

# Screenshots of the configuration of the Redshift cluster

The screenshot displays the Amazon Redshift console interface. The left sidebar shows the navigation menu with options like Redshift Serverless, Provisioned clusters dashboard, Clusters, Query editor, and IAM Identity Center connections. The main content area shows the configuration for the cluster 'etl-sn-bank-atm'. The 'General information' tab is active, displaying details such as Cluster identifier, Status (Available), Node type (dc2.large), Endpoint, and JDBC/ODBC URLs. The cluster is in the 'Production' configuration and has 1 node.

General information			
Cluster identifier	Status	Node type	Endpoint
etl-sn-bank-atm	Available	dc2.large	etl-sn-bank-atm.cmlngoeirkwf.us-east-1.redshift.amazonaws.com:2510/dev
Custom domain name	Date created	Number of nodes	JDBC URL
-	April 27, 2024, 14:37 (UTC+05:30)	1	jdbc:redshift://etl-sn-bank-atm.cmlngoeirkwf.us-east-1.redshift.amazonaws.com:2510/dev
Cluster namespace ARN	Storage used	Multi-AZ	ODBC URL
arn:aws:redshift:us-east-1:891377364898:namespace:f136ae41-49f3-40d6-8f29-4375fa96561	0.02% (0.03 of 160 GB used)	No	Driver={Amazon Redshift (x64)}; Server=etl-sn-bank-atm.cmlngoeirkwf.us-east-1.redshift.amazonaws.com; Database=dev
Cluster configuration			
Production			

The screenshot displays the Amazon Redshift console interface, focusing on the monitoring and metrics for the cluster 'etl-sn-bank-atm'. The 'Cluster metrics' tab is active, showing a line graph for CPU utilization and a bar chart for Percentage disk space used. The CPU utilization graph shows a decreasing trend over time, while the disk space used bar chart shows a low, stable usage level.

Cluster metrics (11/11)

CPU utilization: The percentage of CPU utilization. The graph shows a decreasing trend from approximately 45% to 10% over the last hour.

Percentage disk space used: The percent of disk space used. The bar chart shows a low, stable usage level around 0.01%.

The screenshot displays the Amazon Redshift console interface, focusing on the database configurations for the cluster 'etl-sn-bank-atm'. The 'Database configurations' tab is active, showing a table with columns for Database name, Port, Admin user name, Parameter group, Encryption, and Audit logging.


Database name	Port	Admin user name	Parameter group	Encryption	Audit logging
dev	2510	awsuser	default:redshift-1.0	Disabled	Disabled

Network and security settings [Info](#)

Edit

Virtual private cloud (VPC)  
vpc-080da7f02b96705e4 [🔗](#)

Subnet group  
cluster-subnet-group-1

Endpoint URL  
 -

Availability Zone  
us-east-1f

Enhanced VPC routing  
Disabled

VPC security group  
Specify which instances and devices can connect to the cluster.  
sg-0ff09fae7961d99ff [🔗](#)

IP address type  
-

Publicly accessible  
Allow connections from outside the VPC.  
Disabled

Cluster permissions

📘

Create an IAM role as the default for this cluster that has the [AmazonRedshiftAllCommandsFullAccess](#) [🔗](#) policy attached. This policy includes permissions to run SQL commands to COPY, UNLOAD, and query data with Amazon Redshift. The policy also grants permissions to run SELECT statements for related services, such as Amazon S3, Amazon CloudWatch logs, Amazon SageMaker, and AWS Glue.

Associated IAM roles (1) [Info](#)

Set default ▾

Manage IAM roles ▾

Create, associate, or remove an IAM role. You can associate up to 50 IAM roles. You can also choose an IAM role and set it as the default for this cluster.

