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| **Create test instance**   1. Go to [IBM Cloud](https://cloud.ibm.com/) 2. Create new Lite instance of IBM Cloud Object Storage 3. Go to the Buckets tab of your Object Storage instance in the cloud console. Create two buckets        1. To cos-bucket-curl-1 bucket upload two files (images) and one folder testf1/ containing files and folders.  Make the bucket public with Access Policies - Public Access just to have an ability to get to files by url. Then copy Public URL from Buckets Actions. For our example it's <https://cos-bucket-curl-1.s3.eu-de.cloud-object-storage.appdomain.cloud>      1. Go to <https://cloud.ibm.com/iam/apikeys> and create API Key cos\_curl   Now API key successfully created Copy the API key or click download to save it. You won't be able to see this API key again, so you can't retrieve it later.   1. Get your resource instance ID  Some of the curl commands require an ibm-service-instance-id parameter. To find this value, go to the Service credentials tab of your Object Storage instance in the cloud console.  Create a credential if needed, then use the View credentials menu to see the JSON format. Use the value of resource\_instance\_id.  For use with curl APIs, you need only the UUID that starts after the last single colon and ends before the final double colon.  For example, the ID crn:v1:bluemix:public:cloud-object-storage:global:a/81caa0254631ce5f9330ae427618f209:39d8d161-22c4-4b77-a856-f11db5130d7d::  can be abbreviated to 39d8d161-22c4-4b77-a856-f11db5130d7d. 2. Get your endpoint   Open your bucket, on the left expand Buckets and click on Configuration.  Then copy public endpoint, in the example it's s3.eu-de.cloud-object-storage.appdomain.cloud |

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| **Curl with IBM COS**   1. Request an IAM token by using previously saved API key. Type in command line:   curl -X "POST" "https://iam.cloud.ibm.com/identity/token"\  -H 'Accept:application/json'\  -H 'Content-Type:application/x-www-form-urlencoded'\  --data-urlencode "apikey=your\_api\_key"\  --data-urlencode "response\_type=cloud\_iam"\  --data-urlencode "grant\_type=urn:ibm:params:oauth:grant-type:apikey"\  --insecure  From the responce json copy the value of "access\_token". It expires every hour, so it needs to be refreshed.   1. To check that everything is ready run curl command to list buckets in our test instance:   curl "https://your\_endpoint/"\  -H "Authorization: Bearer your\_access\_token\_value"\  -H "ibm-service-instance-id: your\_instance\_service\_id"\  --insecure  Let's see what we can do using curl for IBM COS for the following actions:  1. Create a folder below another folder 2. Upload file to newly created folder 3. Read list of folders 4. Read list of files   1. Create a folder below another folder   Buckets are a way to organize your data, the can't ne nested, but they're not the sole way.  Object names (often referred to as object keys) can use one or more forward slashes for a directory-like organizational system. You then use the portion of the object name before a delimiter to form an object prefix. It is used to list related objects in a single bucket through the Object Storage API.  You can't create empty prefix (folder) but you can create it with objects, so let's move forward to the next step. 2. Upload file to newly created folder  Let's upload image aws.png to new folder curlsub2/ in existing prefix testf1/ in cos-bucket-curl-1 bucket   curl -X "PUT" "https://your\_endpoint/cos-bucket-curl-1/testf1/curlsub2/aws.png"\  -H "Authorization: Bearer your\_access\_token\_value"\  -H "Content-Type: image/png"\  -T "path\_to\_your\_file\aws.png"\  --insecure    Now the list of objects in the bucket looks like that:    For our test instance, you can just go to the url <https://cos-bucket-curl-1.s3.eu-de.cloud-object-storage.appdomain.cloud/testf1/curlsub2/aws.png> and see the created image. Notice that during adding the object to subfolder through API reference, new subfolder's 0 byte file wasn't created.   1. Read list of folders  All data inside buckets are objects. So on curl level we can't differentiate files and folders. But we can get list of all objects for the needed prefix. Move to the next step to see how we can do it. 2. Read list of files  As mentioned above, we can only get all the objects for the prefix (logically it can be not only folder but subfolder etc.). For example, the list of objects in cos-bucket-curl-1 bucket with prefix=testf1/ can be found by the command:   curl -X "GET" "https://your\_endpoint/cos-bucket-curl-1?list-type=2&prefix=testf1/"\  -H "Authorization: Bearer your\_access\_token\_value"\  --insecure    See more in IBM Cloud Docs/Cloud Object Storage: [Using cURL](https://cloud.ibm.com/docs/cloud-object-storage?topic=cloud-object-storage-curl) [Bucket operations](https://cloud.ibm.com/docs/services/cloud-object-storage/api-reference?topic=cloud-object-storage-compatibility-api-bucket-operations) |