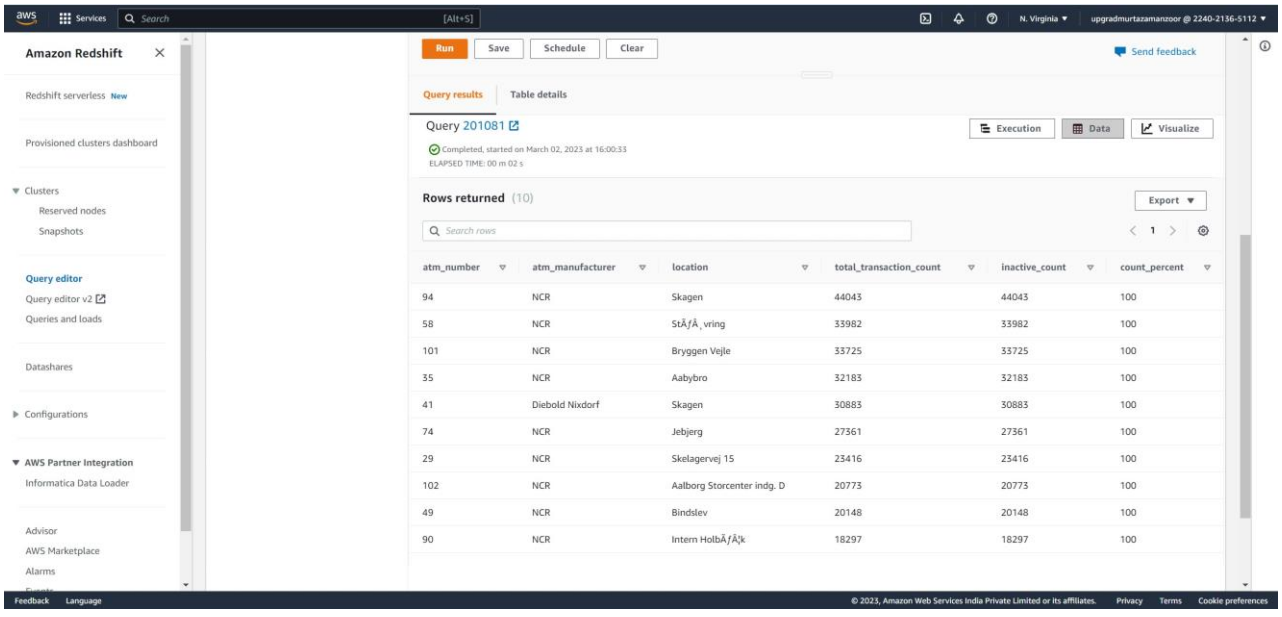
Solving analytical queries on Redshift Cluster

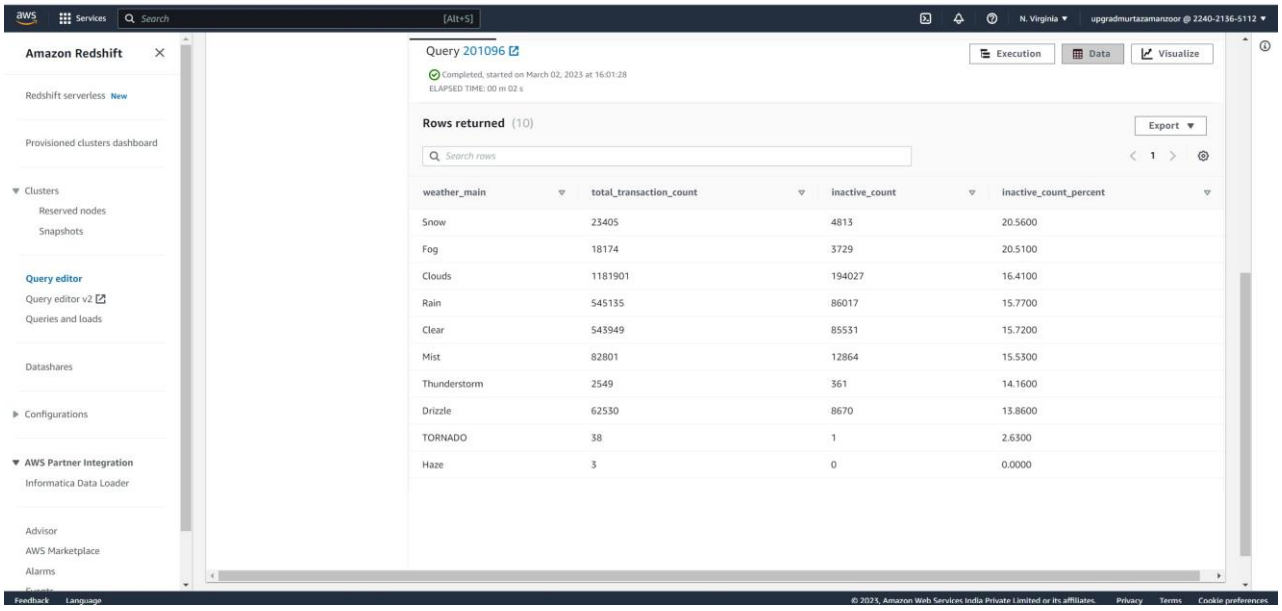
1. **Top 10 ATMs where most transactions are in the ’inactive’ state**

```
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)
asinactive_count,
(inactive_count/total_transaction_count)*100 as count_percent
from atm_data.fact_atm_trans f, atm_data.dim_atm a,
atm_data.dim_location lwhere f.atm_id = a.atm_id and a.atm_location_id =
l.location_id
group by a.atm_number, a.atm_manufacturer,
