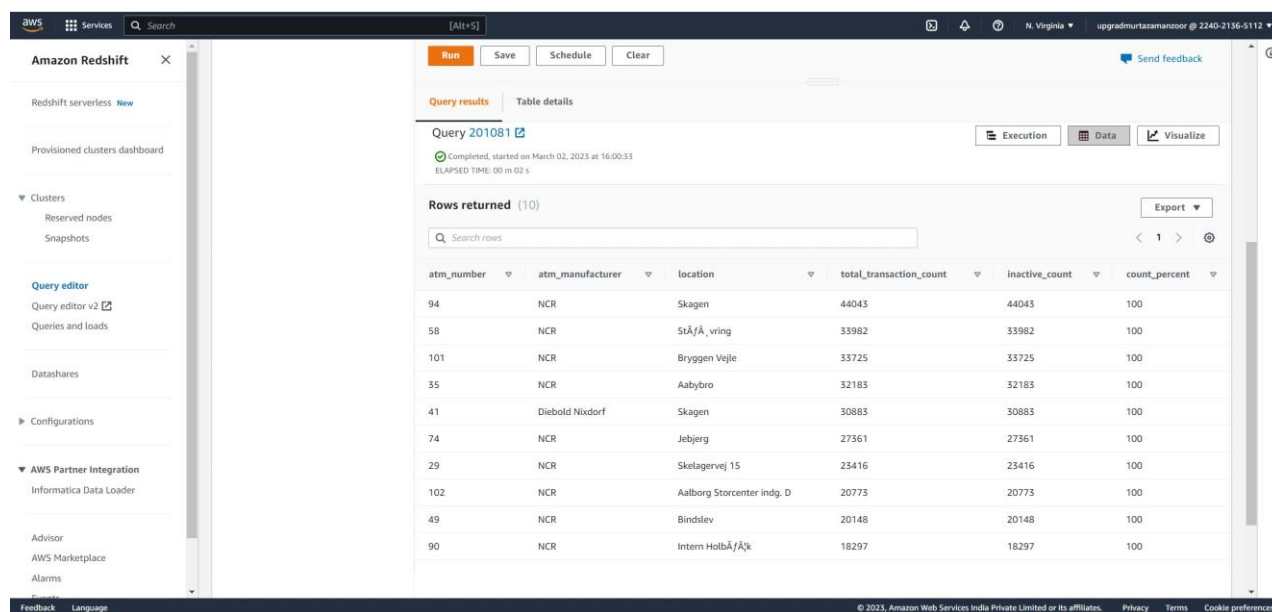


Solving analytical queries on Redshift Cluster

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_data.fact_atm_trans f, atm_data.dim_atm a,
atm_data.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
desclimit 10;
```



Query 201081

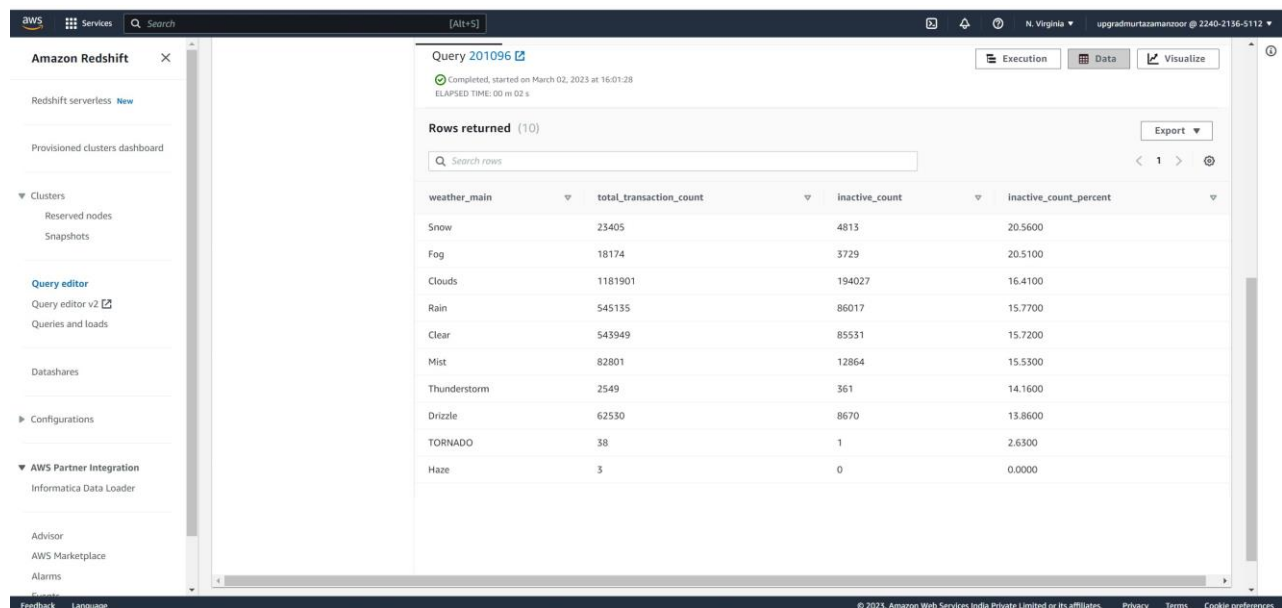
Completed, started on March 02, 2023 at 16:00:33
ELAPSED TIME: 00 m 02 s

Rows returned (10)

atm_number	atm_manufacturer	location	total_transaction_count	inactive_count	count_percent
94	NCR	Skagen	44043	44043	100
58	NCR	StÅ/Å, vring	33982	33982	100