🔍 Search for associated IAM role by name, status, or role type

< 1 >

☐

IAM roles [🔗](#)


▾

Status ▾

Role type ▾

☐

myRedshiftrole

 in-sync

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## Setting up a database in the Redshift cluster and running queries to create the dimension and fact tables

Query 1: create schema atm\_data

## Query 2: Creating DIM\_LOCATION

```
create table atm_data.DIM_LOCATION (  
    location_id int not null DISTKEY SORTKEY,  
    location varchar(60),  
    streetname varchar(200),  
    street_number int,  
    zipcode int,  
    lat decimal(10,3),  
    lon decimal(10,3),  
    PRIMARY KEY(location_id)  
);
```

The screenshot displays the Redshift query editor v2 interface. On the left, a sidebar shows the 'awsdatacatalog' with a tree view containing 'dev', 'atm\_data', 'Tables', 'Views', 'Functions', and 'Stored proce...'. The main editor area shows a SQL query being executed. The query is as follows:

```
1 create schema atm_data;  
2  
3 create table atm_data.DIM_LOCATION  
4 (  
5     location_id int not null DISTKEY SORTKEY,  
6     location varchar(60),  
7     streetname varchar(200),  
8     street_number int,  
9     zipcode int,  
10    lat decimal(10,3),  
11    lon decimal(10,3),  
12    PRIMARY KEY(location_id)  
13 );
```

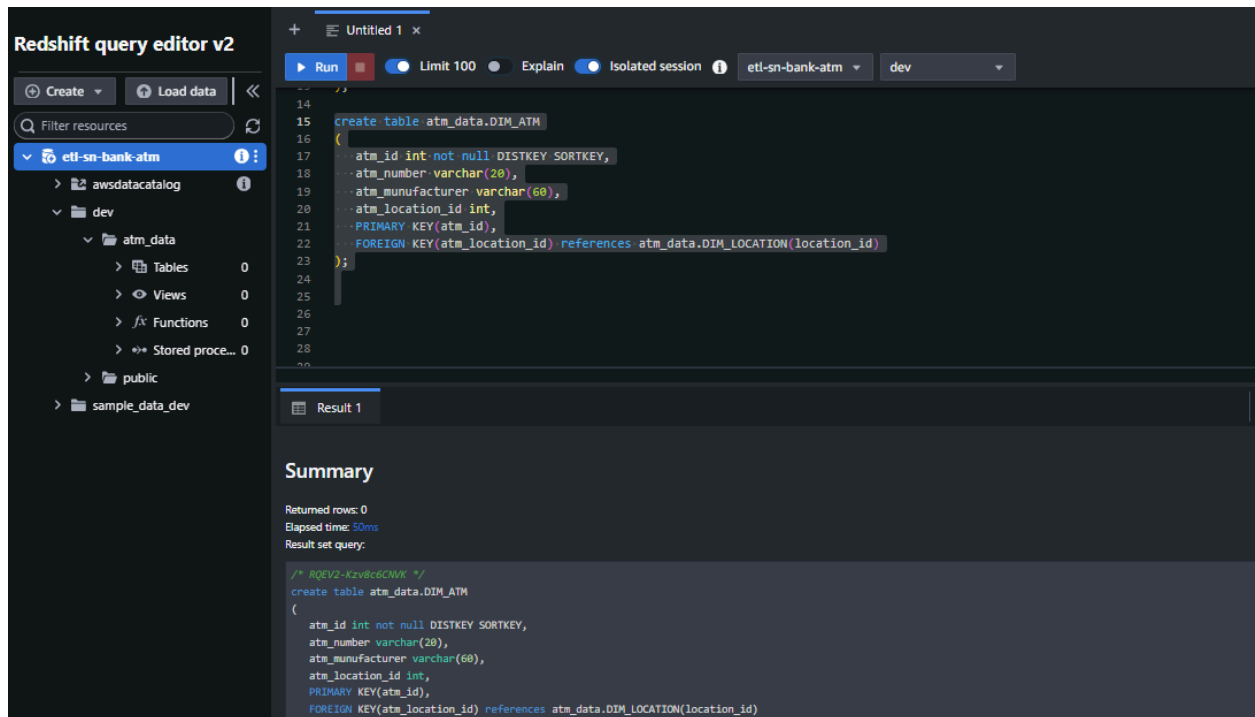
Below the query editor, the 'Result 1' tab is active, showing a 'Summary' section with the following information:

