

ETL CASESTUDY – Redshift queries

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

```

with total as (select FA.atm_id, count(trans_id) as total_transactions
  from atm_trans.FACT_ATM_TRANS FA
  group by FA.atm_id),
inactive as (select FA.atm_id, count(trans_id) as total_inactive_transactions
  from atm_trans.FACT_ATM_TRANS FA
  where FA.atm_status = 'Inactive'
  group by FA.atm_id)
select A.atm_number, A.atm_manufacturer, L.location,
       T.total_transactions as total_transaction_count,
       I.total_inactive_transactions as inactive_count,
       ROUND((100.0 * inactive_count)/ total_transaction_count, 4) as inactive_count_percent
  from total T, inactive I, atm_trans.DIM_LOCATION L, atm_trans.DIM_ATM A
  where T.atm_id = I.atm_id and A.atm_location_id = L.location_id and A.atm_id = T.atm_id
  order by inactive_count desc
  Limit 10;

```

atm_number ▾	atm_manufacturer ▾	location ▾	total_transaction_count ▾	inactive_count ▾	inactive_count_percent ▾
16	NCR	Skive	44043	44043	100.0000
12	NCR	Åfjølster Åfjøl Duus	33982	33982	100.0000
2	NCR	Vejgaard	33725	33725	100.0000
88	NCR	Storcenter indg. A	32183	32183	100.0000
30	NCR	Nyk Åfjøl, bing Mors	30883	30883	100.0000
52	NCR	Fars Åfjøl,	27361	27361	100.0000
50	NCR	Aarhus	23416	23416	100.0000
29	NCR	Skelagervej 15	20773	20773	100.0000
81	NCR	Spar K Åfjøl, bmand Tornh Åfjøl, j	20148	20148	100.0000
102	NCR	Aalborg Storcenter Afd	18297	18297	100.0000

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

```

with total as (select weather_main,count(trans_id) as total_transaction_count
  from atm_trans.FACT_ATM_TRANS
  group by FACT_ATM_TRANS.weather_main),
inactive as (select weather_main,count(trans_id) as inactive_count
  from atm_trans.FACT_ATM_TRANS
  where FACT_ATM_TRANS.atm_status = 'Inactive'
  group by FACT_ATM_TRANS.weather_main)
select
  total.weather_main,
  total.total_transaction_count,
  CASE WHEN inactive.inactive_count is NULL
  THEN 0 ELSE ROUND(inactive.inactive_count,1) END,
  CASE WHEN ROUND((100.0 * inactive_count)/ total.total_transaction_count, 4)IS NULL
  THEN 0 ELSE ROUND((100.0 * inactive_count)/ total.total_transaction_count, 4) END as
    inactive_count_percent
from
  total left outer join inactive
on
  total.weather_main = inactive.weather_main
where total.weather_main <> ''
order by inactive.inactive_count desc;

```

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

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

```
select A.atm_number,A.atm_manufacturer, L.location, count(FA.trans_id) as
       total_transaction_count
from atm_trans.FACT_ATM_TRANS FA, atm_trans.DIM_ATM A, atm_trans.DIM_LOCATION L
where FA.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;
```

Query 2444 [🔗](#)

Completed, started on April 01, 2021 at 15:59:11
ELAPSED TIME: 00 m 02 s

Execution Data Visual

Rows returned (10) [Export](#)

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

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

```
with total as (select D.month, count(trans_id) as total_transactions
  from atm_trans.FACT_ATM_TRANS FA, atm_trans.DIM_DATE D
  where FA.date_id = D.date_id
  group by D.month)
select D.year, D.month, T.total_transactions total_transactions_count,
       count(trans_id) as inactive_count,
       ROUND((100.0 * inactive_count)/ total_transactions_count, 4) as inactive_count_percent
  from atm_trans.FACT_ATM_TRANS FA, atm_trans.DIM_DATE D, total T
  where FA.atm_status = 'Inactive' and FA.date_id = D.date_id and T.month = D.month
  group by D.year,D.month, total_transactions_count
  order by inactive_count desc
```

Query [2357](#)

Completed, started on April 01, 2021 at 15:51:24
ELAPSED TIME: 00 m 07 s

Execution Data Visuals

Rows returned (12)