101	NCR	Bryggen Vejle	33725	33725	100
35	NCR	Aabybro	32183	32183	100
41	Diebold Nixdorf	Skagen	30883	30883	100
74	NCR	Jetjerg	27361	27361	100
29	NCR	Skelagervej 15	23416	23416	100
102	NCR	Aalborg Storcenter indg. D	20773	20773	100
49	NCR	Bindstev	20148	20148	100
90	NCR	Intern HolbÅ/Åk	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_data.fact_atm_trans f
where f.weather_main != "
group by f.weather_main
order by inactive_count_percent
desclimit 10;
```



Query 201096

Completed, started on March 02, 2023 at 16:01:28
ELAPSED TIME: 00 m 02 s

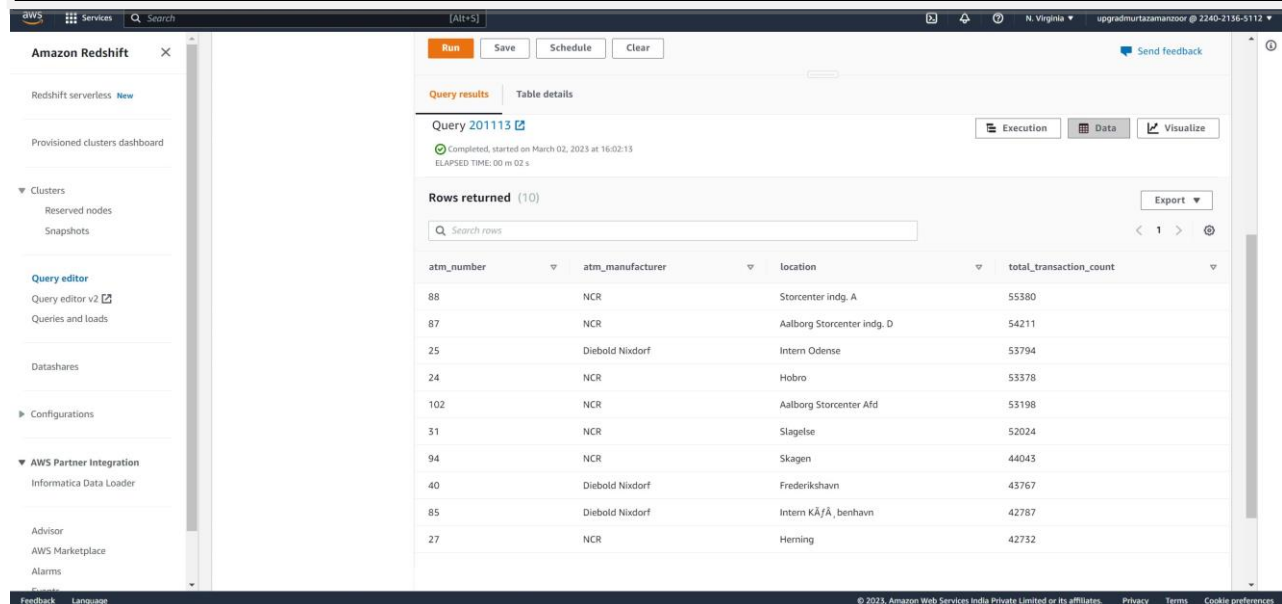
Rows returned (10)