- Returned rows: 0
- Elapsed time: 82ms
- Result set query:

```
/* RDSV2-SAMPLESQL */  
create table atm_data.DIM_LOCATION  
(  
    location_id int not null DISTKEY SORTKEY,  
    location varchar(60),  
    streetname varchar(200),  
    street_number int,  
    zipcode int,  
    lat decimal(10,3),  
    lon decimal(10,3),
```

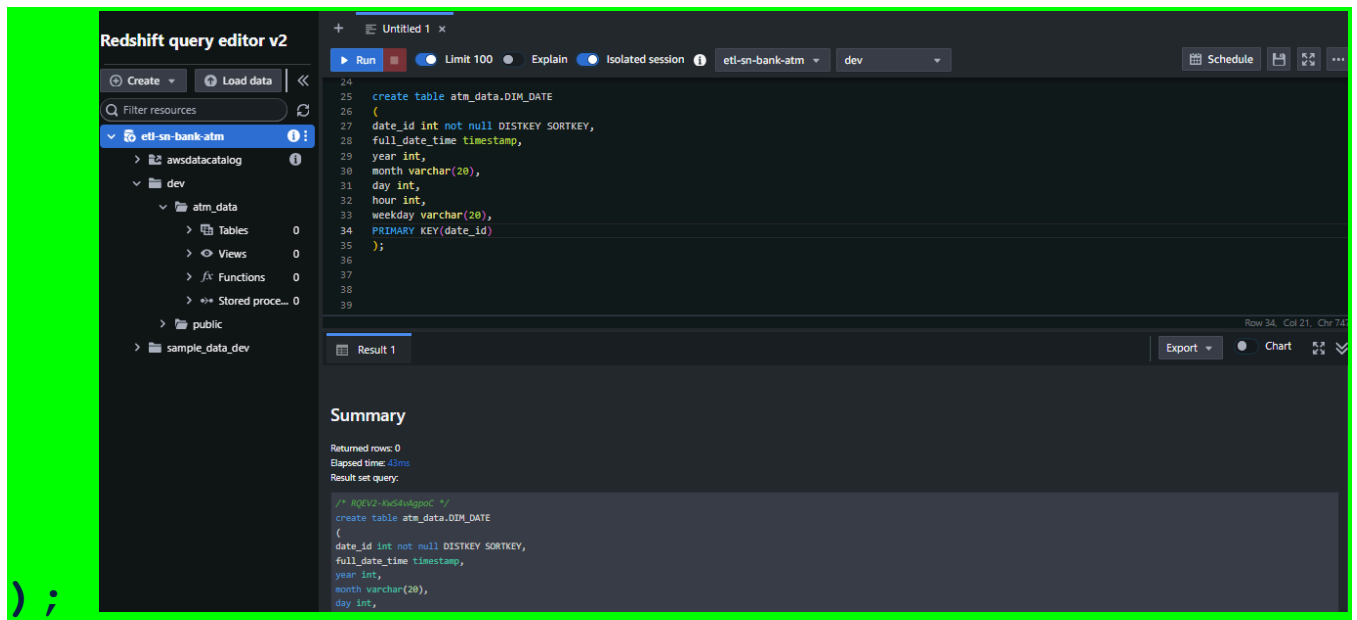
### Query 3: Creating DIM\_ATM

```
create table atm_data.DIM_ATM
(
    atm_id int not null DISTKEY SORTKEY,
    atm_number varchar(20),
    atm_manufacturer varchar(60), atm_location_id
    int
    PRIMARY KEY(atm_id),
    FOREIGN KEY(atm_location_id) references
    atm_data.DIM_LOCATION(location_id)
);
```



