



Solving analytical queries on Redshift Cluster

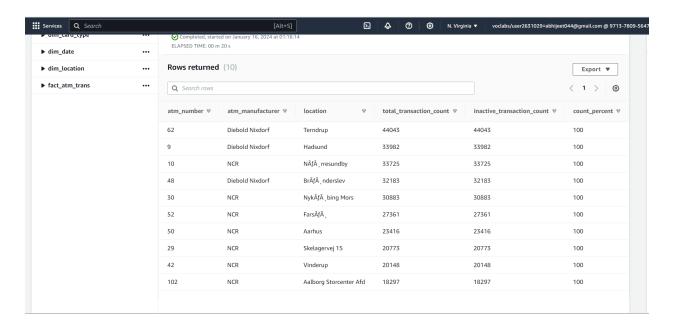
Here, you have to write the query used for solving the question and the screenshots of the table which is outputted after the query is run on the AWS Redshift Query editor UI.

1. Top 10 ATMs where most transactions are in the 'inactive' state

```
select
 a.atm_number,
 a.atm_manufacturer,
 I.location,
 count(trans_id) as total_transaction_count,
 sum(
  case when atm_status = 'Inactive' then 1 else 0 end
 ) as inactive_transaction_count,
  inactive_transaction_count / total_transaction_count
 )* 100 as count_percent
from
 atm_data.fact_atm_trans f,
 atm data.dim atm a,
 atm_data.dim_location I
where
 f.atm_id = a.atm_id
 and a.atm_location_id = I.location_id
group by
 a.atm number,
 a.atm_manufacturer,
 I.location
having
 count_percent > 50
order by
 inactive_transaction_count desc
limit
 10:
```





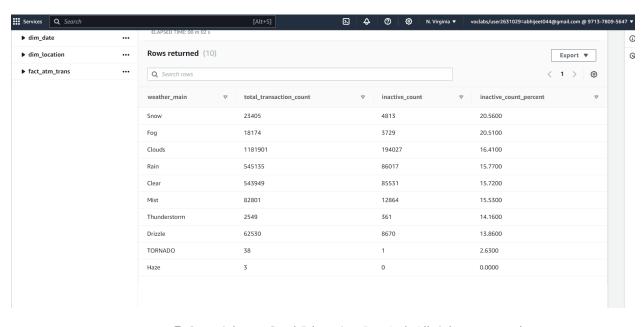






2. Number of ATM failures corresponding to the different weather conditions recorded at the time of the transactions

```
select
 f.weather_main,
 count(trans id) as total transaction count,
 sum(
  case when atm_status = 'Inactive' then 1 else 0 end
 ) as inactive_count,
 case when coalesce(inactive_count, 0) = 0 then 0.0000 else trunc(
  (
   cast(
    inactive_count as numeric(10, 4)
   )/ total_transaction_count
  )* 100,
  2
 ) end as inactive_count_percent
 atm_data.fact_atm_trans f
where
 f.weather_main != "
group by
 f.weather_main
order by
 inactive_count_percent desc
limit
 10;
```

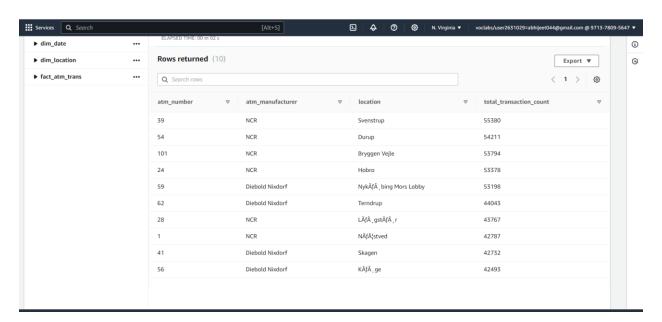






3. Top 10 ATMs with the most number of transactions throughout the year

```
select
 a.atm_number,
 a.atm_manufacturer,
 I.location,
 count(trans_id) as total_transaction_count
from
 atm_data.fact_atm_trans f,
 atm_data.dim_atm a,
 atm_data.dim_location I
where
 f.atm_id = a.atm_id
 and a.atm_location_id = I.location_id
group by
 a.atm_number,
 a.atm_manufacturer,
 I.location
order by
 total_transaction_count desc
limit
 10;
```

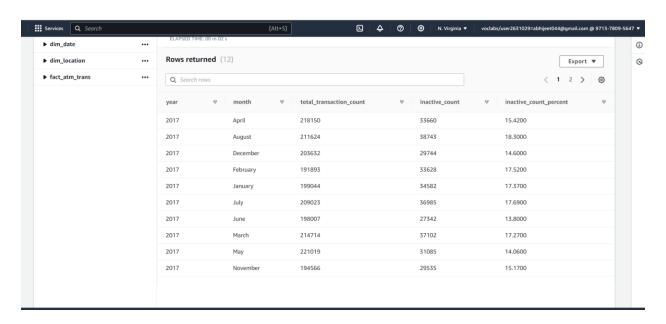






4. Number of overall ATM transactions going inactive per month for each month

```
select
 d.year,
 d.month,
 count(trans id) as total transaction count,
 sum(
  case when atm_status = 'Inactive' then 1 else 0 end
 ) as inactive_count,
 case when coalesce(inactive_count, 0) = 0 then 0.0000 else trunc(
   cast(
    inactive_count as numeric(10, 4)
   )/ total_transaction_count
  )* 100,
  2
 ) end as inactive_count_percent
 atm_data.fact_atm_trans f
 inner join atm_data.dim_date d on f.date_id = d.date_id
group by
 d.year,
 d.month
order by
 d.year,
 d.month
```

