

| | |
|-------------------|----------------|
| Assignment Date | 3 OCTOBER 2022 |
| Student Name | AMJATH M |
| Student Roll Name | 311819104003 |
| Maximum Marks | 2Marks |

```
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="erYOO-lq7dwN0LigQFZUw9ZhSjUSZPeUrZl8ValOZwoC"
```

```
COS_INSTANCE_CRN="crn:v1:bluemix:public:cloud-object-  
storage:global:a/11d1eefda09948f1a3075e4fab8e60f6:712106a7-5039-4a5e-8c83-c72c3638249a::"
```

```
# 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.delete_object(Bucket=bucket_name, Key=object_name) 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('flaskbucket')  
  
    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)
```

Upload.html

```
<!DOCTYPE html>
```

```
<html lang="en">
```

```
<head>
```

```
    <meta charset="UTF-8">
```

```
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
```

```
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
```

```
    <title>Upload Files</title>
```

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

```
</head>
```

```
<body>
```

```
    <div class="section">
```

```
        <div class="menu">
```

```
            <ul class="menu-list">
```

```
                <li><a href="{{url_for('index')}}">Index</a></li>
```

```
                <li><a href="{{url_for('upload')}}">Upload</a></li>
```

```
                <li><a href="{{url_for('deletefile')}}">Delete</a></li>
```

```
            </ul>
```

```
        </div>
```

```
        <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 class="file-inp" type="file" name="file" />

        <br>

        <br>

        <input class="btn-submit" type="submit" />

    </form>

</div>
</body>
```

```
</html>
```

Index.html

```
<!DOCTYPE html>
```

```
<html lang="en">
```

```
<head>
```

```
    <meta charset="UTF-8">
```

```
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
```

```
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
```

```
    <title>Home</title>
```

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

</head>

<body>

<div class="section">

<div class="menu">

<ul class="menu-list">

<li><a href="{{url_for('index')}}">Index</a></li>

<li><a href="{{url_for('upload')}}">Upload</a></li>

<li><a href="{{url_for('deletefile')}}">Delete</a></li>

</ul>

</div>
<hr>

<h1>IBM Object Storage</h1>

<h2>{% for row in files %}</h2>

<div class="content">

<h3>Filename : {{row}} </h3>



</div>

{% endfor %}

</div>

</body>
```


</html>

Delete.html

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta http-equiv="X-UA-Compatible" content="IE=edge">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>Delete File</title>

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

</head>

<body>

<div class="section">

<div class="menu">

<ul class="menu-list">

Index

Upload

Delete

</div>

```
<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 class="btn-submit" type="submit" />
```

```
</form>
```

```
</div>
```

```
</body>
```

```
</html>
```

Style.css

```
* {
```

```
    margin: 0;
```

```
    padding: 0; color:
```

```
    white;
```

```
    font-family: Arial, Helvetica, sans-serif;
```

```
}
```

```
html {
```

```
    width: 100%; height:
```

```
    100vh;
```

```
}
```

```
body {
```

```
    width: 100%;
```

```
    height: 100%;
```

```
    background-color: rgb(8, 82, 124); display:
```

```
    flex;
```

```
    justify-content: center;
```

```
}
```

```
.section { width: 30%;
```

```
    height: fit-content;
```

```
    display: flex;
```

```
    flex-direction: column;
```

```
    /* border: 1px solid #fff; */
```

```
    box-shadow: 2px 2px 1px 2px rgba(167, 167, 167, 0.644); border-radius:
```

```
    2rem;
```

```
    border-left: 1px solid rgba(255, 255, 255, 0.3);
```

```
border-top: 1px solid rgba(255, 255, 255, 0.3);  
  
align-items: center; padding-bottom: 5rem;  
  
margin-top: 5rem;  
  
}
```

```
a {  
  
    text-decoration: none;  
  
}
```

```
.menu {  
  
    margin-top: 2rem;  
  
    width:      100%;  
  
    height:     3rem;  
  
    display: flex;  
  
  
    align-items: center;  
  
    /* background-color: bisque; */ justify-content:  
    center; border-bottom: 2px solid rgba(255, 255, 255,  
    0.555); padding-bottom: 2rem;  
  
}
```

```
.menu-list { width:  
  
    100%;  
  
    list-style-type: none;
```

```
text-transform: uppercase; display:
flex;

}
```

```
.menu-list li { width:
100%;
display: flex;
justify-content: space-around;
}
```

```
a {
box-shadow: 1px 1px 2px 2px rgba(167, 167, 167, 0.4);
padding: 1rem 1.4rem; border-radius: 1rem;
}
```

```
h1 {
/* padding-left: 2rem; */ margin-top:
1rem;
}
```

```
h2 {
margin-top: 1rem;
}
```

```
.content {  
  
    /* margin-left: 2rem; */ margin-top:  
    2rem;  
}
```

```
form {  
  
    /* margin-left: 2rem; */ margin-top:  
    1rem;  
}
```

```
input {  
  
    height: 2.6rem; width:  
    18rem; padding-left:  
    .6rem; border: none;  
    border-radius: .4rem;  
    color: #000;  
}
```

```
.btn-submit { width: 5rem;  
padding: .2rem; height:  
2rem; color: rgb(104, 104,  
104); text-transform:  
uppercase;  
}
```

```
.file-inp {
```

```
width: 15rem;  
height: 2rem;  
border: none;  
}
```

```
.btn-submit:hover { color:  
    #000;  
}
```