

Solving analytical queries on RedShift Cluster

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

```
select da.atm_number as  
atm_name,da.atm_manufacturer,dl.location,count(f.trans_id)total_transaction_count,count(f.atm_s  
tatus)status from atmtransactions.fact_atm_trans f join atmtransactions.dim_atm da on  
f.atm_id=da.atm_id join atmtransactions.dim_location dl on f.weather_loc_id=dl.location_id where  
f.atm_status='Inactive' group by atm_name,atm_manufacturer,location order by status desc limit  
10;
```

Query 614 [🔗](#)

Execution Data Visualize

✓ Completed, started on December 05, 2020 at 21:16:42
ELAPSED TIME: 00 m 09 s

Rows returned (10)

Export ▼

🔍 Search rows

< 1 > ⚙️

atm_name ▼	atm_manufacturer ▼	location ▼	total_transaction_count ▼	status ▼
16	NCR	Skive	44043	44043
12	NCR	Åsterås Duus	33982	33982
2	NCR	Vejgaard	33725	33725
88	NCR	Storcenter indg. A	32183	32183
30	NCR	Nykøbing Mors	30883	30883
52	NCR	Farsø	27361	27361
50	NCR	Aarhus	23416	23416
29	NCR	Skelagervej 15	20773	20773
81	NCR	Spar Kåbmand Tornhøj	20148	20148
102	NCR	Aalborg Storcenter Afd	18297	18297

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

```
select f.weather_main, count(f.atm_status) as total_trascation_count,sum(case when f.atm_status =  
'Inactive' then 1 else 0 end) as inactive_count,round((1.0*(100 * sum(case when f.atm_status =  
'Inactive' then 1 else 0 end))/count(f.atm_status)),4) as inactive_count_percent from  
atmtransactions.fact_atm_trans f group by f.weather_main having f.weather_main <> '' order by  
inactive_count_percent desc;
```

Query [632](#)[Execution](#) [Data](#) [Visualize](#)

Completed, started on December 05, 2020 at 21:18:07
ELAPSED TIME: 00 m 09 s

Rows returned (10)

[Export](#)

< 1 >

weather_main	total_trascation_count	inactive_count	inactive_count_percent
Snow	23405	4813	20.5640
Fog	18174	3729	20.5183
Clouds	1181901	194027	16.4165
Rain	545135	86017	15.7790
Clear	543949	85531	15.7241
Mist	82801	12864	15.5360
Thunderstorm	2549	361	14.1624
Drizzle	62530	8670	13.8653
TORNADO	38	1	2.6316
Haze	3	0	0.0000

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

```
select da.atm_number as atm_name,da.atm_manufacturer,dl.location,count(f.trans_id) as  
total_transaction_count from atmtransactions.fact_atm_trans f join atmtransactions.dim_atm da on  
f.atm_id = da.atm_id join atmtransactions.dim_location dl on f.weather_loc_id = dl.location_id  
group by atm_name,da.atm_manufacturer,dl.location order by total_transaction_count desc limit  
10;
```

Query [664](#)[Execution](#) [Data](#) [Visualize](#)

Completed, started on December 05, 2020 at 21:20:43
ELAPSED TIME: 00 m 14 s

Rows returned (10)

[Export](#)

< 1 >

atm_name	atm_manufacturer	location	total_transaction_count
39	NCR	Svenstrup	55380
20	NCR	Bispensgade	54211
10	NCR	NÅ, rresundby	53794
24	NCR	Hobro	53378
45	NCR	Abildgaard	53198
16	NCR	Skive	44043
40	Diebold Nixdorf	Frederikshavn	43767
1	NCR	NÅ, stved	42787
41	Diebold Nixdorf	Skagen	42732
48	Diebold Nixdorf	BrÅ, nderslev	42493

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

```
select dd.year, dd.month, count(f.atm_status) as total_trascation_count, sum(case when f.atm_status = 'Inactive' then 1 else 0 end) as inactive_count, round((1.0*(100 * sum(case when f.atm_status = 'Inactive' then 1 else 0 end))/count(f.atm_status)),4) as inactive_count_percent from atmtransactions.fact_atm_trans f, atmtransactions.dim_date dd where f.date_id = dd.date_id group by month, year order by inactive_count_percent desc;
```

Query 996

Completed, started on December 05, 2020 at 21:42:43
ELAPSED TIME: 00 m 16 s

Execution Data Visualize

Rows returned (12)

Export

Search rows

< 1 2 > ⚙

year	month	total_trascation_count	inactive_count	inactive_count_percent
2017	February	182659	36656	20.0680
2017	January	180195	35953	19.9523
2017	March	209586	41046	19.5843
2017	April	218865	41830	19.1122
2017	May	222418	37679	16.9406
2017	August	217218	36713	16.9015
2017	July	227682	38139	16.7510
2017	June	225166	36789	16.3386
2017	September	202101	28913	14.3062
2017	October	191667	21780	11.3635

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

```
select da.atm_number as atm_name, da.atm_manufacturer, dl.location, sum(f.transaction_amount) as total_transaction_amount from atmtransactions.fact_atm_trans f join atmtransactions.dim_atm da on f.atm_id = da.atm_id join atmtransactions.dim_location dl on f.weather_loc_id = dl.location_id group by atm_name, da.atm_manufacturer, dl.location order by total_transaction_amount desc limit 10;
```

