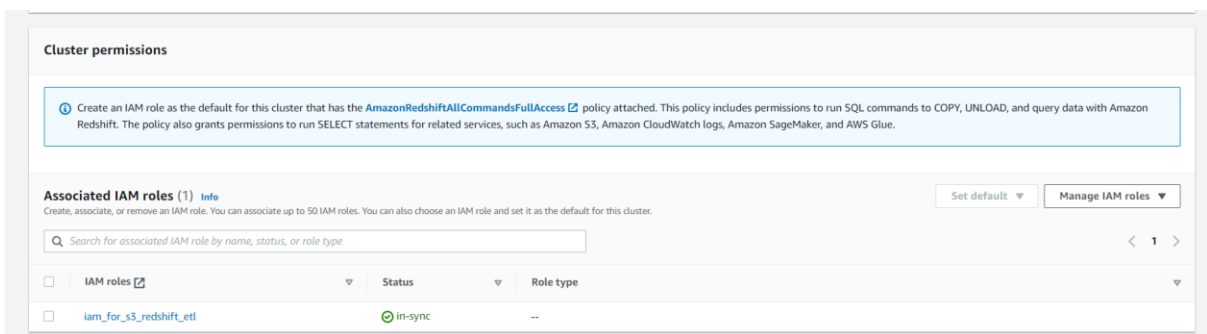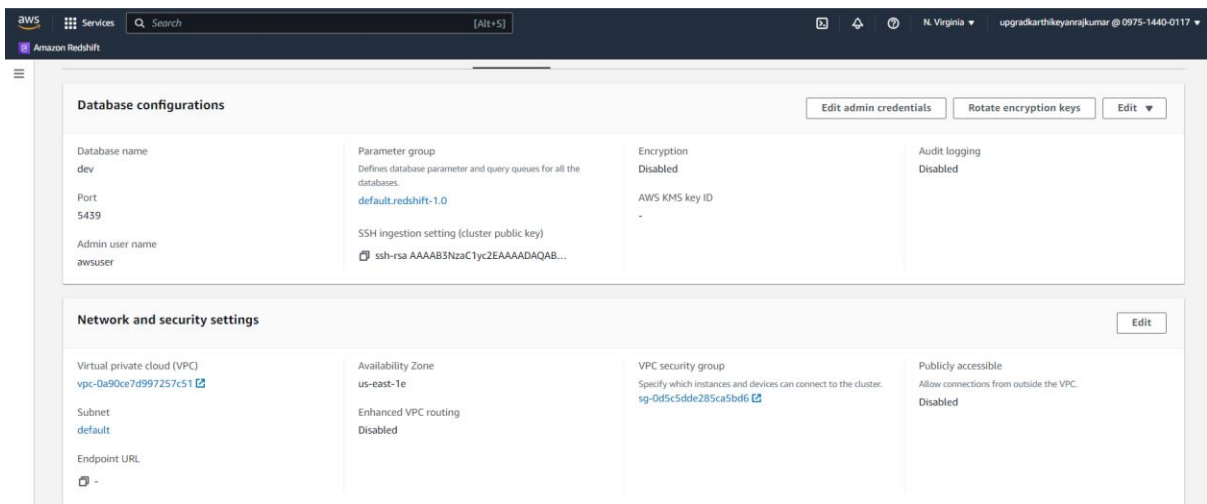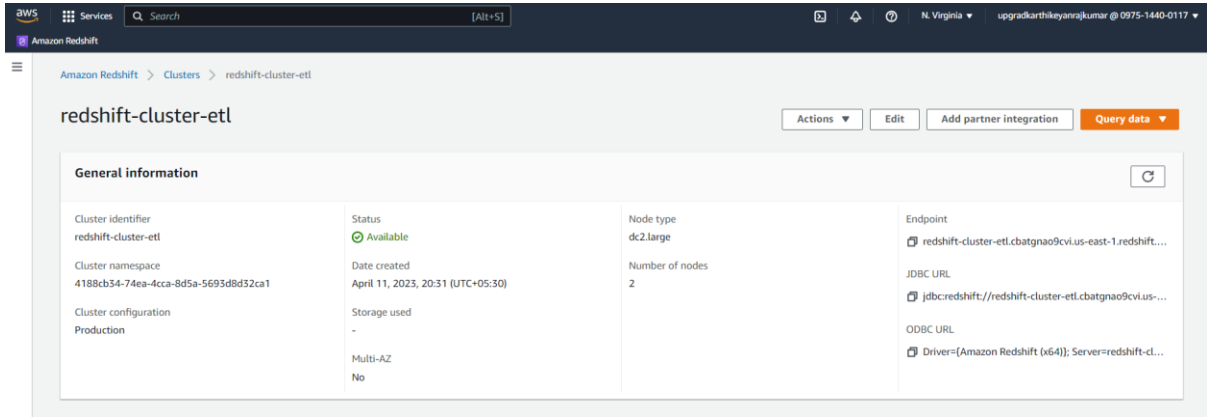# Creation of a Redshift Cluster
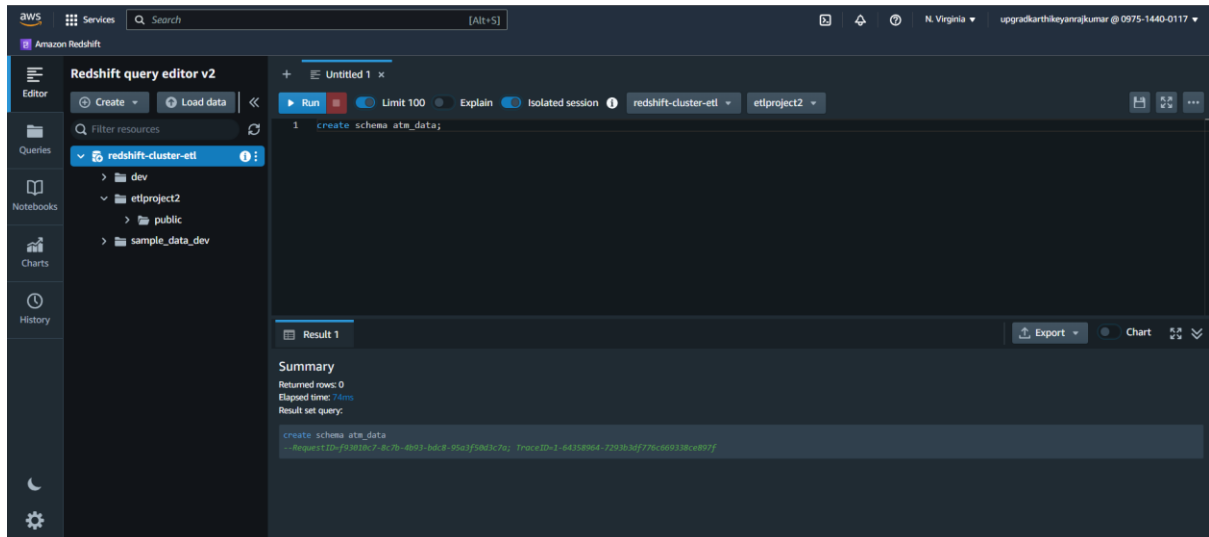
Screenshots of the configuration of the Redshift cluster that I have created:

