Serverless Group Assignment

short line

**Team :**

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There are 2 use cases we tried in this assignment

1. Iopipe workshop
2. Lambda function which copies files from one s3 bucket to another

### **Iopipe workshop**

Cloned the source code from <https://github.com/iopipe/lambda-workshop>

This workshop seems to be outdated. When tried to install deploy the resources using serverless in aws, received the following error

*Error:*

*CREATE\_FAILED: CreateLambdaFunction (AWS::Lambda::Function)*

*Resource handler returned message: "The runtime parameter of nodejs4.3 is no longer supported for creating or updating AWS Lambda functions. We recommend you use the new runtime (nodejs16.x) while creating or updating functions. (Service: Lambda, Status Code: 400, Request ID: 2dbd9f11-0b21-468f-9839-2e25ae9def41)" (RequestToken: f671300b-fe5e-3665-30ee-e85c96c5e8e6, HandlerErrorCode: InvalidRequest)*

The above issue is fixed using latest node environment nodejs16.x.

Finally, all the resources are created and deployed. While testing the function resulted in below error. The Image magic version seems to be incompatible. We could not proceed further.

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Here are the Screen shots for this sample

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### **Lambda function which copies files from one s3 bucket to another**

Create a lambda function which reads files from one s3 bucket (source) and copies to a destination bucket(target).

Used the CLI commands for aws operations. Python code is inline shared.

**Step 1 create S3 buckets (source and target)**

(base) naga.bathula@C02GJ1MCMD6Q lambda-workshop % aws s3 mb s3://cmpe272-source

make\_bucket: cmpe272-source

(base) naga.bathula@C02GJ1MCMD6Q lambda-workshop % aws s3 mb s3://cmpe272-target

**Step 2 Create Policy and Roles and attach the roles**

aws iam create-policy --policy-name AWSLambdaS3Policy --policy-document <file://policy.json>

aws iam create-role --role-name lambda-s3-role --assume-role-policy-document file://trust-policy.json

aws iam attach-role-policy --policy-arn arn:aws:iam::493419290125:policy/AWSLambdaS3Policy --role-name lambda-s3-role

Here is the policy

{

"Version": "2012-10-17",

"Statement": [

{

"Sid": "VisualEditor0",

"Effect": "Allow",

"Action": [

"s3:ListBucket",

"s3:PutObject",

"s3:GetObjectAcl",

"s3:GetObject",

"s3:PutObjectVersionAcl",

"s3:GetObjectTagging",

"s3:DeleteObject",

"s3:GetBucketLocation",

"s3:PutObjectAcl"

],

"Resource": [

"arn:aws:s3:::cmpe272-source/\*",

"arn:aws:s3:::cmpe272-target/\*",

"arn:aws:s3:::cmpe272-source",

"arn:aws:s3:::cmpe272-target"

]

},

{

"Sid": "VisualEditor1",

"Effect": "Allow",

"Action": "s3:ListAllMyBuckets",

"Resource": "\*"

}

]

}

**Step 3 Create Lambda function lambda\_function.py**

import boto3

import json

def lambda\_handler(event, context):

s3\_client = boto3.resource('s3')

dst = s3\_client.Bucket('cmpe272-target')

src = s3\_client.Bucket('cmpe272-source')

for obj in src.objects.all():

dest\_key = obj.key

print(dest\_key)

s3\_client.Object(dst.name, dest\_key).copy\_from(CopySource = {'Bucket': obj.bucket\_name, 'Key': obj.key})

**Step 4 create a zip file and create a lambda function (move-s3files) using zip file**

aws lambda create-function --function-name move-s3files \

--zip-file fileb://myfunction.zip --handler lambda\_function.lambda\_handler --runtime python3.8 \

--timeout 10 --memory-size 1024 \

--role arn:aws:iam::493419290125:role/lambda-s3-role

**Test : Once the lambda function is created and the roles are attached you can invoke the function**

1. Upload a sample file into target folder.
2. aws lambda invoke --function-name move-s3files outputfile.txt

**Result** : You will see the files are copied in destination folder.

### **Screenshots**

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