

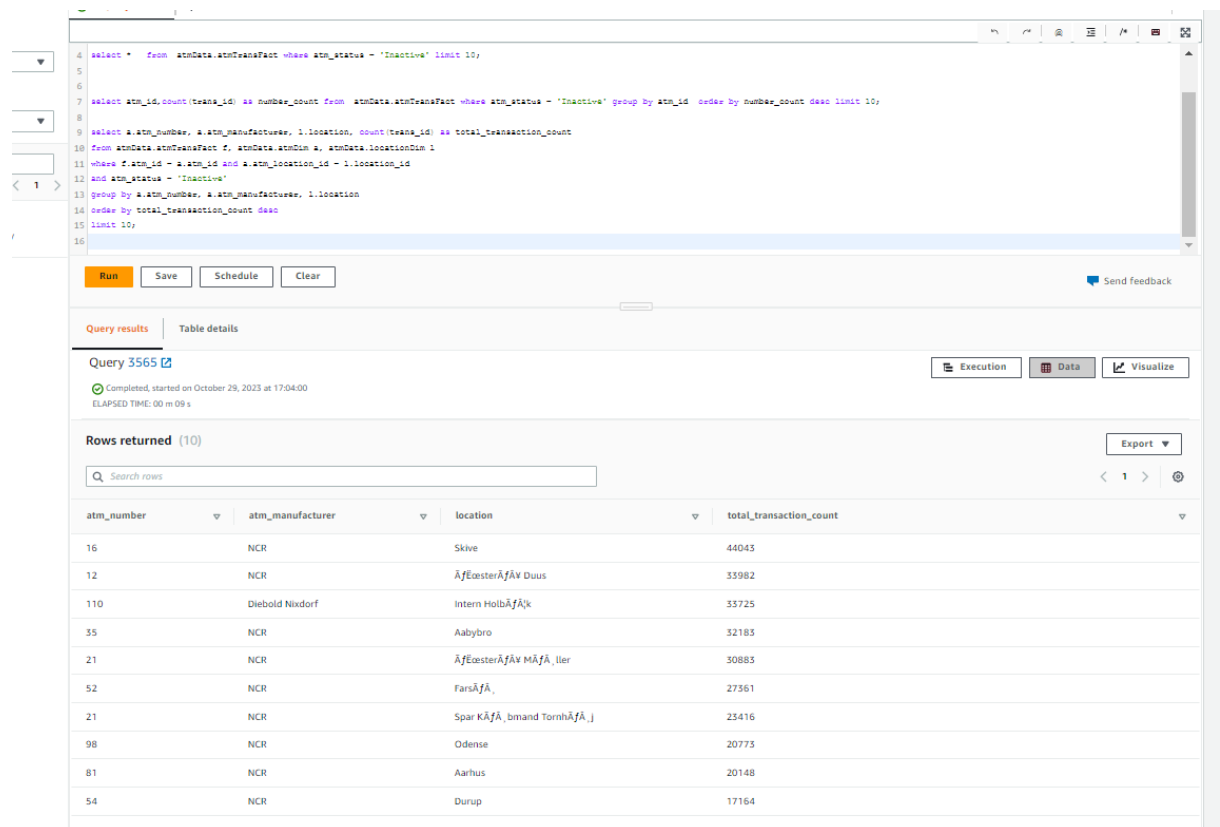
Solving analytical queries on Redshift Cluster

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

Query:

```
select a.atm_number, a.atm_manufacturer, l.location, count(trans_id) as
total_transaction_count
from atmData.atmTransFact f, atmData.atmDim a, atmData.locationDim l
where f.atm_id = a.atm_id and a.atm_location_id = l.location_id
and atm_status = 'Inactive'
group by a.atm_number, a.atm_manufacturer, l.location
order by total_transaction_count desc
limit 10;
```



The screenshot shows the AWS Redshift Query Editor interface. The query is written in the editor and has been executed successfully. The results are displayed in a table with 10 rows.