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

Query for creating schema:

create schema atm_data;

Queries to create the various dimension and fact tables with appropriate primary and foreign keys:

• **Creating location dimension table:**

create table atm_data.DIM_LOCATION

(

location_id int not null DISTKEY SORTKEY,
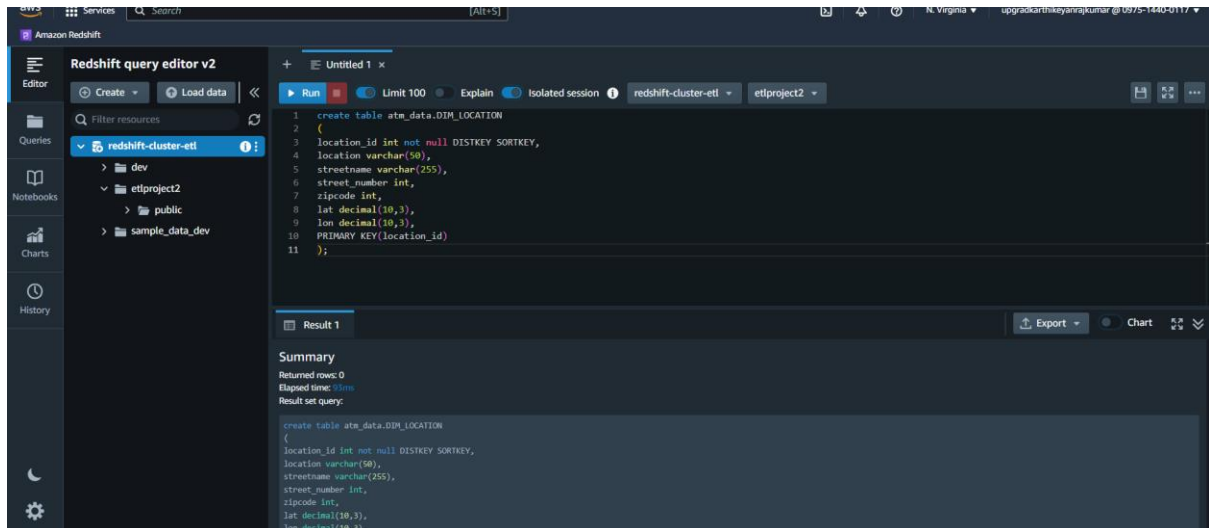
location varchar(50),