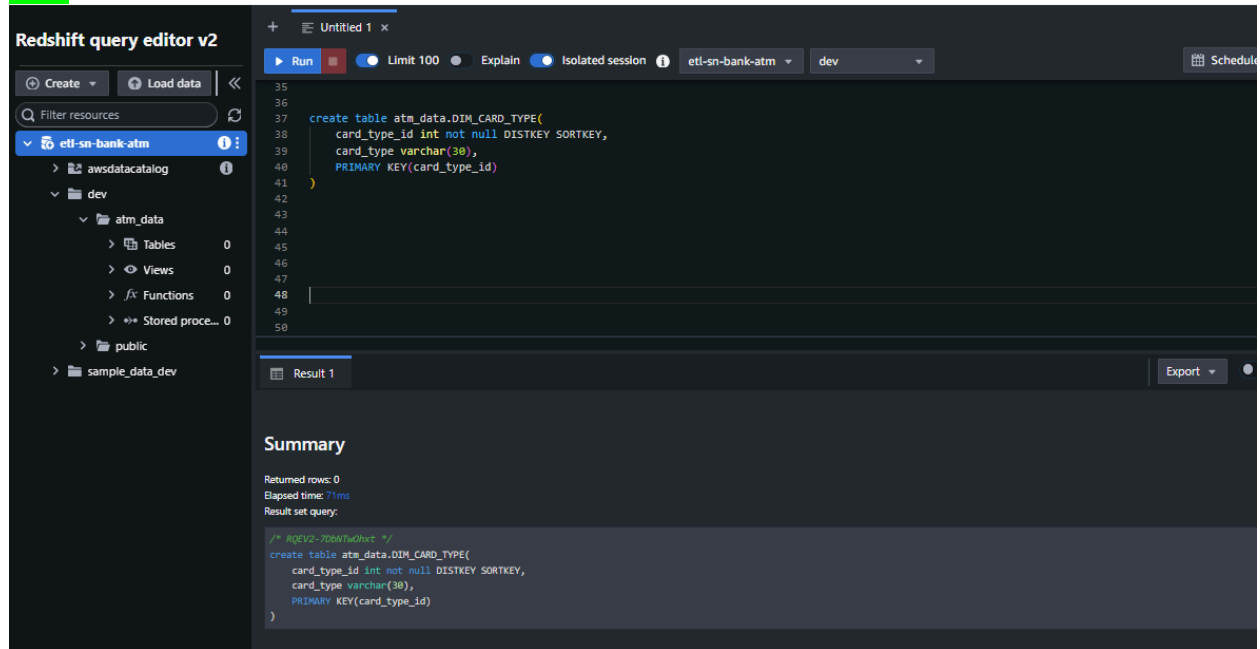
## Query 4: Creating DIM\_DATE

```
create table atm_data.DIM_DATE
(
    date_id int not null DISTKEY SORTKEY,
    full_date_time timestamp,
    year int,
    month varchar(20),
    day int,
    hour int,
    weekday varchar(20),
    PRIMARY KEY(date_id)
```



## Query 5: Creating DIM\_CARD\_TYPE

```
create table atm_data.DIM_CARD_TYPE
(
    card_type_id int not null DISTKEY SORTKEY,
    card_type varchar(30),
    PRIMARY KEY(card_type_id)
);
```



