

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
atm_number,
atm_manufacturer,
location,
count(trans_id) as total_transaction_count,
sum(case when atm_status='Inactive' then 1 else 0 end) as Inactive_count,
(Inactive_count/total_transaction_count)*100 as Inactive_count_percent
from
atm_data.fact_atm_trans f left join atm_data.dim_atm a on (f.atm_id = a.atm_id)
                        left join atm_data.dim_location d on
(f.weather_loc_id = d.location_id)
where
atm_status = 'Inactive'
group by
atm_number,
atm_manufacturer,
location
order by Inactive_count desc limit 10;
```

Query [203289](#)

Completed, started on April 03, 2024 at 12:37:12
ELAPSED TIME: 00 m 14 s

Execution Data Visualize

Rows returned (10)

Export

Search rows

atm_number	atm_manufacturer	location	total_transaction_count	inactive_count	inactive_count_percent
16	NCR	Skive	44043	44043	100
12	NCR	Århus	33982	33982	100
2	NCR	Vejgaard	33725	33725	100
88	NCR	Storcenter indg. A	32183	32183	100
30	NCR	Nykøbing Mors	30883	30883	100
52	NCR	Farsø	27361	27361	100
50	NCR	Aarhus	23416	23416	100
29	NCR	Skelagervej 15	20773	20773	100
81	NCR	Spar København, bmand Tørnholm	20148	20148	100
102	NCR	Aalborg Storcenter Afd	18297	18297	100

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12:37
03-04-2024

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

with weather as (

select

weather_main,

count(trans_id) as total_transaction_count,

sum(case when atm_status='Inactive' then 1 else 0 end) as Inactive_count

from

atm_data.fact_atm_trans

where

weather_main != "

group by

weather_main)

Select *,

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 weather

order by inactive_count_percent desc;

Query 203704 [🔗](#)

Completed, started on April 03, 2024 at 13:10:47
ELAPSED TIME: 00 m 02 s

Execution Data Visualize

Rows returned (10) [Export ▼](#)

Search rows

weather_main	total_transaction_count	inactive_count	inactive_count_percent
Snow	23405	4813	20.5600
Fog	18174	3729	20.5100
Clouds	1181901	194027	16.4100
Rain	545135	86017	15.7700
Clear	543949	85531	15.7200
Mist	82801	12864	15.5300
Thunderstorm	2549	361	14.1600
Drizzle	62530	8670	13.8600
TORNADO	38	1	2.6300
Haze	3	0	0.0000

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

```
select
atm_number,
atm_manufacturer,
location,
count(trans_id) as total_transaction_count
from
atm_data.fact_atm_trans f left join atm_data.dim_atm a on (f.atm_id = a.atm_id)
                        left join atm_data.dim_location d on
(f.weather_loc_id = d.location_id)
group by
atm_number,
atm_manufacturer,
location
order by total_transaction_count desc
```

Query [606362](#)

Execution
Data
Visualize

Completed, started on April 05, 2024 at 11:46:05
ELAPSED TIME: 00 m 02 s

Rows returned (10)

Export

Search rows
1

atm_number	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

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4. Number of overall ATM transactions going inactive per month for each month
with date as (

```

select
year,
month,
count(trans_id) as total_transaction_count,
sum(case when atm_status='Inactive' then 1 else 0 end) as Inactive_count
from atm_data.fact_atm_trans f left join atm_data.dim_date d on (f.date_id=d.date_id)
group by
year,
month
)

Select *,
    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 date
order by year,
month ;

```

Query [606377](#)

Completed, started on April 05, 2024 at 11:47:20
ELAPSED TIME: 00 m 02 s

Execution Data Visualize

Rows returned (12) Export

Search rows

year	month	total_transaction_count	inactive_count	inactive_count_percent
2017	April	192481	31244	16.2300
2017	August	216863	32979	15.2000
2017	December	211048	35361	16.7500
2017	February	186910	30509	16.3200
2017	January	209548	33622	16.0400
2017	July	213389	32242	15.1000
2017	June	209807	34291	16.3400
2017	March	197744	32604	16.4800
2017	May	209700	33846	16.1400
2017	November	196135	33035	16.8400
2017	October	224249	37947	16.9200
2017	September	200698	29978	14.9300

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

