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| AssignmentDate | 4 November 2022 |
| StudentName | Janani K |
| StudentRollName | 720719110021 |
| MaximumMarks | 2 Marks |

from flask import Flask,redirect,url\_for,render\_template,requestimportibm\_boto3

fromibm\_botocore.clientimportConfig,ClientError

COS\_ENDPOINT="https://s3.jp-tok.cloud-object-storage.appdomain.cloud" COS\_API\_KEY\_ID="erYOo-lq7dwN0LigQFZUw9ZhSjUSZPeUrZl8VaIOZwoC"

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.cloudcos=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)

defget\_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()))exceptClientErrorasbe:

print("CLIENT ERROR: {0}\n".format(be))exceptExceptionase:

print("Unabletoretrievefilecontents:{0}".format(e))

defget\_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))returnfiles\_names

exceptClientError asbe:

print("CLIENT ERROR: {0}\n".format(be))exceptExceptionase:

print("Unabletoretrievebucketcontents:{0}".format(e))

defdelete\_item(bucket\_name,object\_name):

try:

cos.delete\_object(Bucket=bucket\_name,Key=object\_name)print("Item:{0} deleted!\n".format(object\_name))

exceptClientError asbe:

print("CLIENT ERROR: {0}\n".format(be))exceptExceptionase:

print("Unabletodeleteobject:{0}".format(e))

defmulti\_part\_upload(bucket\_name,item\_name,file\_path):

try:

print("Starting file transfer for {0} to bucket: {1}\n".format(item\_name, bucket\_name))#set5MBchunks

part\_size=1024\*1024\*5

# set threadhold to 15 MBfile\_threshold=1024\*1024 \*15

# set the transfer threshold and chunk sizetransfer\_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#in5MBchunksforall filesover15MB

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))exceptClientErrorasbe:

print("CLIENT ERROR: {0}\n".format(be))exceptExceptionase:

print("Unableto completemulti-partupload:{0}".format(e))

@app.route('/')defindex():

files=get\_bucket\_contents('flaskbucket')

returnrender\_template('index.html',files=files)

@app.route('/deletefile',methods=['GET','POST'])defdeletefile():

ifrequest.method == 'POST':bucket=request.form['bucket']name\_file=request.form['filename']

delete\_item(bucket,name\_file)return'filedeletedsuccessfully'

ifrequest.method=='GET':

returnrender\_template('delete.html')

@app.route('/uploader',methods=['GET','POST'])defupload():

ifrequest.method == 'POST':bucket=request.form['bucket']name\_file=request.form['filename']f=request.files['file']

multi\_part\_upload(bucket,name\_file,f.filename)

return'fileuploadedsuccessfully<ahref="/">GOtoHome</a>'

ifrequest.method=='GET':

returnrender\_template('upload.html')

ifname=='main':

app.run(host='0.0.0.0',port=8080,debug=True)

Upload.html

<!DOCTYPEhtml>

<htmllang="en">

<head>

<metacharset="UTF-8">

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

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

<title>UploadFiles</title>

<linkrel="stylesheet"href="{{url\_for('static',filename='css/style.css')}}">

</head>

<body>

<divclass="section">

<divclass="menu">

<ulclass="menu-list">

<li><ahref="{{url\_for('index')}}">Index</a></li>

<li><ahref="{{url\_for('upload')}}">Upload</a></li>

<li><ahref="{{url\_for('deletefile')}}">Delete</a></li>

</ul>

</div>

<h1>IBMUploadFile</h1>

<formaction="/uploader"method="POST"enctype="multipart/form-data">

<inputtype="text"placeholder="Enterbucketname"name="bucket"/>

<br>

<br>

<inputtype="text"placeholder="Enterfilename"name="filename"/>

<br>

<br>

<inputclass="file-inp"type="file"name="file"/>

<br>

<br>

<inputclass="btn-submit"type="submit"/>

</form>

</div>

</body>

</html>Index.html

<!DOCTYPEhtml>

<htmllang="en">

<head>

<metacharset="UTF-8">

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

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

<title>Home</title>

<linkrel="stylesheet"href="{{url\_for('static',filename='css/style.css')}}">

</head>

<body>

<divclass="section">

<divclass="menu">

<ulclass="menu-list">

<li><ahref="{{url\_for('index')}}">Index</a></li>

<li><ahref="{{url\_for('upload')}}">Upload</a></li>

<li><ahref="{{url\_for('deletefile')}}">Delete</a></li>

</ul>

</div>

<hr>

<h1>IBMObjectStorage</h1>

<h2>{%forrowinfiles%}</h2>

<divclass="content">

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

<imgsrc="https://bucket-03.s3.jp-tok.cloud-object-storage.appdomain.cloud/{{row}}" width="150px">

</div>

{%endfor%}

</div>

</body>

</html>

Delete.html

<!DOCTYPEhtml>

<htmllang="en">

<head>

<metacharset="UTF-8">

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

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

<title>DeleteFile</title>

<linkrel="stylesheet"href="{{url\_for('static',filename='css/style.css')}}">

</head>

<body>

<divclass="section">

<divclass="menu">

<ulclass="menu-list">

<li><ahref="{{url\_for('index')}}">Index</a></li>

<li><ahref="{{url\_for('upload')}}">Upload</a></li>

<li><ahref="{{url\_for('deletefile')}}">Delete</a></li>

</ul>

</div>

<hr>

<h1>IBMObjectStorage</h1>

<formaction="/deletefile"method="POST">

<inputtype="text"placeholder="Enterbucketname"name="bucket"/>

<br>

<br>

<inputtype="text"placeholder="Enterfilename"name="filename"/>

<br>

<br>

<inputclass="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:1pxsolid#fff;\*/

box-shadow:2px 2px1px 2pxrgba(167,167,167,0.644);border-radius:2rem;

border-left:1pxsolidrgba(255,255,255,0.3);

border-top:1pxsolidrgba(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:2pxsolidrgba(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:1px1px2px2pxrgba(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;

}