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_data.fact_atm_trans f, atm_data.dim_atm a,
atm_data.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;
```

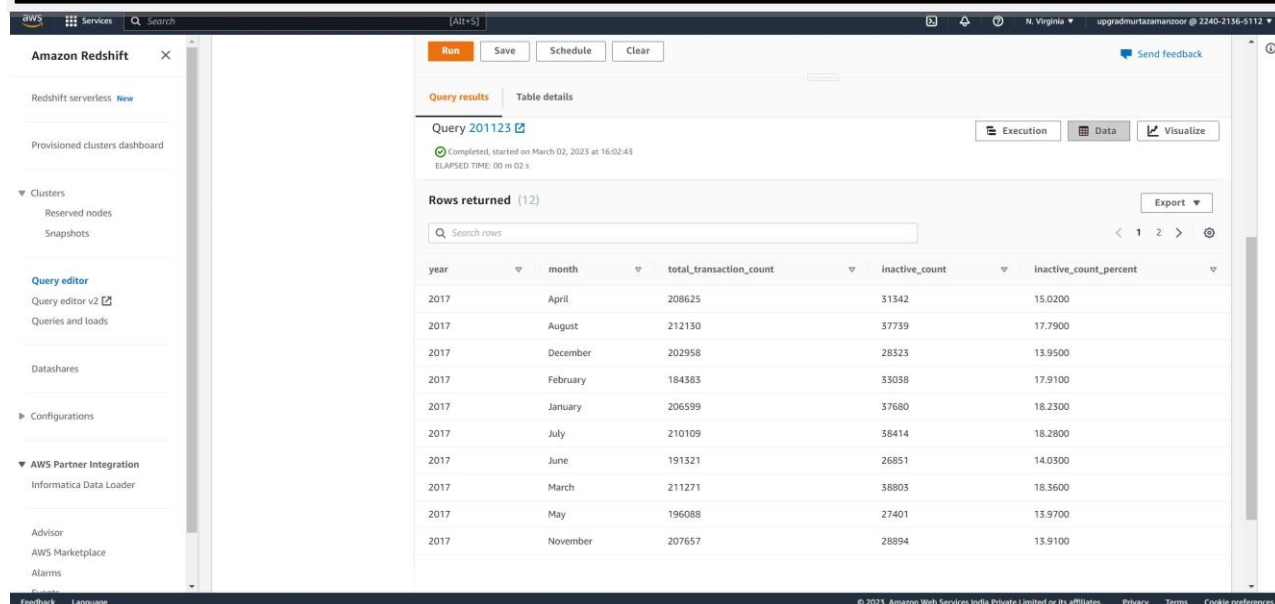


The screenshot shows the Amazon Redshift Query Editor interface. The query results are displayed in a table with the following columns: atm_number, atm_manufacturer, location, and total_transaction_count. The results are sorted in descending order of total_transaction_count, showing the top 10 ATMs.

atm_number	atm_manufacturer	location	total_transaction_count
88	NCR	Storcenter indg. A	55380
87	NCR	Aalborg Storcenter indg. D	54211
25	Diebold Nixdorf	Intern Odense	53794
24	NCR	Hobro	53378
102	NCR	Aalborg Storcenter Afd	53198
31	NCR	Slagelse	52024
94	NCR	Skagen	44043
40	Diebold Nixdorf	Frederikshavn	43767
85	Diebold Nixdorf	Intern K&A, benhavn	42787
27	NCR	Herning	42732

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_data.fact_atm_trans f inner join atm_data.dim_date d on f.date_id
=d.date_id
group by d.year,
d.monthorder by
d.year, d.month
```