Query 3565 [View](#)

Completed, started on October 29, 2023 at 17:04:00
ELAPSED TIME: 00 m 09 s

Execution | Data | Visualize

Rows returned (10)

Search rows

atm_number	atm_manufacturer	location	total_transaction_count
16	NCR	Skive	44043
12	NCR	ÅfjølsterÅfjøl Duus	33982
110	Diebold Nixdorf	Intern HolbÅfjøl	33725
35	NCR	Aabybro	32183
21	NCR	ÅfjølsterÅfjøl MÅfjøl, ller	30883
52	NCR	FarsÅfjøl	27361
21	NCR	Spar KÅfjøl, bmand TornhÅfjøl, j	23416
98	NCR	Odense	20773
81	NCR	Aarhus	20148
54	NCR	Durup	17164

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

Query:

```
select f.weather_main,
count(trans_id) as total_inactive_count
from atmData.atmTransFact f
where f.weather_main != ''
and atm_status = 'Inactive'
group by f.weather_main
order by total_inactive_count desc
limit 10;
```

```

1 select f.weather_main,
2 count(trans_id) as total_inactive_count
3 from atmData.atmTransFact f
4 where f.weather_main != ''
5 and atm_status = 'Inactive'
6 group by f.weather_main
7 order by total_inactive_count desc
8 limit 10;
```

Run

Save

Schedule

Clear

Query results

Table details

Query 3656

Completed, started on October 29, 2023 at 17:11:25

ELAPSED TIME: 00 m 09 s

Execu

Rows returned (9)

Q Search rows

weather_main	total_inactive_count
Clouds	194027
Rain	86017
Clear	85531
Mist	12864
Drizzle	8670
Snow	4813
Fog	3729
Thunderstorm	361
TORNADO	1

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

Query:

```
select a.atm_number, a.atm_manufacturer, l.location,
count(trans_id) as total_transaction_count
from atmData.atmTransFact f, atmData.atmDim a, atmData.locationDim 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;
```

1

select a.atm_number, a.atm_manufacturer, l.location,

2

count(trans_id) as total_transaction_count

3

from atmData.atmTransFact f, atmData.atmDim a, atmData.locationDim l

4

where f.atm_id = a.atm_id and a.atm_location_id = l.location_id

5

group by a.atm_number, a.atm_manufacturer, l.location

6

order by total_transaction_count desc

7

limit 10;

Run

Save

Schedule

Clear

Send feedback

Query results

Table details

Query 3675

Execution

Data

Visualize

Completed, started on October 29, 2023 at 17:12:45

ELAPSED TIME: 00 m 09 s

Rows returned (10)

Export

Search rows

< 1 >

atm_number	atm_manufacturer	location	total_transaction_count
7	Diebold Nixdorf	Hjallerup	55580
20	NCR	Bispensgade	54211
28	NCR	Aalborg Storcenter Afd	53794
64	NCR	Horsens	53378
100	NCR	Intern Skive	53198
16	NCR	Skive	44043
30	NCR	Nykjalling, bing Mors Lobby	43767
1	NCR	Nykjallingstved	42787
92	NCR	Intern Hjalling, ring	42732
32	NCR	Sallingdding	42493

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

Query:

```
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
from atmData.atmTransFact f inner join atmData.dateDim d on f.date_id =
d.date_id
group by d.year, d.month
order by d.year, d.month;
```

```

4 from atmData.atmTransFact f inner join atmData.dateDim d on f.date_id =
5 d.date_id
6 group by d.year, d.month
7 order by d.year, d.month;
8

```

Run Save Schedule Clear

Send feedback

Query results Table details

Query 3701

Execution Data Visualize

Completed, started on October 29, 2023 at 17:15:21

ELAPSED TIME: 00 m 16 s

Rows returned (12)

Export

Search rows

< 1 2 > ⌕

year	month	total_transaction_count	inactive_count
2017	April	212027	35244
2017	August	213318	37488
2017	December	192113	26201
2017	February	190086	33519
2017	January	202443	36334
2017	July	213520	36788
2017	June	209408	30799
2017	March	214590	38856
2017	May	205703	31077
2017	November	205037	28728

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

Query:

```
select a.atm_number, a.atm_manufacturer, l.location,
sum(transaction_amount) as total_transaction_amount
from atmData.atmTransFact f, atmData.atmDim a, atmData.locationDim l
where f.atm_id = a.atm_id and a.atm_location_id = l.location_id
and atm_status != 'Inactive'
group by a.atm_number, a.atm_manufacturer, l.location
order by total_transaction_amount desc
limit 10;
```

```

3 from atmData.atmTransFact f, atmData.atmDim a, atmData.locationDim l
4 where f.atm_id = a.atm_id and a.atm_location_id = l.location_id
5 and atm_status != 'Inactive'
6 group by a.atm_number, a.atm_manufacturer, l.location
7 order by total_transaction_amount desc
8 limit 10;

```

Run Save Schedule Clear

Send feedback

Query results Table details

Query 3771

Execution

Data

Visualize

Completed, started on October 29, 2023 at 17:20:33

ELAPSED TIME: 00 m 15 s

Rows returned (10)

