

SQL Analysis

Business Case (Situation)

In this project I case of a customer support working in a multinational company which offer services to different states and countries. To improve customer engagements, enhance consumer trust and minimize customer churn, the head of data analytics asks me to perform SQL Query analysis on consumer_complaints data archived in Amazon S3.

In the project I assumed the role of a Data Scientist, Business Intelligence Analyst or even a Data Analyst. The business question was to answer 6 questions using Amazon Athena query editor using the US_consumer_complaints data which is available at Kaggle.

I decided to perform few SQL Queries in Amazon Athena query editor. The first step was to load data from Amazon S3 to Athena for querying. The process involved use of Amazon Glue (which is an ETL tool for data transfer). With Amazon Glue I was able to load US_consumer_complaints data from S3 to Amazon Athena for analysis.

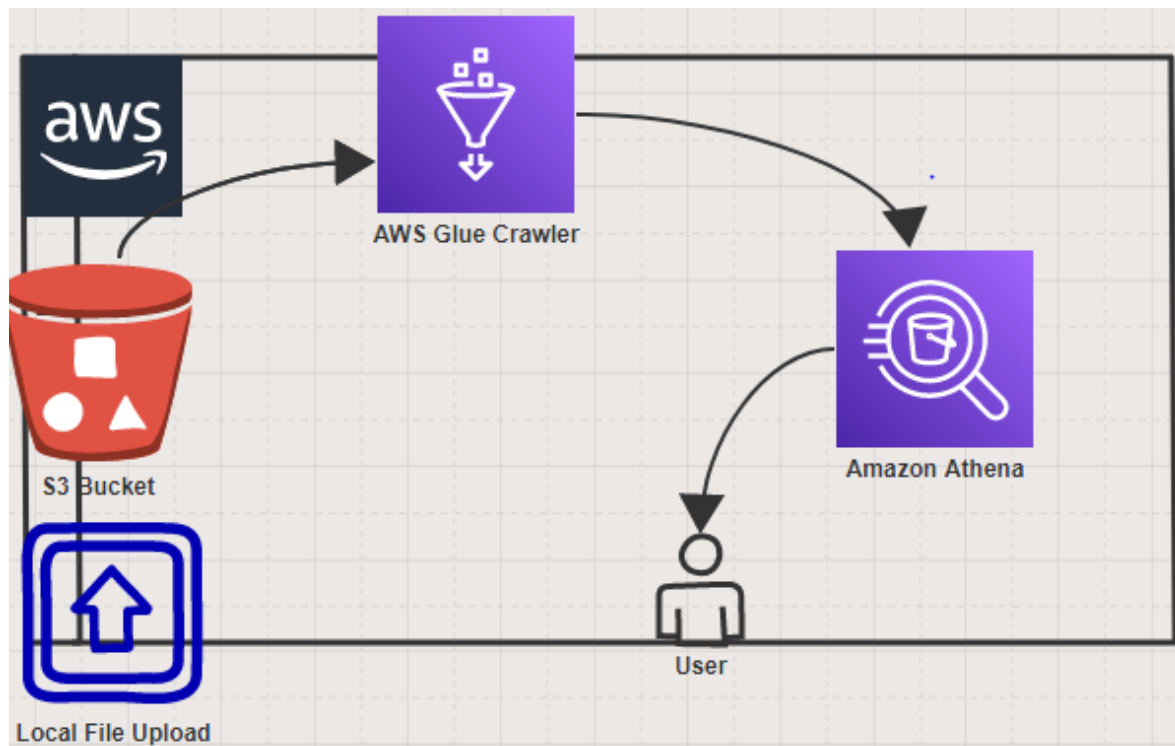


Figure 1 Solution Architecture

Results of Analysis

To test successful connection of my table I decided to write the following query on the Amazon Athena SQL editor.

```
SELECT * FROM consumercomplaint LIMIT =10;
```

Objective 1. Display how many complaints were respondent on time

```
SELECT * FROM consumercomplaint WHERE timely_response = 'Yes';
```

Objective 2. Using SQL query get only consumer complaints that were closed with monetary relief.

```
SELECT date_received, product, issue, company, state FROM consumercomplaint WHERE company_response_to_consumer = 'Closed with monetary relief';
```

Objective 3. Let's understand the major channels of communication such as Web and Emails and then arrange them in ascending order.

```
SELECT date_received, product, issue, company, state, submitted_via FROM consumercomplaint WHERE submitted_via = 'Email' OR submitted_via = 'Web' ORDER BY date_received ASC;
```

Objective 4. How many complaints were associated with Mortgage?

```
SELECT COUNT (*) FROM consumercomplaint WHERE product = 'Mortgage';
```

```
SELECT * FROM consumercomplaint WHERE issue LIKE 'Credit%';
```

```
SELECT * FROM consumercomplaint WHERE date_received='06/13/2013';
```

```
SELECT * FROM consumercomplaint WHERE issue LIKE 'Credit%';
```

```
SELECT * FROM consumercomplaint WHERE date_received='06/13/2013';
```

```
SELECT date_received, product, issue, company, state, submitted_via FROM consumercomplaint WHERE issue LIKE 'Credit%' AND date_received BETWEEN '06/13/2013' AND '09/24/2013';
```

```
SELECT COUNT(*) FROM employees AS Total_Employees,
```

```
SELECT COUNT(*) AS "Bank Issues" FROM consumercomplaint WHERE product= 'Credit card';
```

```
SELECT COUNT(*) AS "Timely Respondent" FROM consumercomplaint WHERE timely_response= 'Yes';
```