

## ASSIGNMENT-3

Assignment Date	11/10/2022
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Maximum Marks	2 Marks

## IBM OBJECT STORAGE:

### #templates/index.html

```
<a href="/">HOME</a>
<a href="/uploader">Upload</a>
<a href="/deletefile">Delete</a>
<br>
<hr>
<h1>IBM Object Storage</h1>

<!doctype html>
<html>

<head>
  <link rel="stylesheet" href="static/style.css">
  <!-- href="{{ url_for('static',filename='style.css') }}" -->
</head>

<body>
  {% for row in files %}
  <div style="border: 1px solid #EFEFEF;margin:10px;">
    <h3>Filename : {{row}} </h3>
    </td>
  </div>
  {% endfor %}
  <script>
    window.watsonAssistantChatOptions = {
```

```
integrationID: "8294a8a4-9e3c-47d8-9478-515fb63886ef", // The ID of this
integration.
region: "jp-tok", // The region your integration is hosted in.
serviceInstanceID: "d065dad5-24d1-4292-b122-007bd6dffcad", // The ID of
your service instance.
onLoad: function (instance) { instance.render(); }
};
setTimeout(function () {
const t = document.createElement('script');
t.src = "https://web-
chat.global.assistant.watson.appdomain.cloud/versions/" +
(window.watsonAssistantChatOptions.clientVersion || 'latest') +
"/WatsonAssistantChatEntry.js";
document.head.appendChild(t);
});
</script>
</body>

</html>
```

## **#templates/delete.html**

```
<html>

<body>

  <a href="/">HOME</a>
  <a href="/uploader">Upload </a>
  <a href="/deletefile">Delete </a>
  <br>
  <hr>

  <h1>IBM Object Storage</h1>

  <form action="/deletefile" method="POST">
```

```
        <input type="text" placeholder="Enter bucket name"
name="bucket" />
        <br>
        <br>
        <input type="text" placeholder="Enter file name"
name="filename" />
        <br>
        <br>
        <input type="submit" />
    </form>
</body>

</html>
```

## **#templates/upload.html**

```
<html>
```

```
<body>
```

```
    <a href="/">HOME</a>
```

```
    <a href="/uploader">Upload </a>
```

```
    <a href="/deletefile">Delete </a>
```

```
    <br>
```

```
    <hr>
```

```
    <h1>IBM Upload File</h1>
```

```
<form action="/uploader" method="POST"
enctype="multipart/form-data">
    <input type="text" placeholder="Enter
bucket name" name="bucket" />
    <br>
    <br>
    <input type="text" placeholder="Enter file
name" name="filename" />
    <br>
    <br>
    <input type="file" name="file" />
    <br>
    <br>
    <input type="submit" />
</form>
</body>

</html>
```

## **#static/style.css**

```
* {
    background-color: grey;
}
```

## **#app.py**

```
from flask import Flask, redirect, url_for,
render_template, request
import ibm_boto3
from ibm_botocore.client import Config, ClientError

COS_ENDPOINT = "https://s3.jp-tok.cloud-object-
storage.appdomain.cloud"
COS_API_KEY_ID = "DcQC8l1E_6Plq_bwHGHf-
_hmu95b11M-H6Qputp2VfjL"
COS_INSTANCE_CRN = "crn:v1:bluemix:public:cloud-
object-
storage:global:a/0834fd9d10254d12b564b9a26b86f44b:
802b5b02-ba01-491c-b67c-734e1f668dab::"

# Create resource https://s3.ap.cloud-object-
storage.appdomain.cloud
cos = ibm_boto3.resource("s3",
                        ibm_api_key_id=COS_API_KEY_ID,

ibm_service_instance_id=COS_INSTANCE_CRN,
                        config=Config(signature_version="oauth"),
                        endpoint_url=COS_ENDPOINT
                        )
```

```
app = Flask(__name__)
```

```
def get_item(bucket_name, item_name):  
    print("Retrieving item from bucket: {0}, key:  
{1}".format(  
        bucket_name, item_name))  
    try:  
        file = cos.Object(bucket_name, item_name).get()  
  
        print("File Contents: {0}".format(file["Body"].read()))  
    except ClientError as be:  
        print("CLIENT ERROR: {0}\n".format(be))  
    except Exception as e:  
        print("Unable to retrieve file contents:  
{0}".format(e))
```

```
def get_bucket_contents(bucket_name):  
    print("Retrieving bucket contents from:  
{0}".format(bucket_name))  
    try:  
        files = cos.Bucket(bucket_name).objects.all()  
        files_names = []  
        for file in files:  
            files_names.append(file.key)
```

```
        print("Item: {0} ({1} bytes)".format(file.key,
file.size))
    return files_names
except ClientError as be:
    print("CLIENT ERROR: {0}\n".format(be))
except Exception as e:
    print("Unable to retrieve bucket contents:
{0}".format(e))
```

```
def delete_item(bucket_name, object_name):
    try:
        cos.Object(bucket_name, object_name).delete()
        print("Item: {0} deleted!\n".format(object_name))
    except ClientError as be:
        print("CLIENT ERROR: {0}\n".format(be))
    except Exception as e:
        print("Unable to delete object: {0}".format(e))
```

```
def multi_part_upload(bucket_name, item_name,
file_path):
    try:
        print("Starting file transfer for {0} to bucket:
{1}\n".format(
            item_name, bucket_name))
        # set 5 MB chunks
```

```
part_size = 1024 * 1024 * 5

# set threshold to 15 MB
file_threshold = 1024 * 1024 * 15

# set the transfer threshold and chunk size
transfer_config =
ibm_boto3.s3.transfer.TransferConfig(
    multipart_threshold=file_threshold,
    multipart_chunksize=part_size
)

# the upload_fileobj method will automatically
execute a multi-part upload
# in 5 MB chunks for all files over 15 MB
with open(file_path, "rb") as file_data:
    cos.Object(bucket_name,
item_name).upload_fileobj(
        Fileobj=file_data,
        Config=transfer_config
    )

print("Transfer for {0}
Complete!\n".format(item_name))
except ClientError as be:
    print("CLIENT ERROR: {0}\n".format(be))
except Exception as e:
```



```
        print("Unable to complete multi-part upload:
{0}".format(e))
```

```
@app.route('/')
def index():
    files = get_bucket_contents('flask-test')
    return render_template('index.html', files=files)
```

```
@app.route('/deletefile', methods=['GET', 'POST'])
def deletefile():
    if request.method == 'POST':
        bucket = request.form['bucket']
        name_file = request.form['filename']

        delete_item(bucket, name_file)
        return 'file deleted successfully'

    if request.method == 'GET':
        return render_template('delete.html')
```

```
@app.route('/uploader', methods=['GET', 'POST'])
def upload():
    if request.method == 'POST':
        bucket = request.form['bucket']
```

```
name_file = request.form['filename']  
f = request.files['file']  
multi_part_upload(bucket, name_file, f.filename)  
return 'file uploaded successfully <a href="/">GO to  
Home</a>'
```

```
if request.method == 'GET':  
    return render_template('upload.html')
```

```
if __name__ == '__main__':  
    app.run(host='0.0.0.0', port=8080, debug=True)
```