**Project 3**

**Role:** AWS Cloud Administrator , MLOps

**Environment**: AWS Amazon Comprehend, Amazon DynamoDB, Amazon Simple Storage Services (S3), Amazon Transcribe, Amazon Translate, AWS Lambda.

**Project Description and Working :** Converting call recordings into useful data for analytics

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* For call analysis, this application is useful to determine the types of general topics that customers are calling about. It can also detect the sentiment of the conversation, so if the call is a compliment or a complaint, you could take additional action. When combined with other metadata such as caller location or time of day, this can yield important insights to help you improve customer experience. For example, you might discover there are common service issues in a geography at a certain time of day.
* A key part of the serverless solution is Amazon S3, an object store that scales to meet your storage needs. When new objects are stored, this triggers AWS Lambda functions, which scale to keep pace with S3 usage. The application coordinates activities between the S3 bucket and two managed Machine Learning (ML) services, storing the results in an Amazon DynamoDB table.
* The ML services used are: Amazon Transcribe and Amazon Comprehend.
* A downstream process, such as a call recording system, stores audio data in the application’s S3 bucket.
* When the MP3 objects are stored, this triggers the Transcribe function. The function creates a new job in the Amazon Transcribe service.
* When the transcription process finishes, Transcribe stores the JSON result in the same S3 bucket.
* This JSON object triggers the Sentiment function. The Sentiment function requests a sentiment analysis from the Comprehend service.
* After receiving the sentiment scores, this function stores the results in a DynamoDB table.

**Roles and Responsibilities:**

* Creation of S3 bucket and DynamoDB table.
* Writing a lambda function to trigger transcribe function when object is uploaded in the bucket.
* Managing Amazon Transcribe service which transcribes audio data into JSON output, using a process called automatic speech recognition.
* Responsible for administrating Amazon Comprehend, which offers sentiment analysis as one of its core features. This service returns an array of scores to estimate the probability that the input text is positive, negative, neutral, or mixed.