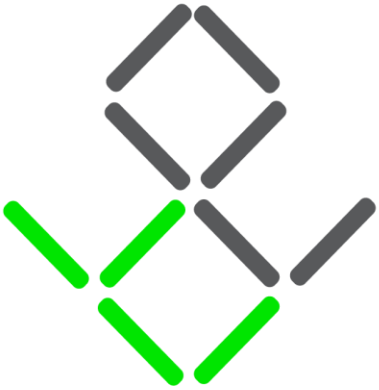


TECH ENQUIRE

Architecture Overview & Configuration

Date	Version	Change Description	Author(s)
18-Aug-2021	Version 1.0	Initial Draft	Techenquire
19-Aug-2021	Version 1.1	Scheduled Execution	Techenquire

Table of Content

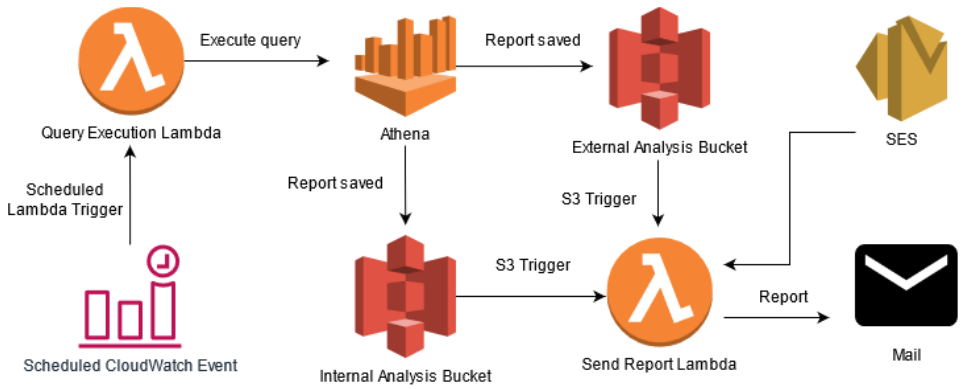
Introduction:

This document addresses mechanism used to address the requirement to send a report generated by querying Athena, via email to an analyst.

Requirements/Permissions:

- IAM Roles:
    - LambdaExecutionRole, which requires following policies:
        - AmazonAthenaFullAccess
        - AmazonSESFullAccess
        - AWSLambdabasicExecutionRole
        - AmazonS3FullAccess
    - GlueExecutionRole, which requires following policies:
        - AWSGlueServiceRole
        - AmazonS3FullAccess

Architecture Overview:



- Scheduled event in CloudWatch triggers the execution of Query Execution Lambda. The lambda is provided with the query to be executed and source of the execution i.e., CloudWatch event.
- Upon the execution of the Lambda, provided query is ran on Athena.
- Athena saves the result of the query, as CSV, on a predefined S3 path. The S3 path changes based on the source of the lambda execution. Scheduled trigger places query result in External Analysis Bucket, while the normal execution places result in Internal Analysis Bucket.
- Once the CSV file is saved, an S3 event triggers the execution of Send Report Lambda. Metadata of the S3 event is provided to the lambda, which contains details of the saved file.
- The lambda will send an email, containing the CSV report generated as an attachment, to a predefined recipient.

Configuration Steps:

The flow is divided into following steps, as mentioned below:

1. Creation of IAM roles with permissions mentioned in Requirements section.
2. Creation database and respective table in Athena:
    a. Create a crawler to crawl the initial dataset from S3.
    b. Create a new database during the wizard.
3. Validate email in SES
4. Create CloudWatch scheduled event rule, with the expected schedule, to execute the Query Execution lambda with following JSON as input.

    {"SOURCE": "AWS.EVENTS", "QUERY": "SELECT * FROM EMPLOYEE.EMP"}

5. Create S3 bucket event trigger to trigger the Send Report Lambda