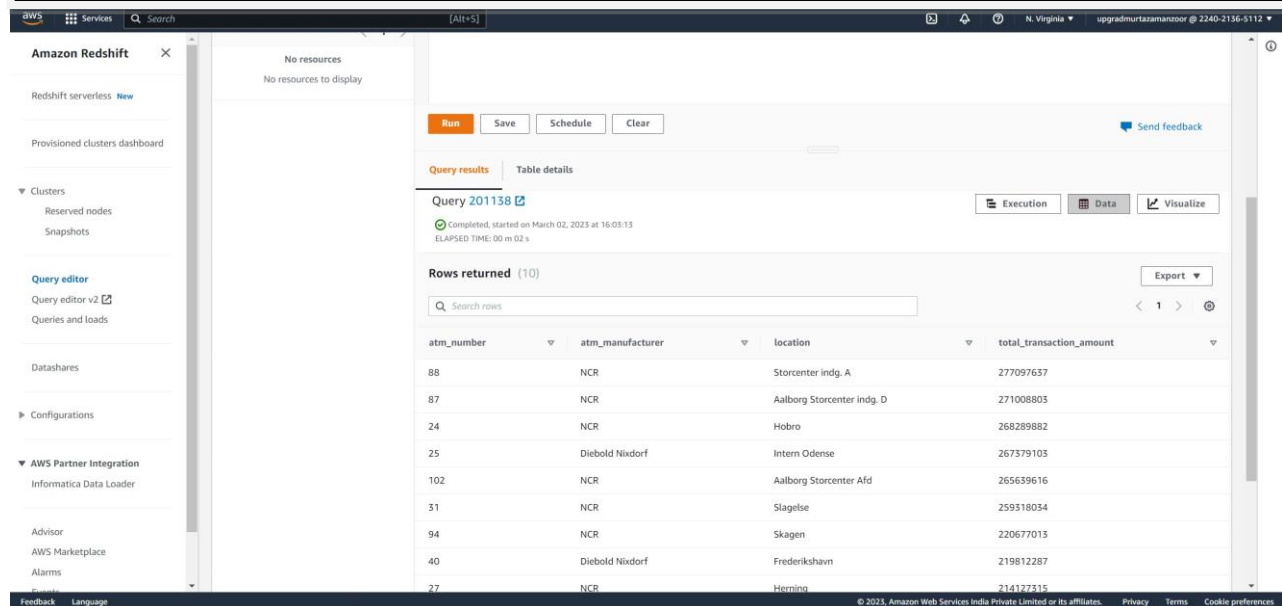


The screenshot shows the Amazon Redshift Query Editor interface. The query results are displayed in a table with the following columns: year, month, total_transaction_count, inactive_count, and inactive_count_percent. The results show data for the year 2017 across various months.

year	month	total_transaction_count	inactive_count	inactive_count_percent
2017	April	208625	31342	15.0200
2017	August	212130	37739	17.7900
2017	December	202958	28323	13.9500
2017	February	184383	33038	17.9100
2017	January	206599	37680	18.2300
2017	July	210109	38414	18.2800
2017	June	191321	26851	14.0300
2017	March	211271	38803	18.3600
2017	May	196088	27401	13.9700
2017	November	207657	28894	13.9100