l.locationhaving count_percent > 50
order by inactive_count
desclimit 10;
```



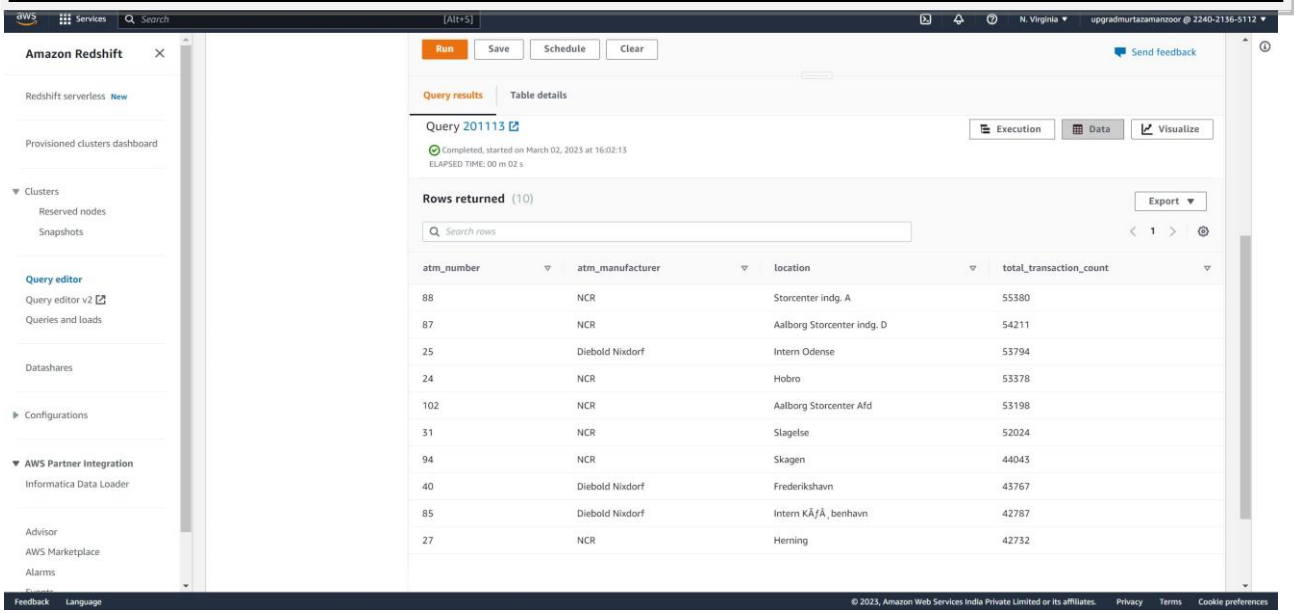
2. **Number of ATM failures corresponding to the different weather conditions recorded at the time of the transactions**

```
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
desclimit 10;
```



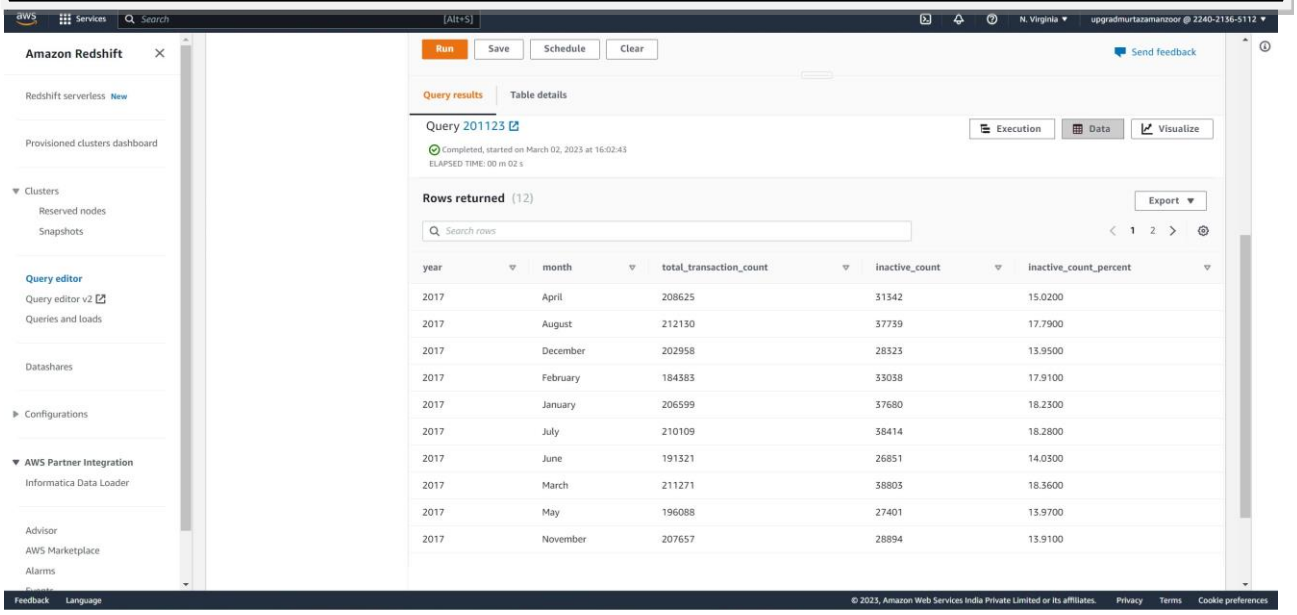
3. Top 10 ATMs with the most number of transactions throughout the year

```
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 lwhere f.atm_id = a.atm_id and a.atm_location_id =