Export

Search rows

< 1 2 >

year	month	total_transactions_count	inactive_count	inactive_count_percent
2017	April	218865	41830	19.1122
2017	March	209586	41046	19.5843
2017	July	227682	38139	16.7510
2017	May	222418	37679	16.9406
2017	June	225166	36789	16.3386
2017	August	217218	36713	16.9015
2017	February	182659	36656	20.0680
2017	January	180195	35953	19.9523
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 A.atm_number,A.atm_manufacturer, L.location,
       sum(FA.transaction_amount)total_transaction_amount
from atm_trans.FACT_ATM_TRANS FA, atm_trans.DIM_ATM A, atm_trans.DIM_LOCATION L
where FA.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;
```

Query 2572

Completed, started on April 01, 2021 at 16:10:24
ELAPSED TIME: 00 m 07 s

Execution Data V

Rows returned (10)

Search rows

Exp

< 1

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

6. Number of failed ATM transactions across various card types

```
with total as (select C.card_type_id, count(trans_id) as total_transactions
  from atm_trans.FACT_ATM_TRANS FA, atm_trans.DIM_CARD_TYPE C
 where FA.card_type_id = C.card_type_id
 group by C.card_type_id)
select C.card_type, T.total_transactions total_transactions_count,
       count(trans_id) as inactive_count,
       ROUND((100.0 * inactive_count)/ total_transactions_count, 4) as inactive_count_percent
  from atm_trans.FACT_ATM_TRANS FA, atm_trans.DIM_CARD_TYPE C, total T
 where FA.atm_status = 'Inactive' and FA.card_type_id = T.card_type_id and C.card_type_id
       = T.card_type_id
 group by C.card_type, total_transactions_count
 order by inactive_count_percent desc
```

Query 2778 [🔗](#)

✅ Completed, started on April 01, 2021 at 16:28:11
ELAPSED TIME: 00 m 07 s

Execution Data Visualiz

Rows returned (12)

Export ▼

🔍 Search rows

< 1 2 >

card_type ▼	total_transactions_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
HÅfÅ\vekort - on-us	62487	10331	16.5330
Dankort	28581	4557	15.9442
MasterCard	400507	63482	15.8504
Visa Dankort - on-us	748805	112972	15.0870
HÅfÅ\vekort	8459	1208	14.2806
Visa Dankort	427840	60547	14.1518

- 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

with weekends as

```
(select date_id, CASE WHEN weekday in ('Sunday', 'Saturday') THEN '1' ELSE '0' END AS
weekend_flag
from atm_trans.DIM_DATE D)
select A.atm_number,A.atm_manufacturer, L.location, W.weekend_flag, count(FA.trans_id)
total_transaction_count
from atm_trans.FACT_ATM_TRANS FA,
atm_trans.DIM_ATM A,
atm_trans.DIM_LOCATION L,
weekends W
where FA.atm_id = A.atm_id and A.atm_location_id = L.location_id and W.date_id = FA.date_id
group by A.atm_number,A.atm_manufacturer, L.location, W.weekend_flag
order by A.atm_number,A.atm_manufacturer, L.location, W.weekend_flag,
total_transaction_count
Limit 10;
```

atm_number ▼	atm_manufacturer ▼	location ▼	weekend_flag ▼	total_transaction_count
1	NCR	NÃfÃ'stved	0	32711
1	NCR	NÃfÃ'stved	1	10076
10	NCR	NÃfÃ,rresundby	0	41667
10	NCR	NÃfÃ,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"

with total_count as

```
(select A.atm_number,A.atm_manufacturer, L.location, D.weekday,
count(FA.trans_id) total_transaction_count
from atm_trans.FACT_ATM_TRANS FA,
atm_trans.DIM_ATM A,
atm_trans.DIM_LOCATION L,
atm_trans.DIM_DATE D
where FA.atm_id = A.atm_id and
A.atm_location_id = L.location_id and
L.location = 'Vejgaard' and
D.date_id = FA.date_id
group by A.atm_number,A.atm_manufacturer, L.location, D.weekday
order by total_transaction_count desc),
```

max_count as

```
(select atm_number, MAX(total_transaction_count) total_transaction_count
from total_count
group by atm_number)
select M.atm_number,T.atm_manufacturer, T.location, T.weekday, M.total_transaction_count
from total_count T, max_count M
where T.atm_number = M.atm_number and M.total_transaction_count =
T.total_transaction_count;
```

Query 1247 [🔗](#)

Execution

Data

Visualize

✓ Completed, started on April 02, 2021 at 00:48:35
ELAPSED TIME: 00 m 25 s

Rows returned (2)

Export ▼

🔍 Search rows

< 1 > ⚙️

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