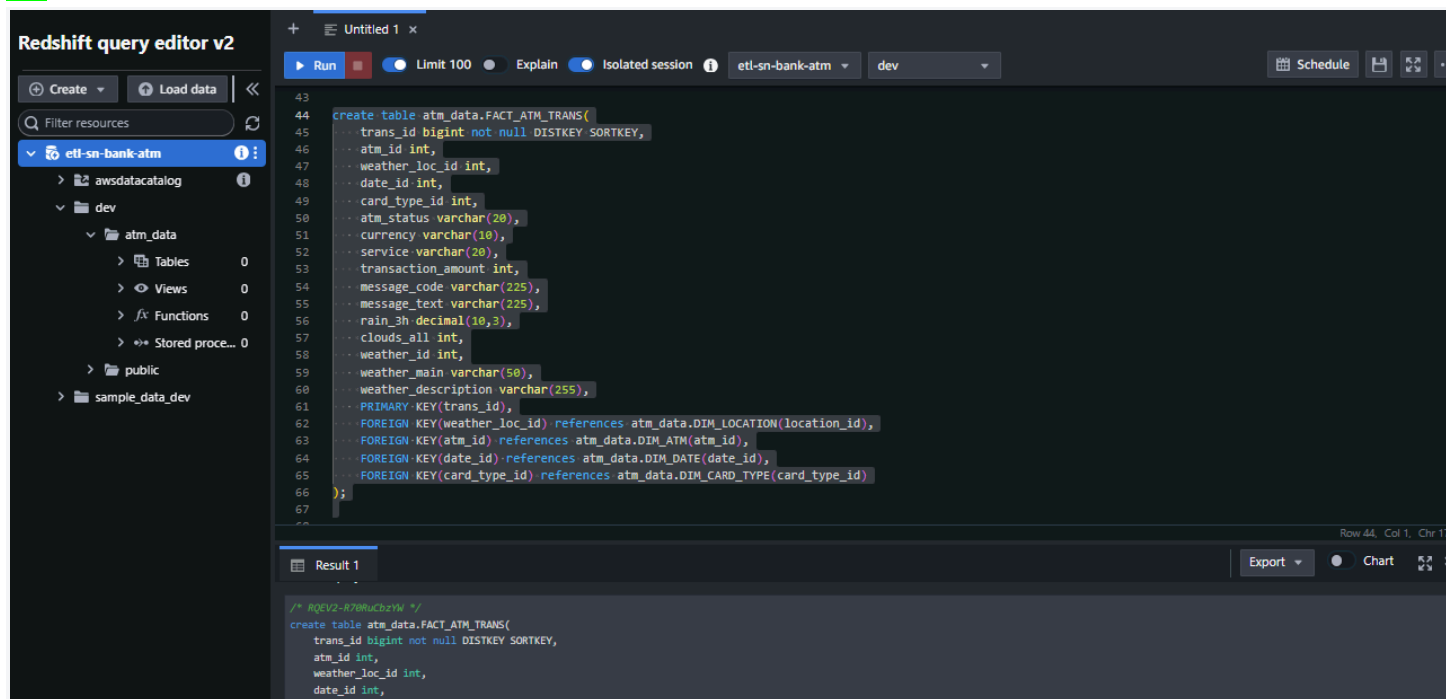
## Query 6: Creating FACT\_ATM\_TRANS

```
create table atm_data.FACT_ATM_TRANS
(
    trans_id bigint not null DISTKEY SORTKEY,
    atm_id int,
    weather loc id int,
    date_id int,
    card_type_id int,
    atm_status varchar(20),
    currency varchar(10),
    service varchar(20),
```

```

transaction_amount int,
message_code varchar(225),
message_text varchar(225),
rain_3h decimal(10,3),
clouds_all int,
weather_id int,
weather_main varchar(50),
weather_description varchar(255),
PRIMARY KEY(trans_id),
FOREIGN KEY(weather_loc_id) references
atm_data.DIM_LOCATION(location_id),
FOREIGN KEY(atm_id) references atm_data.DIM_ATM(atm_id),
FOREIGN KEY(date_id) references atm_data.DIM_DATE(date_id),
FOREIGN KEY(card_type_id) references
atm_data.DIM_CARD_TYPE(card_type_id)
);

```



## Loading data into a Redshift cluster from Amazon S3 bucket

### 1: Copying data to DIM\_ATM

Redshift query editor v2

Create Load data

Filter resources

etl-sn-bank-atm

awsdatacatalog

dev

atm\_data

Tables

dim\_atm

dim\_card\_type

dim\_date

dim\_location

fact\_atm\_trans

Views

Functions

Stored procedures

public

sample\_data\_dev

Untitled 1

Run Limit 100 Explain Isolated session etl-sn-bank-atm dev Schedule

```
69
70
71 copy atm_data.dim_atm
72 from 's3://etlatupgrad/sn_bank_atm/DIM_ATM/part-00000-f446354c-5daf-4670-85b7-6c8b056c2a16-c000.csv'
73 iam_role 'arn:aws:iam::891377364898:role/myredshiftRole'
74 csv
75 DELIMITER ','
76 Region 'us-east-1';
77
78
79
80
81
82
83
84
85
```

Result 1

Export Chart

Summary

Info:

- Load into table 'dim\_atm' completed, 156 record(s) loaded successfully.