l.location_id
group by a.atm_number, a.atm_manufacturer,
l.locationorder by total_transaction_count desc
limit 10;
```



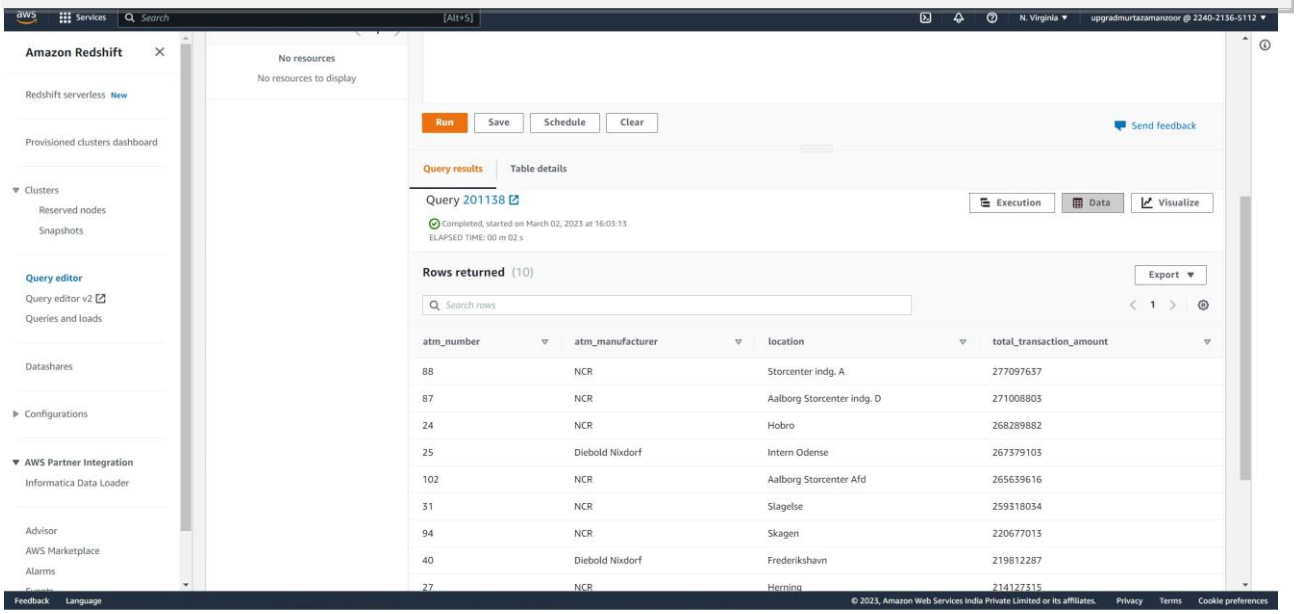
4. **Number of overall ATM transactions going inactive per month for each month**

```
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.monthorder by
d.year, d.month
```



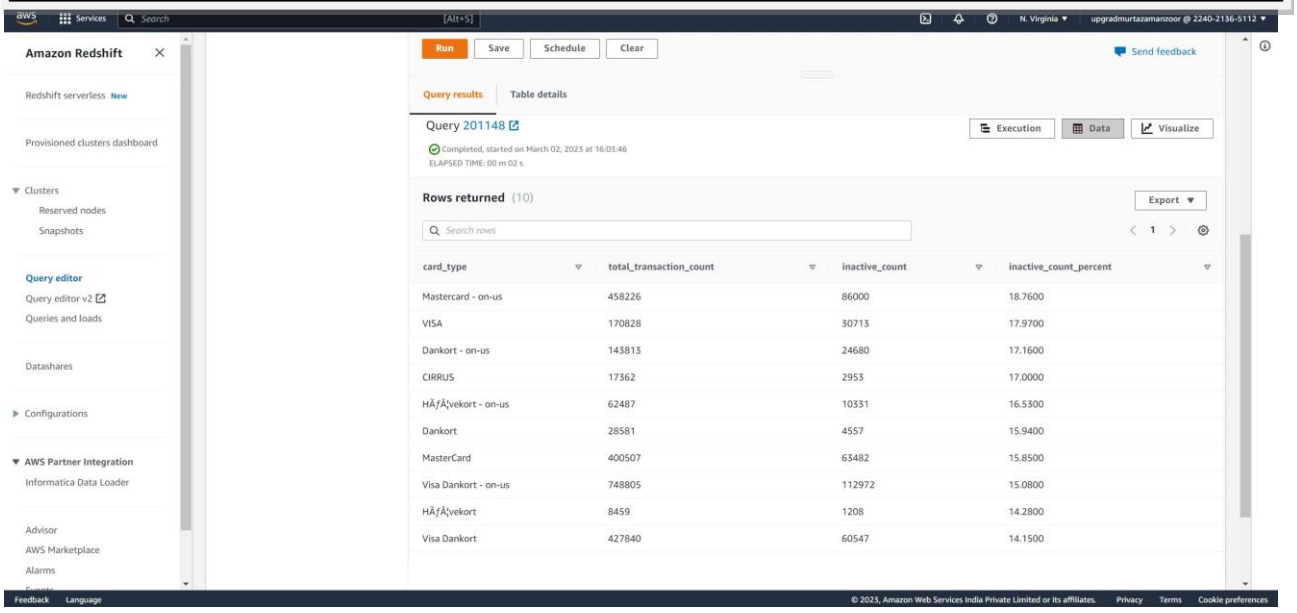
5. **Top 10 ATMs with the highest total withdrawn amount throughout the year**