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_data.fact_atm_trans f, atm_data.dim_atm a,
atm_data.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;
```

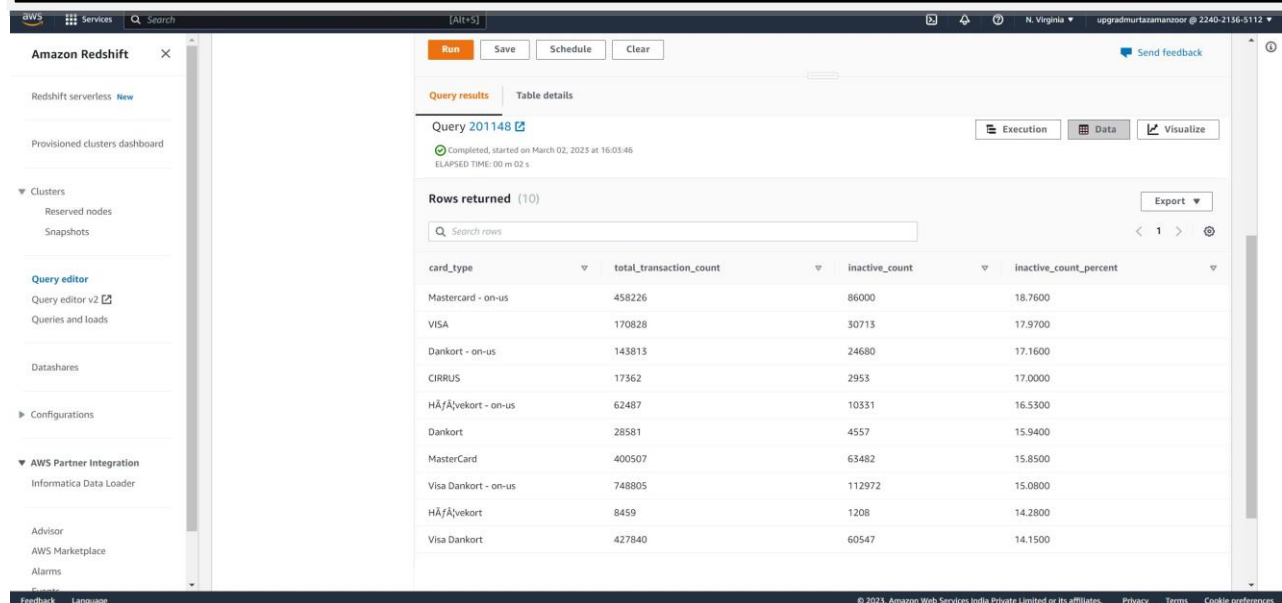


The screenshot shows the Amazon Redshift console interface. The left sidebar contains navigation options like 'Amazon Redshift', 'Redshift serverless', 'Provisioned clusters dashboard', 'Clusters', 'Query editor', 'Datashares', 'Configurations', 'AWS Partner Integration', 'Advisor', 'AWS Marketplace', and 'Alarms'. The main area displays the results of a query (Query 201138) which was completed on March 02, 2023 at 16:03:13. The query results are shown in a table with 4 columns: atm_number, atm_manufacturer, location, and total_transaction_amount. The table lists the top 10 ATMs based on their total transaction amount.

atm_number	atm_manufacturer	location	total_transaction_amount
88	NCR	Storcenter indg. A	277097637
87	NCR	Aalborg Storcenter indg. D	271008803
24	NCR	Hobro	268289882
25	Diebold Nixdorf	Intern Odense	267379103
102	NCR	Aalborg Storcenter Afd	265639616
31	NCR	Slagelse	259318034
94	NCR	Skagen	220677013
40	Diebold Nixdorf	Frederikshavn	219812287
27	NCR	Herning	214177315

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_data.fact_atm_trans f,
atm_data.dim_card_type ctwhere f.card_type_id =
ct.card_type_id
group by ct.card_type
order by inactive_count_percent
desclimit 10;
```



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¶fÃ¶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¶fÃ¶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_data.fact_atm_trans f, atm_data.dim_atm a, atm_data.dim_location l,
atm_data.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 201163

Completed, started on March 02, 2023 at 16:04:12
ELAPSED TIME: 00 m 03 s

Rows returned: 10

Search rows

atm_number	atm_manufacturer	location	weekend_flag	total_transaction_count
1	NCR	NÄ/Åstved	0	10621
1	NCR	NÄ/Åstved	1	4319
100	NCR	Intern Skive	0	4380
100	NCR	Intern Skive	1	1870
100	NCR	Skive Lobby	0	6568
100	NCR	Skive Lobby	1	2578
101	NCR	Bryggen Vejle	0	24235
101	NCR	Bryggen Vejle	1	9490
102	NCR	Aalborg Storcenter Afd	0	37798
102	NCR	Aalborg Storcenter Afd	1	15400

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

▶ dim_location

...

▶ fact_atm_trans

...

Rows returned (2)

Export ▼

Q Search rows

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