streetname varchar(255),

street_number int,

zipcode int,

lat decimal(10,3),

lon decimal(10,3),

PRIMARY KEY(location_id)

);

• **Creating atm dimension table:**

create table atm_data.DIM_ATM

(

atm_id int not null DISTKEY SORTKEY,
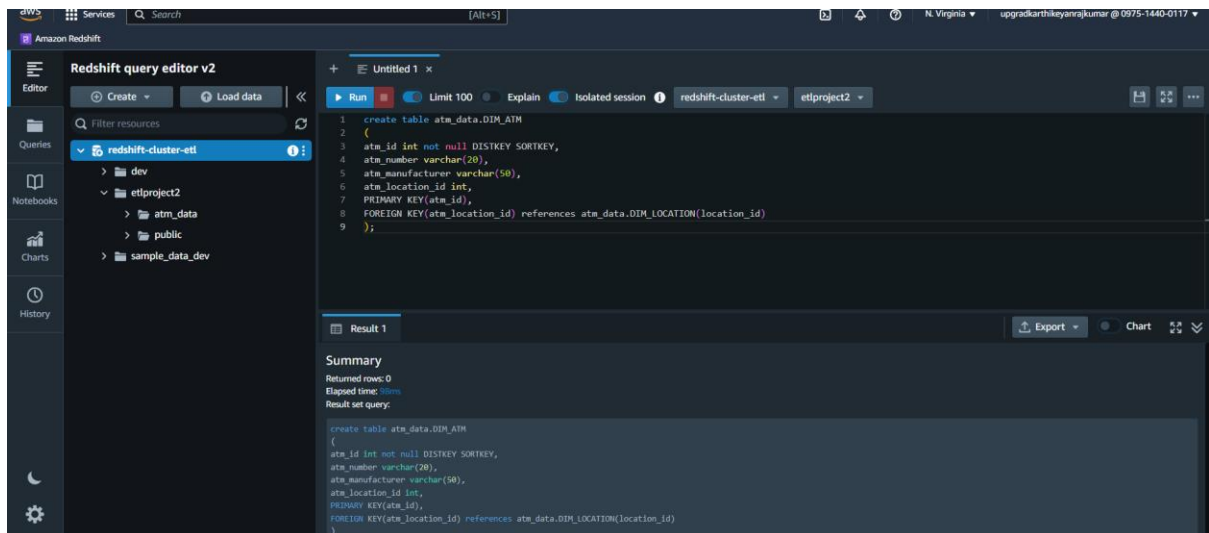
atm_number varchar(20),

atm_manufacturer varchar(50),

atm_location_id int,

PRIMARY KEY(atm_id),

FOREIGN KEY(atm_location_id) references atm_data.DIM_LOCATION(location_id)

);

