**AWS Assignment Set 1**

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**Statement:**

* Implement and end-to-end data pipeline to ingest data into a DynamoDB table from the CSV files uploaded into a source S3 bucket by using a Lambda function

**AWS services used in the lab**

* S3
* DynamoDB
* Lambda
* CloudWatch
* IAM

**Approximate time required**: 90 minutes

**Implement the following steps to complete the assignment**

* Create an S3 bucket using the following pattern: **cts\_assignement\_s3\_source\_XXXX**. Replace XXXX with your associate-id (example: *cts\_assignement\_s3\_source\_ 2223333* )
* Create a DynamoDB table
  + Table name: UsersXXXX (Replace XXXX with your associate-id)
  + Partition-Key: userid
* Create an IAM role for Lambda: **CTSAssignmentLambdaRole**. Use the existing role with the above name of already exists. Create the role if the role does not exist. The role should have the following policies attached:
  + AmazonS3FullAccess
  + AmazonDynamoDBFullAccess
  + CloudWatchFullAccess
* Create a Lambda function using the following pattern: **cts\_assignment\_lambda\_XXXX**. Replace XXXX with your associate-id. Attached the above IAM role to lambda. Use python as the language.
* Add the S3 bucket as a trigger to the Lambda.
* As you upload the files provided to you (users1.csv, user2.csv, users3.csv) to the S3 bucket, the lambda should be triggered and all the rows in the CSV files should be added to the DynamoDB table.
  + Write appropriate code in the lambda function to facilitate this functionality.
  + Use boto3 for python.
  + Print each row to be added to DynamoDB so that you can see that in CloudWatch.
  + Use the following columns names to map the data: userid, name, gender, age, phone

**Guide lines for submitting the solution**

* The solutions file should be **an MS Word document** created using the following patter. **AWS-Assignment-XXXX.docx**. Replace XXXX with your associate-id.
* The file should have the following screenshots to demonstrate the work you have done.
  + S3 bucket
  + Lambda Python Code
  + Lambda triggers
  + DynamoDB table rows that are added
  + CloudWatch logs.
* Each screenshot should clearly show the account-id (at the top-right corner) you are working with. This is for authenticating your solution.
* Upload the solution file (Word document) to your Moodle account.