

Solving analytical queries on Redshift Cluster

Below are the queries written 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, l.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 count_percent
from atm.fact_atm_trans f, atm.dim_atm a, atm.dim_location l
where f.atm_id = a.atm_id and a.atm_location_id = l.location_id
group by a.atm_number, a.atm_manufacturer, l.location
having count_percent > 50
order by inactive_count desc
limit 10;
```

Completed, started on October 05, 2022 at 19:52:44
ELAPSED TIME: 00 m 02 s

Rows returned (10)

Search rows

atm_number	atm_manufacturer	location	total_transaction_count	inactive_count	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
98	NCR	Odense	23416	23416	100
48	Diebold Nixdorf	Intern Brønderslev	20773	20773	100
81	NCR	Spar Kjøbmand Tornhøj	20148	20148	100
102	NCR	Aalborg Storcenter Afd	18297	18297	100

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.fact_atm_trans f
where f.weather_main != ''
group by f.weather_main
order by inactive_count_percent desc
limit 10;
```

[tutes, blogs, docs, and more](#)

[Alt+S]

N. Virginia

upgradnandanavanamdinakar @ 8757-1838-7310

ict_atm_trans

Completed, started on October 03, 2022 at 19:44:40
ELAPSED TIME: 00 m 05 s

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

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.fact_atm_trans f, atm.dim_atm a, atm.dim_location l
where f.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;
```

Services, features, blogs, docs, and more [Alt+S]

Completed, started on October 03, 2022 at 19:47:31
ELAPSED TIME: 00 m 02 s

Rows returned (10)

Search rows

Export

atm_number	atm_manufacturer	location	total_transaction_count
46	Diebold Nixdorf	Helsingfors, r	55380
20	NCR	Bispensgade	54211
10	NCR	Nordresundby	53794
24	NCR	Hobro	53378
45	NCR	Abildgaard	53198
16	NCR	Skive	44043
40	Diebold Nixdorf	Frederikshavn	43767
6	NCR	Fredericia	42787
41	Diebold Nixdorf	Skagen	42732
48	Diebold Nixdorf	Brandslev	42493

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.fact_atm_trans f inner join atm.dim_date d on f.date_id =
d.date_id
group by d.year, d.month
order by d.year, d.month;
```

services, features, blogs, docs, and more [Alt+S] N. Virginia upgradnandanavanamdinakar @ 8757-1838-7310

Query 1291

Completed, started on October 03, 2022 at 19:49:57
ELAPSED TIME: 00 m 02 s

Execution Data Visualize

Rows returned (12)

Search rows

year	month	total_transaction_count	inactive_count	inactive_count_percent
2017	April	213663	38973	18.2400
2017	August	227530	37390	16.4300
2017	December	197069	21649	10.9800
2017	February	183464	36367	19.8200
2017	January	200924	38998	19.4000
2017	July	230701	37438	16.2200
2017	June	207582	34366	16.5500
2017	March	207353	40545	19.5500
2017	May	225768	38250	16.9400
2017	November	200721	23707	11.8100

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.fact_atm_trans f, atm.dim_atm a, atm.dim_location l
where f.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 1308

Completed, started on October 03, 2022 at 19:51:25
ELAPSED TIME: 00 m 02 s

Rows returned (10)

Search rows

atm_number	atm_manufacturer	location	total_transaction_amount
46	Diebold Nixdorf	HelsingÅfÅ, r	277097637
20	NCR	Bispensgade	271008803
24	NCR	Hobro	268289882
10	NCR	NÅfÅ, rresundby	267379103
45	NCR	Abildgaard	265639616
16	NCR	Skive	220677013
40	Diebold Nixdorf	Frederikshavn	219812287
41	Diebold Nixdorf	Skagen	214127315
6	NCR	Fredericia	213721117
48	Diebold Nixdorf	BrÅfÅ, nderslev	212883099

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.fact_atm_trans f, atm.dim_card_type ct
where f.card_type_id = ct.card_type_id
group by ct.card_type
order by inactive_count_percent desc
limit 10;
```

for services, features, blogs, docs, and more [Alt+S]

Completed, started on October 03, 2022 at 19:53:04
ELAPSED TIME: 00 m 02 s

Rows returned (10) Export

Search rows

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

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 as
weekend_flag,
count(trans_id) as total_transaction_count
from atm.fact_atm_trans f, atm.dim_atm a, atm.dim_location l,
atm.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;
```

Query 1351

Completed, started on October 03, 2022 at 19:54:13
ELAPSED TIME: 00 m 02 s

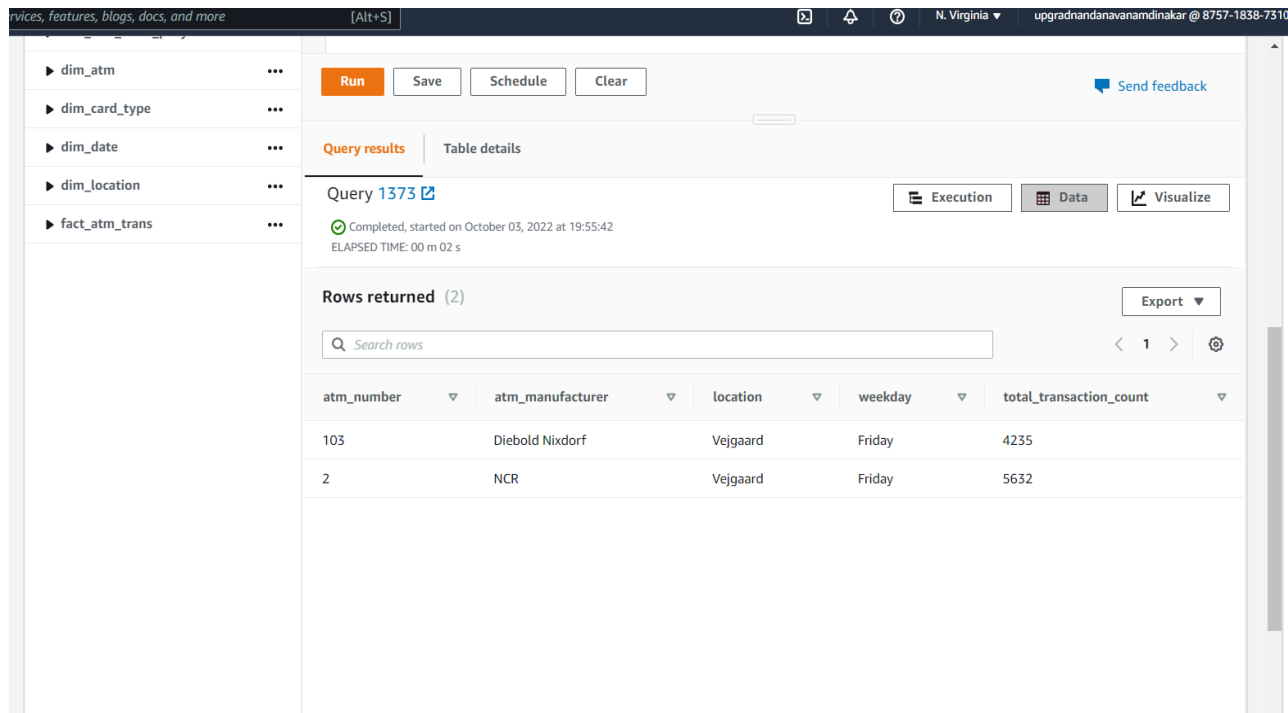
Rows returned (10)

Search rows

atm_number	atm_manufacturer	location	weekend_flag	total_transaction_count
1	NCR	NÃfÃstved	0	2837
1	NCR	NÃfÃstved	1	256
10	NCR	NÃfÃ, rresundby	0	40555
10	NCR	NÃfÃ, rresundby	1	13239
100	NCR	Intern Skive	0	16138
100	NCR	Intern Skive	1	1675
101	NCR	Bryggen Vejle	0	11372
101	NCR	Bryggen Vejle	1	3568
102	NCR	Aalborg Storcenter Afd	0	14215
102	NCR	Aalborg Storcenter Afd	1	4082

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.fact_atm_trans f inner join atm.dim_atm a on f.atm_id =
a.atm_id
inner join atm.dim_location l on a.atm_location_id = l.location_id
inner join atm.dim_date d on f.date_id = d.date_id
where l.location = 'Vejgaard' and d.weekday in
( select d.weekday
from atm.fact_atm_trans f inner join atm.dim_date d
on f.date_id = d.date_id
inner join atm.dim_location l on f.location_id = l.location_id
where l.location = 'Vejgaard'
group by d.weekday
order by count(f.trans_id) desc
limit 1 )
group by a.atm_number, a.atm_manufacturer, l.location, d.weekday
order by total_transaction_count;
```



Services, features, blogs, docs, and more [Alt+S] N. Virginia upgradnandanavanandinakar @ 8757-1838-7310

Run Save Schedule Clear Send feedback

Query results Table details

Query 1373

Execution Data Visualize

Completed, started on October 03, 2022 at 19:55:42
ELAPSED TIME: 00 m 02 s

Rows returned (2) Export

Search rows

atm_number	atm_manufacturer	location	weekday	total_transaction_count
103	Diebold Nixdorf	Vejgaard	Friday	4235
2	NCR	Vejgaard	Friday	5632