Export

Search rows

< 1 > ⚙

atm_number	atm_manufacturer	location	total_transaction_amount
7	Diebold Nixdorf	Hjallerup	277097637
20	NCR	Bispensgade	271008803
64	NCR	Horsens	268289882
28	NCR	Aalborg Storcenter Afd	267379103
100	NCR	Intern Skive	265639616
30	NCR	NykÅfÅ, bing Mors Lobby	219812287
92	NCR	Intern HjÅfÅ, rring	214127315
1	NCR	NÅfÅstved	213721117
32	NCR	SÅfÅdding	212883099
13	NCR	SÅfÅby	205905693

6. Number of failed ATM transactions across various card types

Query:

```
select ct.card_type,
count(trans_id) as total_failed_trans_count
from atmData.atmTransFact f, atmData.cardTypeDim ct
where f.card_type_id = ct.card_type_id
and atm_status = 'Inactive'
group by ct.card_type
order by total_failed_trans_count desc;
```

▼

1

>

lay

4

where f.card_type_id = ct.card_type_id

5

and atm_status = 'Inactive'

6

group by ct.card_type

7

order by total_failed_trans_count desc;

Run

Save

Schedule

Clear

Send feed

Query results

Table details

Query 3801

Execution

Data

Visu

Completed, started on October 29, 2023 at 17:22:50

ELAPSED TIME: 00 m 09 s

Rows returned (12)

Export

Search rows

< 1 2 >

card_type	total_failed_trans_count
Visa Dankort - on-us	112972
Mastercard - on-us	86000
MasterCard	63482
Visa Dankort	60547
VISA	30713
Dankort - on-us	24680
HÃfÃ\vekort - on-us	10331
Dankort	4557
CIRRUUS	2953
HÃfÃ\vekort	1208

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

Query:

```
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 atmData.atmTransFact f, atmData.atmDim a, atmData.locationDim l,
atmData.dateDim 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;
```

Query results

Table details

Query 3838

Completed, started on October 29, 2023 at 17:25:38

ELAPSED TIME: 00 m 09 s

Execution

Data

Visualize

Rows returned (222)

Export

Search rows

< 1 2 3 4 5 6 7 ... 23 >

atm_number	atm_manufacturer	location	weekend_flag	total_transaction_count
1	NCR	NÄfÄ'stved	0	31837
1	NCR	NÄfÄ'stved	1	10950
100	NCR	Intern Skive	0	39509
100	NCR	Intern Skive	1	13689
102	NCR	LÄfÄ, gstÄfÄ, r	0	23979
102	NCR	LÄfÄ, gstÄfÄ, r	1	8815
102	NCR	Storcenter indg. A	0	227
102	NCR	Storcenter indg. A	1	46
103	Diebold Nixdorf	Vejgaard	0	17102
103	Diebold Nixdorf	Vejgaard	1	4075

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

Query:

```
select a.atm_number, a.atm_manufacturer, l.location, d.weekday,
count(trans_id) as total_transaction_count
from atmData.atmTransFact f
inner join atmData.atmDim a on f.atm_id = a.atm_id
inner join atmData.locationDim l on a.atm_location_id = l.location_id
inner join atmData.dateDim d on f.date_id = d.date_id
where l.location = 'Vejgaard' and d.weekday in
( select d.weekday
from atmData.atmTransFact f inner join atmData.dateDim d
on f.date_id = d.date_id
inner join atmData.locationDim l on f.weather_loc_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;
```

```

3 from atmData.atmTransFact f inner join atmData.dateDim d
4 inner join atmData.locationDim l on a.atm_location_id = l.location_id
5 inner join atmData.dateDim d on f.date_id = d.date_id
6 where l.location = 'Vejgaard' and d.weekday in
7 ( select d.weekday
8 from atmData.atmTransFact f inner join atmData.dateDim d
9 on f.date_id = d.date_id
10 inner join atmData.locationDim l on f.weather_loc_id = l.location_id
11 where l.location = 'Vejgaard'
12 group by d.weekday
13 order by count(f.trans_id) desc
14 limit 1 )

```

Run Save Schedule Clear

Send feedback

Query results Table details

Query 3876

Execution

Data

Visualize

Completed, started on October 29, 2023 at 17:28:46

ELAPSED TIME: 00 m 22 s

Rows returned (2)

Export

Search rows

< 1 > ⚙

atm_number	atm_manufacturer	location	weekday	total_transaction_count
2	NCR	Vejgaard	Friday	2783
103	Diebold Nixdorf	Vejgaard	Friday	3960