```
select a.atm_number, a.atm_manufacturer,
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 lwhere f.atm_id = a.atm_id and a.atm_location_id =
l.location_id
group by a.atm_number, a.atm_manufacturer,
l.locationorder by total_transaction_amount desc
limit 10;
```



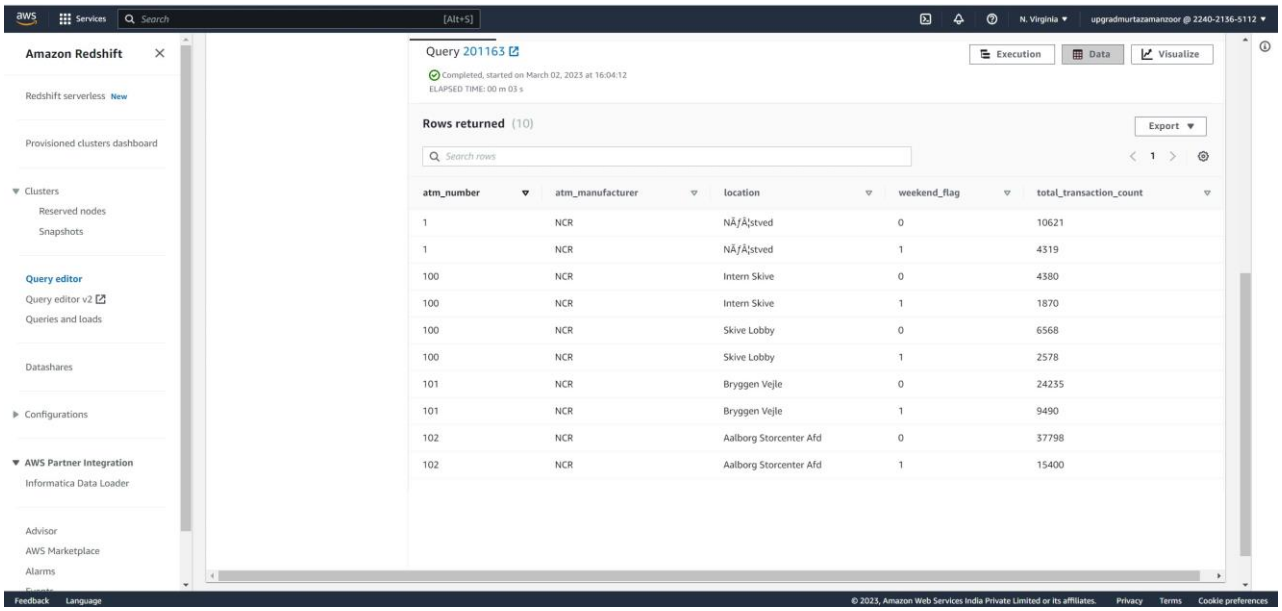
6. **Number of failed ATM transactions across various card types**

```
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 ctwhere f.card_type_id =
ct.card_type_id
group by ct.card_type
order by inactive_count_percent
desclimit 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
asweekend_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_idinner 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 don f.date_id = d.date_id
inner join atm_data.dim_location l on f.weather_loc_id =
l.location_idwhere l.location = 'Vejgaard'
group by d.weekday
order by count(f.trans_id)
desclimit 1 )
group by a.atm_number, a.atm_manufacturer, l.location,
d.weekdayorder by total_transaction_count;
```