Returned rows: 0  
Query ID: 2066  
Elapsed time: 11.6s  
Result set query:

## 2: Copying data to DIM\_CARD\_TYPE:

Redshift query editor v2

Create Load data

Filter resources

etl-sn-bank-atm

awsdatacatalog

dev

atm\_data

Tables

dim\_atm

dim\_card\_type

dim\_date

dim\_location

fact\_atm\_trans

Views

Functions

Stored procedures

public

sample\_data\_dev

Untitled 1

Run Limit 100 Explain Isolated session etl-sn-bank-atm dev Schedule

```
77
78 copy atm_data.dim_card_type
79 from 's3://etlatupgrad/sn_bank_atm/DIM_CARD_TYPE/part-00000-51bb4e77-d85c-4215-9d73-5d9343df1876-c000.csv'
80 iam_role 'arn:aws:iam::891377364898:role/myredshiftRole'
81 csv
82 DELIMITER ','
83 Region 'us-east-1';
84
85
86
87
88
89
90
91
92
93
```

Result 1

Export Chart

Summary

Info:

- Load into table 'dim\_card\_type' completed, 12 record(s) loaded successfully.

Returned rows: 0  
Query ID: 2158  
Elapsed time: 10.9s  
Result set query:

## 3: Copying data to DIM\_DATE:

Redshift query editor v2

Create Load data

Filter resources

etl-sn-bank-atm

awsdatacatalog

dev

atm\_data

Tables

dim\_atm

dim\_card\_type

dim\_date

dim\_location

fact\_atm\_trans

Views

Functions

Stored procedures

public

sample\_data\_dev

Untitled 1

Run Limit 100 Explain Isolated session etl-sn-bank-atm dev Schedule

```
84
85
86 copy atm_data.dim_date
87 from 's3://etlatupgrad/sn_bank_atm/DIM_DATE/part-00000-606ef595-9d79-4004-a0b1-0a30a26e056f-c000.csv'
88 iam_role 'arn:aws:iam::891377364898:role/myredshiftRole'
89 csv
90 DELIMITER ','
91 Region 'us-east-1';
92
93
```



## 4: Copying data to DIM\_LOCATION:

Redshift query editor v2

CreateLoad data

Filter resources

etl-sn-bank-atm

awsdatacatalog

dev

atm\_data

Tables

dim\_atm

dim\_card\_type

dim\_date

dim\_location

fact\_atm\_trans

Views

Functions

Stored procedures

public

sample\_data\_dev

Untitled 1

RunLimit 100ExplainIsolated sessionetl-sn-bank-atmdevSchedule

```
93
94
95 copy atm_data.dim_location
96 from 's3://atlataupgrad/sn_bank_atm/DIM_LOCATION/part-00000-3070b70d-7c92-40cd-b05a-83f91f727350-c900.csv'
97 iam_role 'arn:aws:iam::891377364898:role/myredshiftrole'
98 csv
99 DELIMITER ','
100 Region 'us-east-1';
101
102
103
104
105
106
107
108
109
```

Result 1

ExportChart

Summary

Info:

Load into table 'dim\_location' completed, 109 record(s) loaded successfully.

Returned rows: 0

Query ID: 2312

Elapsed time: 17s

Result set query:

## 5: Copying data to FACT\_ATM\_TRANS:

Redshift query editor v2

CreateLoad data

Filter resources

etl-sn-bank-atm

awsdatacatalog

dev

atm\_data

Tables

dim\_atm

dim\_card\_type

dim\_date

dim\_location

fact\_atm\_trans

Views

Functions

Stored procedures

public

sample\_data\_dev

Untitled 1 x

RunLimit 100ExplainIsolated sessionetl-sn-bank-atmdevSchedule

```
102 copy atm_data.fact_atm_trans
103 from 's3://etlatmupgrad/sn_bank_atm/FACT_ATM_TRANS/part-00000-77ad7dc-c485-4704-b93a-07bdb0269908-c000.csv'
104 iam_role 'arn:aws:iam::891377364898:role/myRedshiftRole'
105 csv
106 DELIMITER ','
107 Region 'us-east-1';
108
109
110
111
112
113
114
115
116
117
118
```

Result 1

ExportChart

Summary

Info:

Load into table 'fact\_atm\_trans' completed, 2468572 record(s) loaded successfully.

Returned rows: 0

Query ID: 2336

Elapsed time: 40.9s

Result set query: