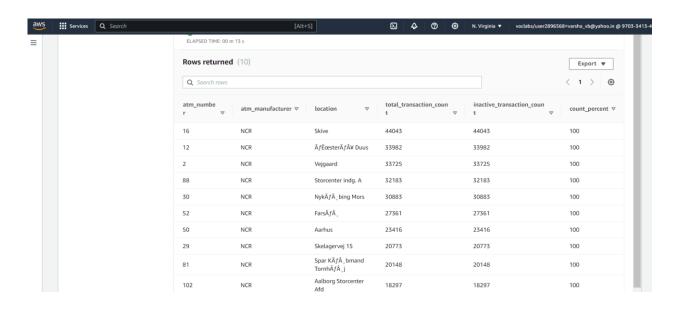




# Solving analytical queries on Redshift Cluster

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

select a.atm\_number, a.atm\_manufacturer, l.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 l where f.atm\_id = a.atm\_id and a.atm\_location\_id = l.location\_id group by a.atm\_number, a.atm\_manufacturer, l.location having count\_percent > 50 order by inactive\_transaction\_count desc limit 10;

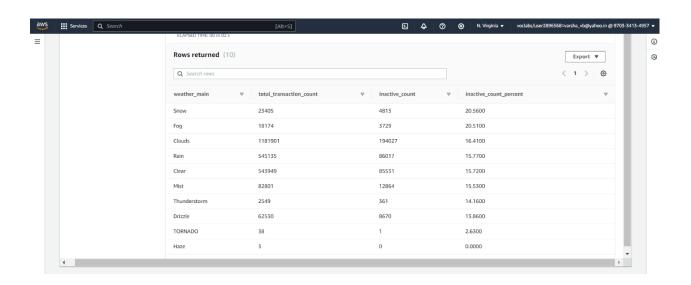






2. Number of ATM failures corresponding to the different weather conditions recorded at the time of the transactions:

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 from atm\_data.fact\_atm\_trans f where f.weather\_main != " group by f.weather\_main order by inactive\_count\_percent desc limit 10;

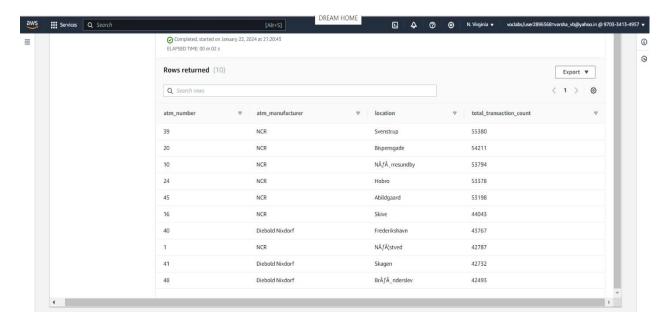


#### 3.Top 10 ATMs with the most number of transactions throughout the year

select a.atm\_number, a.atm\_manufacturer, l.location, count(trans\_id) as total\_transaction\_count 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 = l.location\_id group by a.atm\_number, a.atm\_manufacturer, l.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 from 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

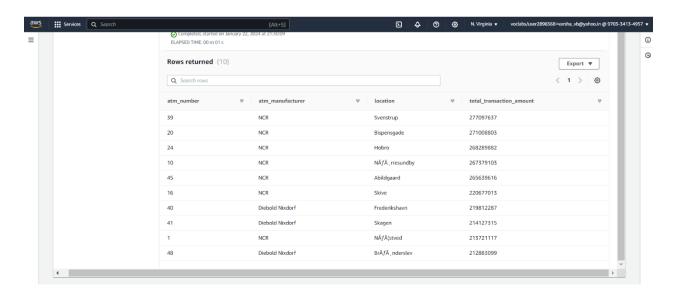
Rows returned (12)				Export ▼
Q Search rows				< 1 2 >
month	▽ transactio	ons   ▽ inactive_count		nt
February	182659	36656	20.07	
January	180195	35953	19.95	
March	209586	41046	19.58	
April	218865	41830	19.11	
May	222418	37679	16.94	
August	217218	36713	16.90	
July	227682	38139	16.75	
June	225166	36789	16.34	
September	202101	28913	14.31	
October	191667	21780	11.36	





### 5.Top 10 ATMs with the highest total withdrawn amount throughout the year

select a.atm\_number, a.atm\_manufacturer, l.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 = l.location\_id group by a.atm\_number, a.atm\_manufacturer, l.location order by total\_transaction\_amount desc limit 10;

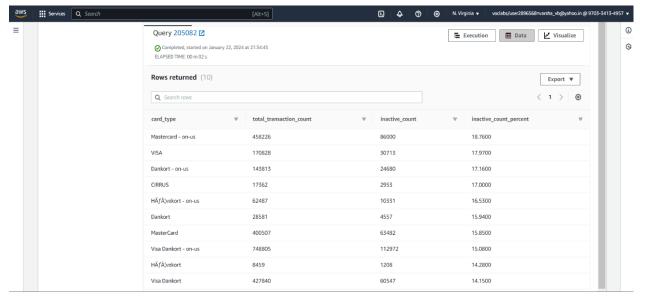


#### 6. Number of failed ATM transactions across various card types

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;

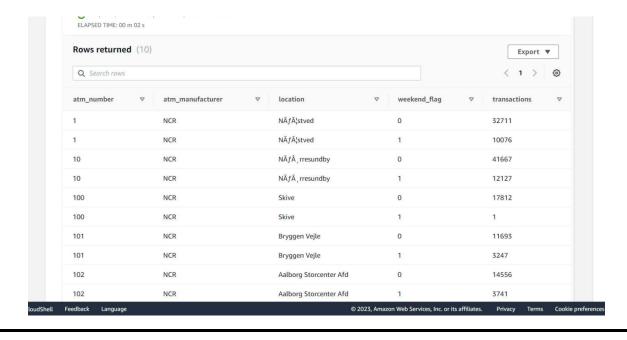






7. Number of transactions happening on an ATM on weekdays and on weekends throughout the year. Order this by the ATM\_number, ATM\_manufacturer, location, weekend\_flag and then total\_transaction\_count

select a.atm\_number, a.atm\_manufacturer, l.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 l, atm\_data.dim\_date d where f.atm\_id = a.atm\_id and a.atm\_location\_id = l.location\_id and f.date\_id = d.date\_id group by a.atm\_number, a.atm\_manufacturer, l.location, weekend\_flag order by a.atm\_number, a.atm\_manufacturer, l.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, l.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 l on a.atm\_location\_id = l.location\_id inner join atm\_data.dim\_date d on f.date\_id = d.date\_id where l.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 l on f.weather\_loc\_id = l.location\_id where l.location = 'Vejgaard' group by d.weekday order by count(f.trans\_id) desc limit 1 ) group by a.atm\_number, a.atm\_manufacturer, l.location, d.weekday order by total\_transaction\_count;

