# BigQuery Setup and Sample Queries

## BigQuery Table Creation Scripts

-- customers table  
CREATE TABLE `your\_project.your\_dataset.customers` (  
 customer\_id STRING,  
 age INT64,  
 region STRING,  
 account\_type STRING,  
 monthly\_balance FLOAT64,  
 credit\_score INT64,  
 is\_churned BOOL  
);  
  
-- transactions table  
CREATE TABLE `your\_project.your\_dataset.transactions` (  
 transaction\_id STRING,  
 customer\_id STRING,  
 transaction\_date DATE,  
 amount FLOAT64,  
 merchant\_category STRING,  
 is\_fraudulent BOOL  
);  
  
-- support\_logs table  
CREATE TABLE `your\_project.your\_dataset.support\_logs` (  
 log\_id STRING,  
 customer\_id STRING,  
 support\_date DATE,  
 issue\_type STRING,  
 resolved BOOL,  
 complaint\_flag BOOL  
);

## Sample SQL Queries

### Churn Prediction Features (Join & Explore)

SELECT   
 c.customer\_id,  
 c.age,  
 c.credit\_score,  
 c.monthly\_balance,  
 COUNT(t.transaction\_id) AS transaction\_count,  
 AVG(t.amount) AS avg\_transaction\_amount,  
 COUNT(DISTINCT s.log\_id) AS support\_issues,  
 c.is\_churned  
FROM `your\_project.your\_dataset.customers` c  
LEFT JOIN `your\_project.your\_dataset.transactions` t  
 ON c.customer\_id = t.customer\_id  
LEFT JOIN `your\_project.your\_dataset.support\_logs` s  
 ON c.customer\_id = s.customer\_id  
GROUP BY c.customer\_id, c.age, c.credit\_score, c.monthly\_balance, c.is\_churned;

### Fraud Analysis (High-Value Fraud)

SELECT   
 transaction\_id,  
 customer\_id,  
 amount,  
 merchant\_category,  
 transaction\_date  
FROM `your\_project.your\_dataset.transactions`  
WHERE is\_fraudulent = TRUE  
ORDER BY amount DESC  
LIMIT 20;

### Customer Complaint Hotspots

SELECT   
 issue\_type,  
 COUNT(\*) AS complaint\_count  
FROM `your\_project.your\_dataset.support\_logs`  
WHERE complaint\_flag = TRUE  
GROUP BY issue\_type  
ORDER BY complaint\_count DESC;