

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 a.atm_number, a.atm_manufacturer, c.location, count(b.trans_id) as
total_transaction_count, count(b.atm_status) as inactive_count
from etl.dim_atm a, etl.fact_atm_trans b, etl.dim_location c
where a.atm_id = b.atm_id
and b.weather_loc_id = c.location_id
and b.atm_status = 'Inactive'
group by a.atm_number, a.atm_manufacturer, b.atm_status, c.location
order by inactive_count desc
limit 10;
```

Services Q S3 X						N. Virginia upgradankitsharma6 @ 7527-44	
Rows returned (10)						Export	
Q Search rows						< 1 > ⚙	
atm_number	atm_manufacturer	location	total_transaction_count	inactive_count			
16	NCR	Skive	44043	44043			
12	NCR	Åfjølster Åfjøl Duus	33982	33982			
103	Diebold Nixdorf	Vejgaard	33725	33725			
2	NCR	Vejgaard	33725	33725			
88	NCR	Storcenter indg. A	32183	32183			
30	NCR	Nykjøl, bing Mors	30883	30883			
52	NCR	Farsjøl,	27361	27361			
50	NCR	Aarhus	23416	23416			
29	NCR	Skelagervej 15	20773	20773			
81	NCR	Spar Kjøl, bmand Tornhøl, j	20148	20148			

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

```
select a.weather_main, a.total_transaction_count, b.inactive_count, trunc(b.inactive_count * 100
/ a.total_transaction_count, 2)::numeric(10,4) as inactive_count_percent
from
    (select weather_main, count(trans_id) as total_transaction_count
    from etl.fact_atm_trans
    group by weather_main) a,
    (select weather_main, isnull(count(trans_id)::numeric, 0) as inactive_count
    from etl.fact_atm_trans
    where atm_status = 'Inactive'
    and weather_main <> ''
    group by weather_main) b
where a.weather_main = b.weather_main
order by inactive_count_percent desc;
```

Services	Search for services, features, blogs, docs, and more	[Alt+S]	N. Virginia	upgradankitsharma6 @ 7527-444
Query 5390	Execution	Data	Visualize	
Completed, started on May 04, 2022 at 02:25:18 ELAPSED TIME: 00 m 08 s				
Rows returned (9)				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	

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

```
select a.atm_number, a.atm_manufacturer, c.location, count(b.trans_id) as
total_transaction_count
from etl.dim_atm a, etl.fact_atm_trans b, etl.dim_location c
where a.atm_id = b.atm_id
and b.weather_loc_id = c.location_id
group by a.atm_number, a.atm_manufacturer, c.location
order by total_transaction_count desc
limit 10;
```

<div> <div>Services</div> <div>Search for services, features, blogs, docs, and more</div> <div>[Alt+S]</div> <div> </div> <div>N. Virginia</div> <div>upgradankitsharma6 @ 7527-4446</div> </div>				
<div> <div>Completed, started on May 04, 2022 at 00:20:22</div> <div>ELAPSED TIME: 00 m 02 s</div> </div>				
<div> <div>Rows returned (10)</div> <div>Export</div> </div>				
<div> <div>Search rows</div> <div>< 1 > ⚙</div> </div>				
atm_number	atm_manufacturer	location	total_transaction_count	
36	NCR	Svenstrup	55380	
62	Diebold Nixdorf	Bispensgade	54211	
10	NCR	NÅfÅ, resundby	53794	
48	Diebold Nixdorf	Hobro	53378	
45	NCR	Abildgaard	53198	
60	NCR	Skive	44043	
41	Diebold Nixdorf	Frederikshavn	43767	
102	NCR	NÅfÅ, stved	42787	
59	Diebold Nixdorf	Skagen	42732	
24	NCR	BrÅfÅ, nderslev	42493	

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

```
select c.year, c.month, c.total_transaction_count, d.inactive_count, trunc(d.inactive_count * 100
/ c.total_transaction_count, 2)::numeric(10,4) as inactive_count_persent
from
    (select a.year, a.month, count(b.trans_id) as total_transaction_count
    from etl.dim_date a, etl.fact_atm_trans b
    where a.date_id = b.date_id
    group by a.year, a.month) c,
    (select a.year, a.month, count(b.trans_id)::numeric as inactive_count
    from etl.dim_date a, etl.fact_atm_trans b
    where a.date_id = b.date_id
    and b.atm_status = 'Inactive'
    group by a.year, a.month) d
where c.year = d.year
and c.month = d.month
order by inactive_count_persent desc;
```

Services	Search for services, features, blogs, docs, and more	[Alt+S]				N. Virginia	upgradankitsharma6 @ 7527-4446
Rows returned (12)							
Search rows							
year	month	total_transaction_count	inactive_count	inactive_count_persent			
2017	August	217194	41120	18.9300			
2017	July	201536	37932	18.8200			
2017	January	199452	36804	18.4500			
2017	September	224613	40498	18.0300			
2017	February	187884	33745	17.9600			
2017	March	209827	35455	16.8900			
2017	October	209151	30504	14.5800			
2017	April	218288	31640	14.4900			
2017	November	192411	27640	14.3600			
2017	December	203280	28346	13.9400			

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

```
select a.atm_number, a.atm_manufacturer, c.location, sum(b.transaction_amount) as
total_transaction_amount
from etl.dim_atm a, etl.fact_atm_trans b, etl.dim_location c
where a.atm_id = b.atm_id
and b.weather_loc_id = c.location_id
group by a.atm_number, a.atm_manufacturer, c.location
order by total_transaction_amount desc
limit 10;
```

Services

Search for services, features, blogs, docs, and more

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6. Number of failed ATM transactions across various card types

```
select c.card_type, c.total_transaction_count, d.inactive_count, trunc(100 * d.inactive_count /
c.total_transaction_count, 2)::numeric(10,4) as inactive_count_percent
from
(select a.card_type, count(b.trans_id) as total_transaction_count
from etl.dim_card a, etl.fact_atm_trans b
where a.card_type_id = b.card_type_id
group by a.card_type) c,
(select a.card_type, count(b.trans_id)::numeric as inactive_count
from etl.dim_card a, etl.fact_atm_trans b
where a.card_type_id = b.card_type_id
and b.atm_status = 'Inactive'
group by a.card_type) d
where c.card_type = d.card_type
order by inactive_count_percent desc;
```

Rows returned (12)					Export
Search rows					< 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		
HÃfÃ\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		
HÃfÃ\vekort	8459	1208	14.2800		
Visa Dankort	427840	60547	14.1500		
VisaPlus	1134	150	13.2200		
Maestro	530	65	12.2600		