



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 1

select top 10 atm.atm_number,atm.atm_manufacturer,loc.location,
count(fct.trans_id) as total_transaction_count,
count(fct.atm_status) as inactive_count,
cast(cast(inactive_count as decimal(30,4))/cast(total_transaction_count as decimal(30,4)) as
decimal(10,4))*100 as inactive_count_perc
from etl_project.fact_atm_trans fct
inner join etl_project.dim_atm atm on fct.atm_id = atm.atm_id
inner join etl_project.dim_location loc on atm.atm_location_id = loc.location_id
where atm_status='Inactive'
group by 1,2,3
order by total_transaction_count desc

atm_number ▽	atm_manufacture r ▽	location ∇	total_transaction_coun t ▽	inactive_count ▽	inactive_count_per c ▽
16	NCR	Skive	44043	44043	100.0000
12	NCR	$\tilde{A}f$ Ëœster $\tilde{A}f$ Â¥ Duus	33982	33982	100.0000
2	NCR	Vejgaard	33725	33725	100.0000
88	NCR	Storcenter indg. A	32183	32183	100.0000
30	NCR	Nyk $\tilde{\mathbf{A}}f\hat{\mathbf{A}}$, bing Mors	30883	30883	100.0000
52	NCR	Fars $ ilde{A}f\hat{A}$,	27361	27361	100.0000
50	NCR	Aarhus	23416	23416	100.0000
29	NCR	Skelagervej 15	20773	20773	100.0000
81	NCR	Spar K $ ilde{A}f\hat{A}$, bmand Tornh $ ilde{A}f\hat{A}$, j	20148	20148	100.0000
102	NCR	Aalborg Storcenter Afd	18297	18297	100.0000





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

Query 2

select weather_main,count(trans_id) as total_transaction_count, count(case when atm_status = 'Inactive' then trans_id else null end) as inactive_count, cast(cast(inactive_count as decimal(30,4))/cast(total_transaction_count as decimal(30,4)) as decimal(10,4))*100 as inactive_count_perc from etl_project.fact_atm_trans where weather_main <> "
group by 1

						`
weather_main	∇	total_transaction_count	∇	inactive_count	∇	inactive_count_perc
Snow		23405		4813		20.5600
Clear		543949		85531		15.7200
Drizzle		62530		8670		13.8600
Rain		545134		86017		15.7700
Clouds		1181901		194027		16.4100
Mist		82801		12864		15.5300
Fog		18174		3729		20.5100
Thunderstorm		2549		361		14.1600
Haze		3		0		0.0000
TORNADO		38		1		2.6300





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

Query 3

select top 10 atm.atm_number,atm.atm_manufacturer,loc.location,count(trans_id) as total_transaction_count from etl_project.fact_atm_trans fact inner join etl_project.dim_atm atm on atm.atm_id=fact.atm_id inner join etl_project.dim_location loc on loc.location_id=fact.weather_loc_id group by 1,2,3 order by total_transaction_count desc

Q Search rows				
atm_number	▼ atm_manufacturer	∇ location	▽	total_transaction_count
39	NCR	Svenstrup		55380
20	NCR	Bispensgade		54211
10	NCR	$N\tilde{A}f\hat{A}$, rresundby		53794
24	NCR	Hobro		53378
45	NCR	Abildgaard		53198
16	NCR	Skive		44043
40	Diebold Nixdorf	Frederikshavn		43767
1	NCR	NÃ f Â $_{!}$ stved		42786
41	Diebold Nixdorf	Skagen		42732
48	Diebold Nixdorf	$Br \tilde{A} f \hat{A}$, nderslev		42493

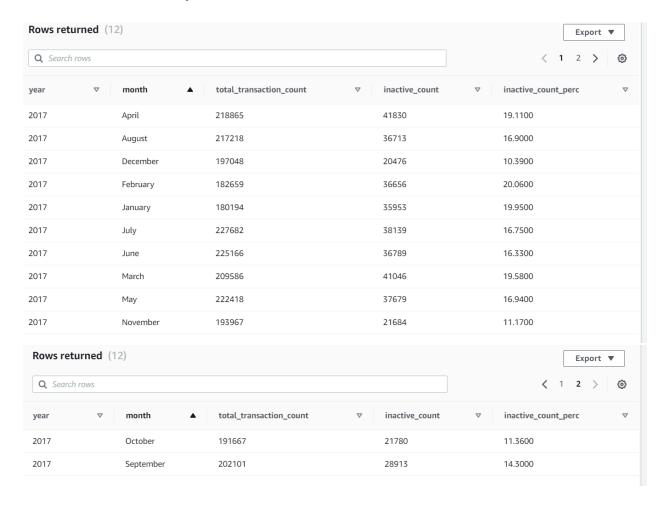




4. Number of overall ATM transactions going inactive per month for each month

Query 4

select date.year,date.month,count(fact.trans_id) as total_transaction_count, count(case when atm_status = 'Inactive' then trans_id else null end) as inactive_count, cast(cast(inactive_count as decimal(30,4))/cast(total_transaction_count as decimal(30,4)) as decimal(10,4))*100 as inactive_count_perc from etl_project.fact_atm_trans fact inner join etl_project.dim_date date on date.date_id=fact.date_id group by 1,2 order by total_transaction_count desc