• **Creating date dimension table:**

create table atm_data.DIM_DATE

(

date_id int not null DISTKEY SORTKEY,
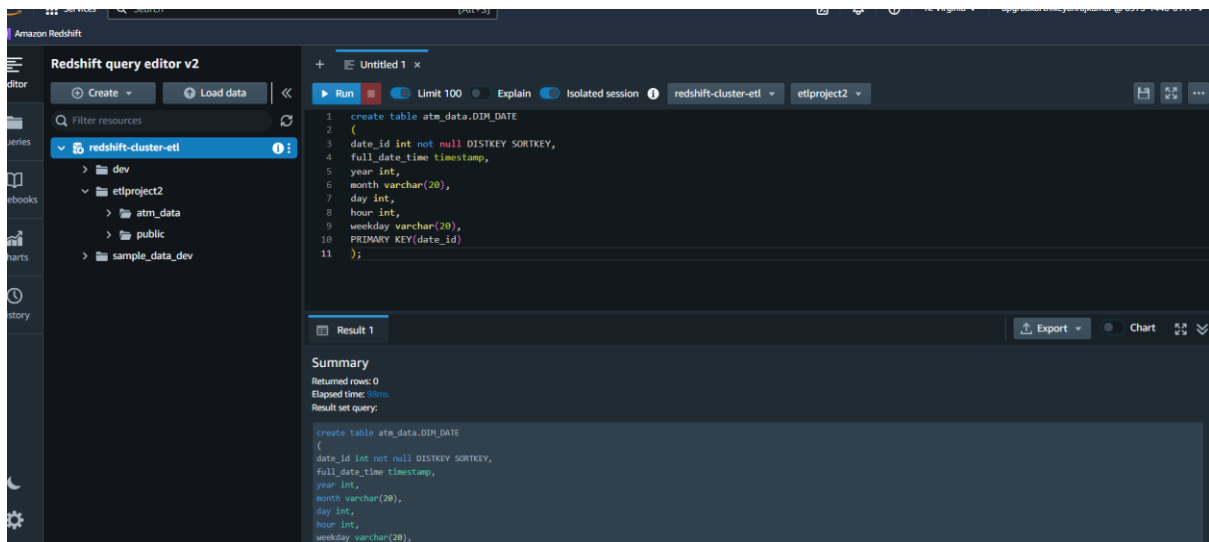
full_date_time timestamp,

year int,

month varchar(20),

day int,

hour int,

weekday varchar(20),

PRIMARY KEY(date_id)

);

• **Creating card type dimension table:**
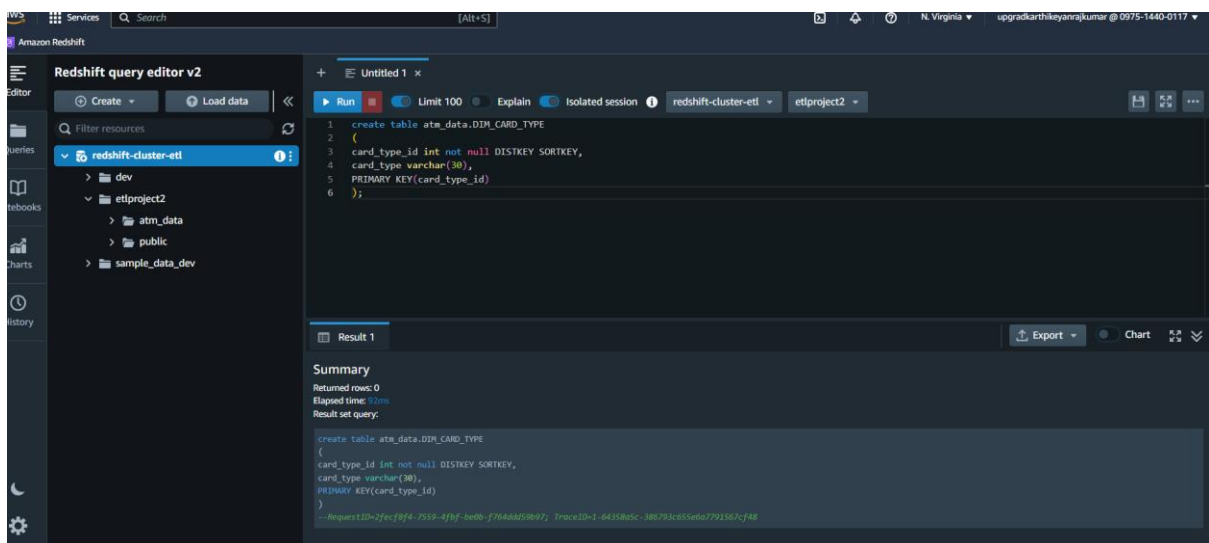
create table atm_data.DIM_CARD_TYPE

(

card_type_id int not null DISTKEY SORTKEY,

card_type varchar(30),

PRIMARY KEY(card_type_id)

);

• Creating atm transactions fact table:

```
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)
);
```

Redshift query editor v2

Untitled 1

```
10   service varchar(20),
11   transaction_amount int,
12   message_code varchar(225),
13   message_text varchar(225),
14   rain_3h decimal(10,3),
15   clouds_all int,
16   weather_id int,
17   weather_main varchar(50),
18   weather_description varchar(255),
19   PRIMARY KEY(trans_id),
20   FOREIGN KEY(weather_loc_id) references atm_data.DIM_LOCATION(location_id),
21   FOREIGN KEY(atm_id) references atm_data.DIM_ATM(atm_id),
22   FOREIGN KEY(date_id) references atm_data.DIM_DATE(date_id),
23   FOREIGN KEY(card_type_id) references atm_data.DIM_CARD_TYPE(card_type_id)
24   );
```