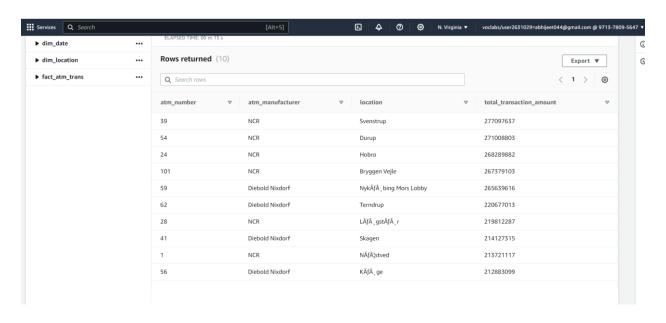






5. Top 10 ATMs with the highest total withdrawn amount throughout the year

```
select
 a.atm_number,
 a.atm_manufacturer,
 I.location,
 sum(transaction_amount) as total_transaction_amount
from
 atm_data.fact_atm_trans f,
 atm_data.dim_atm a,
 atm data.dim location l
where
 f.atm_id = a.atm_id
 and a.atm_location_id = I.location_id
group by
 a.atm_number,
 a.atm_manufacturer,
 I.location
order by
 total_transaction_amount desc
limit
 10;
```

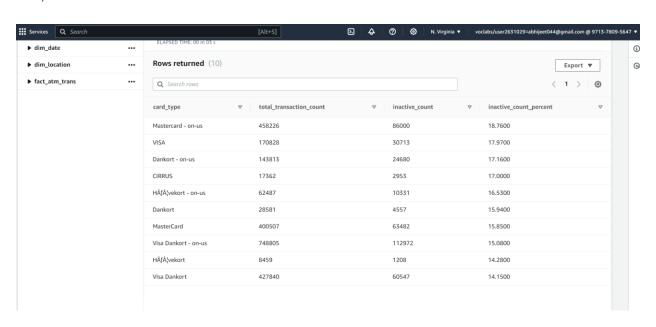






6. Number of failed ATM transactions across various card types

```
select
 ct.card_type,
 count(trans_id) as total_transaction_count,
 sum(
  case when atm_status = 'Inactive' then 1 else 0 end
 ) as inactive_count,
 case when coalesce(inactive_count, 0) = 0 then 0.0000 else trunc(
  (
   cast(
    inactive_count as numeric(10, 4)
   )/ total_transaction_count
  )* 100,
  2
 ) end as inactive_count_percent
from
 atm_data.fact_atm_trans f,
 atm_data.dim_card_type ct
where
 f.card_type_id = ct.card_type_id
group by
 ct.card_type
order by
 inactive_count_percent desc
limit
 10;
```





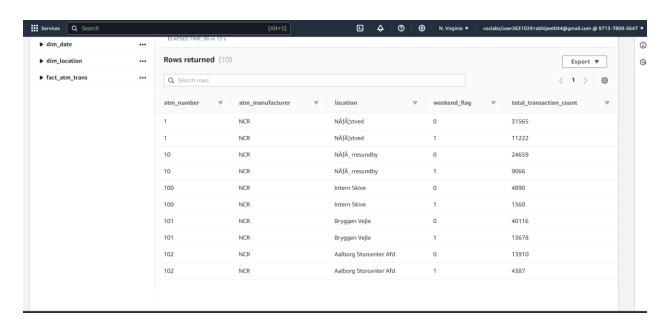


7. Number of transactions happening on an ATM on weekdays and on weekends throughout the year. Order this by the ATM_number, ATM_manufacturer, location, weekend_flag and then total_transaction_count

```
select
 a.atm number,
 a.atm_manufacturer,
 I.location,
 case when d.weekday in ('Saturday', 'Sunday') then 1 else 0 end as weekend_flag,
 count(trans_id) as total_transaction_count
from
 atm_data.fact_atm_trans f,
 atm_data.dim_atm a,
 atm_data.dim_location I,
 atm_data.dim_date d
where
 f.atm_id = a.atm_id
 and a.atm_location_id = I.location_id
 and f.date_id = d.date_id
group by
 a.atm_number,
 a.atm_manufacturer,
 I.location,
 weekend_flag
order by
 a.atm_number,
 a.atm_manufacturer,
 I.location,
 weekend_flag,
 total_transaction_count
limit
 10;
```











8. Most active day in each ATMs from location "Vejgaard"

```
select
 a.atm_number,
 a.atm_manufacturer,
 I.location,
 d.weekday,
 count(trans_id) as total_transaction_count
from
 atm_data.fact_atm_trans f
 inner join atm_data.dim_atm a on f.atm_id = a.atm_id
 inner join atm_data.dim_location I on a.atm_location_id = I.location_id
 inner join atm_data.dim_date d on f.date_id = d.date_id
where
 I.location = 'Vejgaard'
 and d.weekday in (
  select
   d.weekday
  from
   atm_data.fact_atm_trans f
   inner join atm_data.dim_date d on f.date_id = d.date_id
   inner join atm_data.dim_location I on f.weather_loc_id = I.location_id
  where
   I.location = 'Vejgaard'
  group by
   d.weekday
  order by
   count(f.trans_id) desc
  limit
   1
 )
group by
 a.atm_number,
 a.atm_manufacturer,
 I.location,
 d.weekday
order by
 total_transaction_count;
```