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

Query 5

select top 10 atm.atm_number,atm.atm_manufacturer,loc.location,sum(transaction_amount) as total_transaction_amount from etl_project.fact_atm_trans fact inner join etl_project.dim_atm atm on atm.atm_id=fact.atm_id inner join etl_project.dim_location loc on loc.location_id=fact.weather_loc_id group by 1,2,3 order by total_transaction_amount desc

atm_number	∇	atm_manufacturer	▼	location	∇	total_transaction_amount
39		NCR		Svenstrup		277097637
20		NCR		Bispensgade		271008803
24		NCR		Hobro		268289882
10		NCR		$N\tilde{A}f\hat{A}$, rresundby		267379103
45		NCR		Abildgaard		265639616
16		NCR		Skive		220677013
40		Diebold Nixdorf		Frederikshavn		219812287
41		Diebold Nixdorf		Skagen		214127315
1		NCR		N $\tilde{A}f\hat{A}_{i}^{l}$ stved		213715474
48		Diebold Nixdorf		$Br\tilde{A}f\hat{A}_{,}$ nderslev		212883099





6. Number of failed ATM transactions across various card types

Query 6

select top 10 card.card_type,count(fact.trans_id) as total_transaction_count,count(case when atm_status = 'Inactive'

then trans id else null end) as inactive count,

cast(cast(inactive_count as decimal(30,4))/cast(total_transaction_count as decimal(30,4)) as decimal(10,4))*100 as inactive_count_percent

from etl_project.fact_atm_trans fact

inner join etl_project.dim_card_type card on fact.card_type_id=card.card_type_id group by 1

order by total_transaction_count desc

Q Search rows			•
card_type	▼ total_transact	tion_count	ount
Visa Dankort - on-us	748805	112972	15.0800
Mastercard - on-us	458226	86000	18.7600
Visa Dankort	427840	60547	14.1500
MasterCard	400506	63482	15.8500
VISA	170828	30713	17.9700
Dankort - on-us	143813	24680	17.1600
HÃ f Â $^{ ext{l}}_{ ext{l}}$ vekort - on-us	62487	10331	16.5300
Dankort	28581	4557	15.9400
CIRRUS	17362	2953	17.0000
Hævekort	8459	1208	14.2800

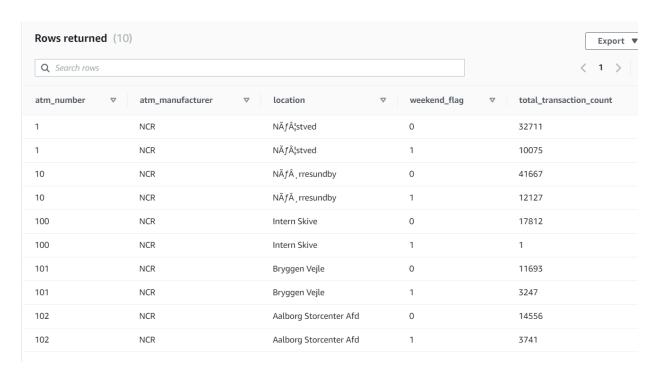




7. Number of transactions happening on an ATM on weekdays and on weekends throughout the year. Order this by the ATM_number, ATM_manufacturer, location, weekend_flag and then total_transaction_count

Query 7

select top 10 atm.atm_number, atm.atm_manufacturer, loc.location, case when date.weekday IN ('Saturday','Sunday') then 1 else 0 end as weekend_flag, count(fact.trans_id) as total_transaction_count from ETL_Project.FACT_ATM_TRANS fact Inner join ETL_Project.dim_atm atm on atm.ATM_ID=fact.ATM_ID Inner join ETL_Project.dim_location loc on loc.location_id=fact.weather_loc_id Inner join ETL_Project.dim_date date on date.date_id=fact.date_id GROUP BY 1,2,3,4
ORDER BY 1,2,3,4,5







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

Query 8

select top 2 atm.atm_number,atm.atm_manufacturer,loc.location,date.weekday, count(fact.trans_id)as total_transaction_count from etl_project.fact_atm_trans fact inner join etl_project.dim_atm atm on atm.atm_id=fact.atm_id inner join etl_project.dim_location loc on loc.location_id=fact.weather_loc_id inner join etl_project.dim_date date on date.date_id=fact.date_id where loc.location='Vejgaard' group by 1,2,3,4 order by weekday,total_transaction_count

