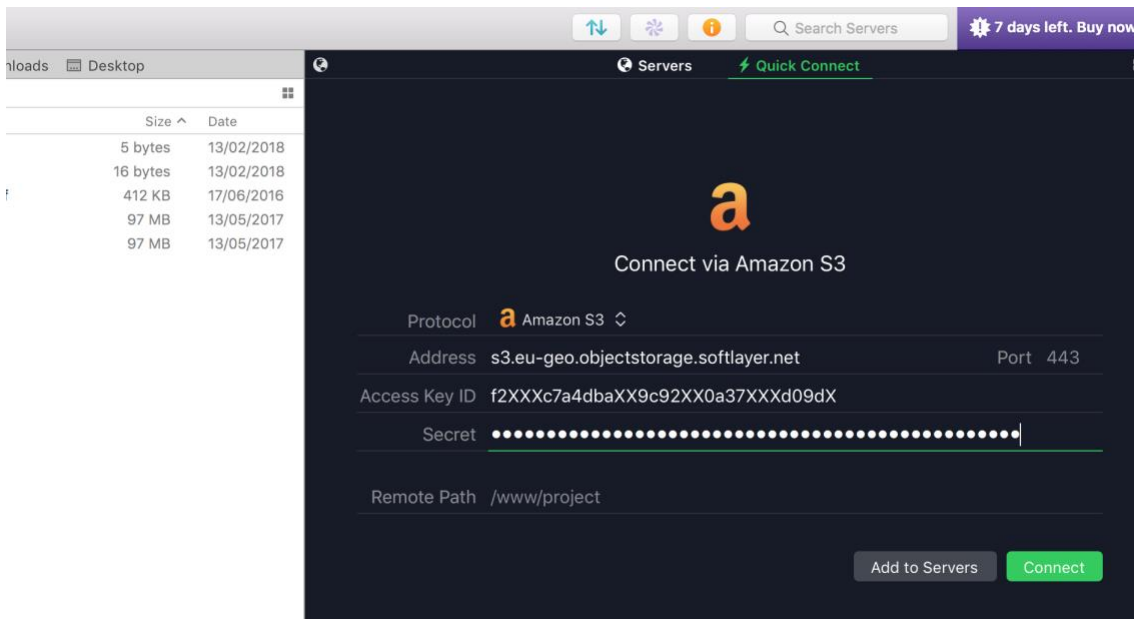
Click Connect.

Transmit will now connect to Cloud Object Storage and you'll be able to see your buckets in the right-hand pane:
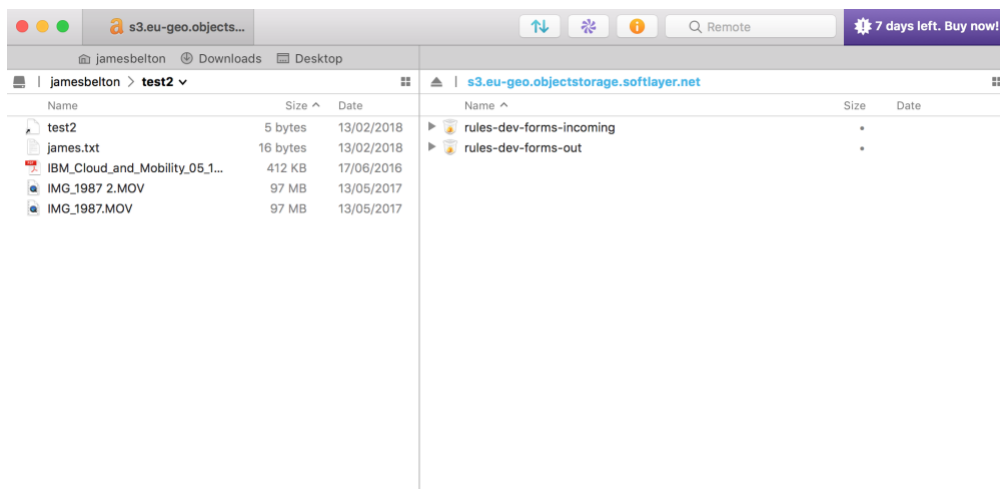
Using Transmit is simple, just drag objects from the left pane to the buckets on the right to upload them, drag objects from the right-hand pane to move objects from Object Storage to your local machine.

And that's it. Remember, you can use the information in Part One of this document to get the HMAC credentials and the address needed to connect a whole variety of s3-API compliant third-party utilities to your IBM Cloud Object Storage.