Result 1

Summary

Returned rows: 0
Elapsed time: 122ms
Result set query:

```
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),
```

Loading data into a Redshift cluster from Amazon S3 bucket

Queries to copy the data from S3 buckets to the Redshift cluster in the appropriate tables
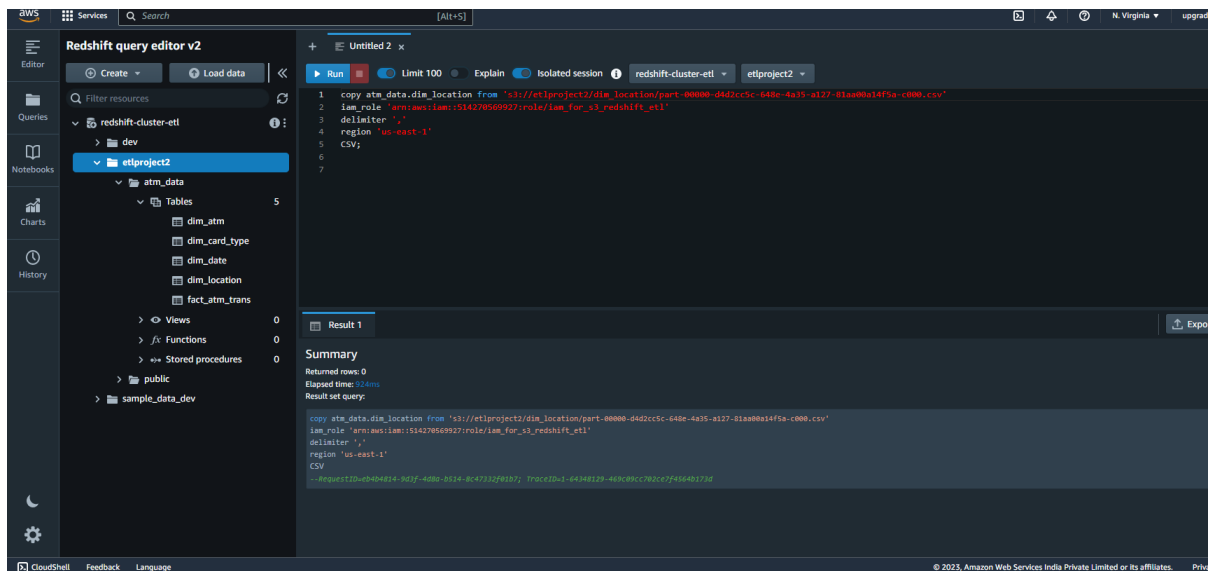
Copying the data to dim_location table

copy atm_data.dim_location from 's3://etlproject2/dim_location/part-00000-d4d2cc5c-648e-4a35-a127-81aa00a14f5a-c000.csv

iam_role 'arn:aws:iam::514270569927:role/iam_for_s3_redshift_etl'

delimiter ','

region 'us-east-1'

CSV;

