**Instructions for the Mini Lab**

**Objective**

Create two S3 buckets and a Lambda function that picks up files from one bucket, processes them, and puts them in another bucket with a modified name.

**Step 1: Create Two S3 Buckets**

1. **Create the Source Bucket**:
   * Log in to the AWS Management Console.
   * Navigate to the S3 service.
   * Click on "Create bucket".
   * Enter a unique bucket name that includes the word "source" (e.g., my-source-bucket).
   * Choose the desired region.
   * Click "Create bucket".
2. **Create the Destination Bucket**:
   * Repeat the steps above to create the second bucket, ensuring the name includes the word "destination" (e.g., my-destination-bucket).
3. **Note the Bucket Names**:
   * Keep track of the exact names of both buckets. You will need these for the Lambda function configuration.

**Step 2: Update the Lambda Function Code**

1. **Modify the Code**:
   * Open the provided Lambda function code.
   * On line 12, replace 'destination-bucket' with the exact name of your destination bucket.

**Step 3: Create and Configure the Lambda Function**

1. **Create a New Lambda Function**:
   * Navigate to the Lambda service in the AWS Management Console.
   * Click on "Create function".
   * Choose "Author from scratch".
   * Enter the function name (e.g., S3FileProcessor).
   * Choose the runtime as Node.js 20.
   * Click on "Create function".
2. **Add Necessary Permissions**:
   * Navigate to the "Configuration" tab, then "Permissions".
   * Click on the role name to open the IAM role in a new tab.
   * Attach the AmazonS3FullAccess policy to the role:
     + Click "Add permissions".
     + Choose "Attach policies".
     + Search for AmazonS3FullAccess and select it.
     + Click "Attach policy".

**Step 4: Prepare and Upload the Lambda Function**

1. **Package the Function Code**:
   * Ensure the provided code and the necessary node\_modules are in the same directory.
   * Zip the contents of your project directory, including the index.mjs and node\_modules folder.
   * From the terminal, run:
2. **Upload the Deployment Package**:
   * In the Lambda function configuration, go to the "Code" tab.
   * Click on the "Upload from" dropdown and select " .zip file".
   * Click the "Upload" button and choose the function.zip file from your local machine.
   * Click "Save".

**Step 5: Add the S3 Trigger**

1. **Add an S3 Trigger**:
   * In the Lambda function configuration, go to the "Configuration" tab.
   * Click on "Triggers" in the left-hand menu.
   * Click on the "Add trigger" button.
   * Select "S3" from the trigger options.
   * Configure the trigger:
     + Bucket: Select your source bucket (e.g., my-source-bucket).
     + Event type: Choose "All object create events".
   * Click "Add".

**Step 6: Test the Setup**

1. **Upload a File to the Source Bucket**:
   * Navigate to your source bucket in the AWS Management Console.
   * Upload a file to the bucket (e.g., test-file.txt).
2. **Check the Destination Bucket**:
   * Navigate to your destination bucket in the AWS Management Console.
   * Verify that the file has been copied and renamed (e.g., processed-test-file.txt).
3. **Check CloudWatch Logs**:
   * Go to the CloudWatch service in the AWS Management Console.
   * Select "Logs" from the left-hand menu.
   * Find the log group for your Lambda function (e.g., /aws/lambda/S3FileProcessor).
   * Open the most recent log stream to see the logs generated by the Lambda function.