```
select
atm_number,
atm_manufacturer,
location,
sum(transaction_amount) as total_transaction_amount
from
atm_data.fact_atm_trans f left join atm_data.dim_atm a on (f.atm_id = a.atm_id)
                                left join atm_data.dim_location d on
(f.weather_loc_id = d.location_id)
group by atm_number,
atm_manufacturer,
location
order by total_transaction_amount desc limit 10;
```

Query [606418](#)

Execution
Data
Visualize

Completed, started on April 05, 2024 at 11:50:37
ELAPSED TIME: 00 m 02 s

Rows returned (10)

Export

Search rows

1

atm_number	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

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05-04-2024

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

```
with card as (
select
card_type,
count(trans_id) as total_transaction_count,
sum(case when atm_status='Inactive' then 1 else 0 end) as Inactive_count
from atm_data.fact_atm_trans f left join atm_data.dim_card_type d on
(f.card_type_id=d.card_type_id)
group by
card_type
)
```

```
Select *,
       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 card
order by inactive_count_percent desc limit 10;
```

Query 606449

Completed, started on April 05, 2024 at 11:53:13
ELAPSED TIME: 00 m 02 s

ExecutionDataVisualize

Rows returned (10)				Export
<div>Search rows</div>				< 1 >
card_type	total_transaction_count	inactive_count	inactive_count_percent	
Mastercard - on-us	458226	86000	18.7600	
VISA	170828	30713	17.9700	
Dankort - on-us	143813	24680	17.1600	
CIRRUS	17362	2953	17.0000	
HÃvekort - on-us	62487	10331	16.5300	
Dankort	28581	4557	15.9400	
MasterCard	400507	63482	15.8500	
Visa Dankort - on-us	748805	112972	15.0800	
HÃvekort	8459	1208	14.2800	
Visa Dankort	427840	60547	14.1500	

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11:53
05-04-2024

8. 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
atm_number,
atm_manufacturer,
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 left join atm_data.dim_atm a on (f.atm_id = a.atm_id)
                                left join atm_data.dim_location dl on
                                (f.location_id = dl.location_id)
                                left join atm_data.dim_date d on
                                (f.date_id = d.date_id)
group by
atm_number,
atm_manufacturer,
location,
weekend_flag

order by atm_number,
atm_manufacturer,
location,
weekend_flag,
total_transaction_count desc limit 10;
```

Query 606464 [🔗](#)

Completed, started on April 05, 2024 at 11:54:04
ELAPSED TIME: 00 m 02 s

Execution Data Visualize

Rows returned (10) [Export](#)

atm_number	atm_manufacturer	location	weekend_flag	total_transaction_count
1	NCR	NÃÃstved	0	30623
1	NCR	NÃÃstved	1	12164
10	NCR	NÃÃ, rresundby	0	38447
10	NCR	NÃÃ, rresundby	1	15347
100	NCR	Intern Skive	0	12966
100	NCR	Intern Skive	1	4847
101	NCR	Bryggen Vejle	0	10595
101	NCR	Bryggen Vejle	1	4345
102	NCR	Aalborg Storcenter Afd	0	12984
102	NCR	Aalborg Storcenter Afd	1	5313

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11:54 05-04-2024

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

```

with atm_weekday as (
select
atm_number,
atm_manufacturer,
location,
weekday,
count(trans_id) as total_transaction_count
from atm_data.fact_atm_trans f left join atm_data.dim_atm a on (f.atm_id = a.atm_id)
                                left join atm_data.dim_location dl on
(f.weather_loc_id = dl.location_id)
                                left join atm_data.dim_date d on
(f.date_id = d.date_id)
where
dl.location = 'Vejgaard'
GROUP BY
atm_number,
atm_manufacturer,
location,
weekday),

max_weekday as (
select weekday
from atm_weekday
where total_transaction_count = (select max(total_transaction_count) from
atm_weekday)
limit 1
)
select
*
from atm_weekday
where weekday = (select weekday from max_weekday)
order by total_transaction_count;

```


Query [606497](#)

Execution Data Visualize

Completed, started on April 05, 2024 at 11:57:26
ELAPSED TIME: 00 m 07 s

Rows returned (2)

Export

Search rows

< 1 > ⚙

atm_number	atm_manufacturer	location	weekday	total_transaction_count
103	Diebold Nixdorf	Vejgaard	Friday	3134
2	NCR	Vejgaard	Friday	5165