Query 702 [🔗](#)

✅ Completed, started on December 05, 2020 at 21:23:27
ELAPSED TIME: 00 m 09 s

Execution Data Visualize

Rows returned (10)

Export ▼

🔍 Search rows

< 1 > ⚙️

atm_name ▼	atm_manufacturer ▼	location ▼	total_transaction_amount ▼
39	NCR	Svenstrup	277097637
20	NCR	Bispensgade	271008803
24	NCR	Hobro	268289882
10	NCR	NÅ, rresundby	267379103
45	NCR	Abildgaard	265639616
16	NCR	Skive	220677013
40	Diebold Nixdorf	Frederikshavn	219812287
41	Diebold Nixdorf	Skagen	214127315
1	NCR	NÅ, stved	213721117
48	Diebold Nixdorf	BrÅ, nderslev	212883099

6. Number of failed ATM transactions across various card types

```
select dc.card_type, count(f.atm_status) as total_trascation_count, sum(case when f.atm_status = 'Inactive' then 1 else 0 end) as inactive_count, round((1.0*(100 * sum(case when f.atm_status = 'Inactive' then 1 else 0 end))/count(f.atm_status)),4) as inactive_count_percent from atmtransactions.fact_atm_trans f, atmtransactions.dim_card_type dc where f.card_type_id = dc.card_type_id group by dc.card_type order by inactive_count_percent desc;
```

Query 724 [🔗](#)

🟢 Completed, started on December 05, 2020 at 21:24:59
ELAPSED TIME: 00 m 11 s

Execution Data Visualize

Rows returned (12)

Export ▼

🔍 Search rows

< 1 2 > ⚙️

card_type ▼	total_trascation_count ▼	inactive_count ▼	inactive_count_percent ▼
Mastercard - on-us	458226	86000	18.7680
VISA	170828	30713	17.9789
Dankort - on-us	143813	24680	17.1612
CIRRUS	17362	2953	17.0084
HÅlvekort - on-us	62487	10331	16.5330
Dankort	28581	4557	15.9442
MasterCard	400507	63482	15.8504
Visa Dankort - on-us	748805	112972	15.0870
HÅlvekort	8459	1208	14.2806
Visa Dankort	427840	60547	14.1518

7. Top 10 records with the number of transactions ordered by the ATM_number, ATM_manufacturer, location, weekend_flag and then total_transaction_count, on weekdays and on weekends throughout the year

```
select da.atm_number,da.atm_manufacturer,dl.location,(case when dd.weekday
in('Sunday','Saturday') then 1 else 0 end) as weekend_flag,count(f.trans_id) as
total_transaction_count from atmtransactions.fact_atm_trans f join atmtransactions.dim_atm da on
da.atm_id=f.atm_id join atmtransactions.dim_location dl on f.weather_loc_id=dl.location_id join
atmtransactions.dim_date dd on f.date_id=dd.date_id group by
da.atm_number,da.atm_manufacturer,dl.location,weekend_flag order by
da.atm_number,da.atm_manufacturer,dl.location,weekend_flag, total_transaction_count limit 10;
```

Query 756

Completed, started on December 05, 2020 at 21:27:15
ELAPSED TIME: 00 m 09 s

Execution Data Visualize

Rows returned (10)

Export

Search rows

< 1 > ⚙

atm_number	atm_manufacturer	location	weekend_flag	total_transaction_count
1	NCR	NÅstved	0	32711
1	NCR	NÅstved	1	10076
10	NCR	NÅ, rresundby	0	41667
10	NCR	NÅ, rresundby	1	12127
100	NCR	Intern Skive	0	17812
100	NCR	Intern Skive	1	1
101	NCR	Bryggen Vejle	0	11693
101	NCR	Bryggen Vejle	1	3247
102	NCR	Aalborg Storcenter Afd	0	14556
102	NCR	Aalborg Storcenter Afd	1	3741

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

```
select da.atm_number as  
atm_number,da.atm_manufacturer,dl.location,dd.weekday,count(f.transaction_amount) as  
total_transaction_count from atmtransactions.fact_atm_trans f join atmtransactions.dim_atm da on  
f.atm_id = da.atm_id join atmtransactions.dim_location dl on f.location_id = dl.location_id join  
atmtransactions.dim_date dd on f.date_id = dd.date_id where dl.location = 'Vejgaard' and  
dd.weekday = (select weekday from atmtransactions.dim_date group by weekday order by  
count(weekday) desc limit 1) group by atm_number,da.atm_manufacturer,dl.location,dd.weekday  
order by total_transaction_count asc limit 2;
```

Query 774

Completed, started on December 05, 2020 at 21:28:37
ELAPSED TIME: 00 m 22 s

Execution Data Visualize

Rows returned (2)

Export

Search rows

< 1 > ⚙

atm_number	atm_manufacturer	location	weekday	total_transaction_count
103	Diebold Nixdorf	Vejgaard	Friday	4757
2	NCR	Vejgaard	Friday	6290