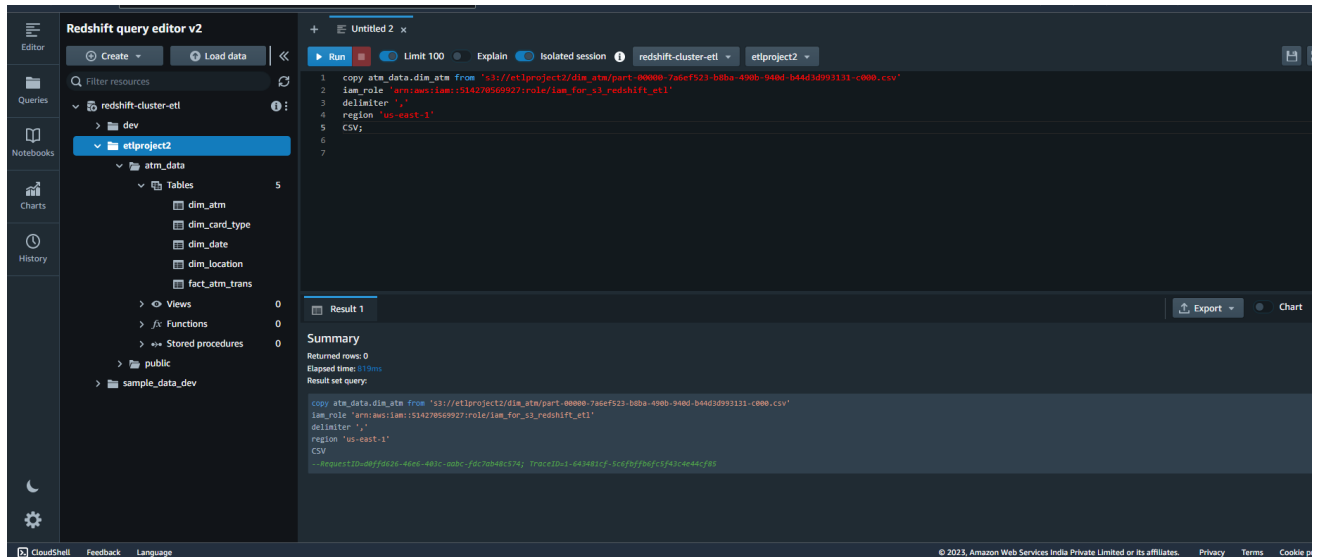**Copying the data to dim_atm table**

copy atm_data.dim_atm from 's3://etlproject2/dim_atm/part-00000-7a6ef523-b8ba-490b-940d-b44d3d993131-c000.csv'

iam_role 'arn:aws:iam::514270569927:role/iam_for_s3_redshift_etl'

delimiter ','

region 'us-east-1'

CSV;

Copying the data to dim_date table

copy atm_data.dim_date from 's3://etlproject2/dim_date/part-00000-5220ab9d-6ffe-4c3d-adcf-bcd2df98a68b-c000.csv'
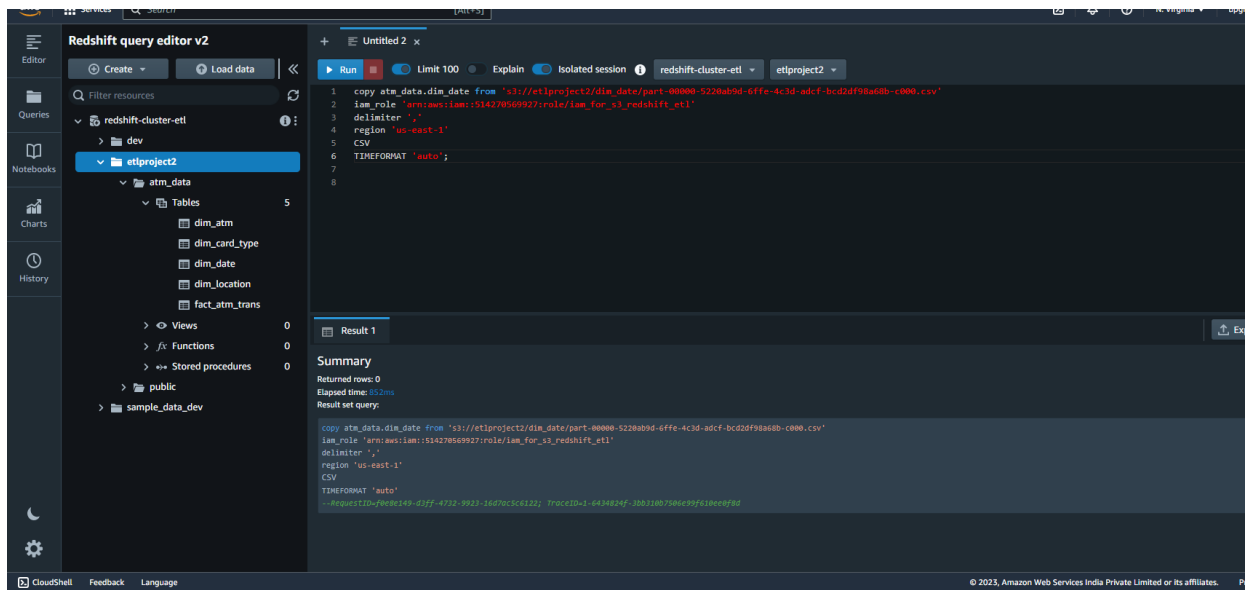
iam_role 'arn:aws:iam::514270569927:role/iam_for_s3_redshift_etl'

delimiter ','

region 'us-east-1'

CSV

TIMEFORMAT 'auto';

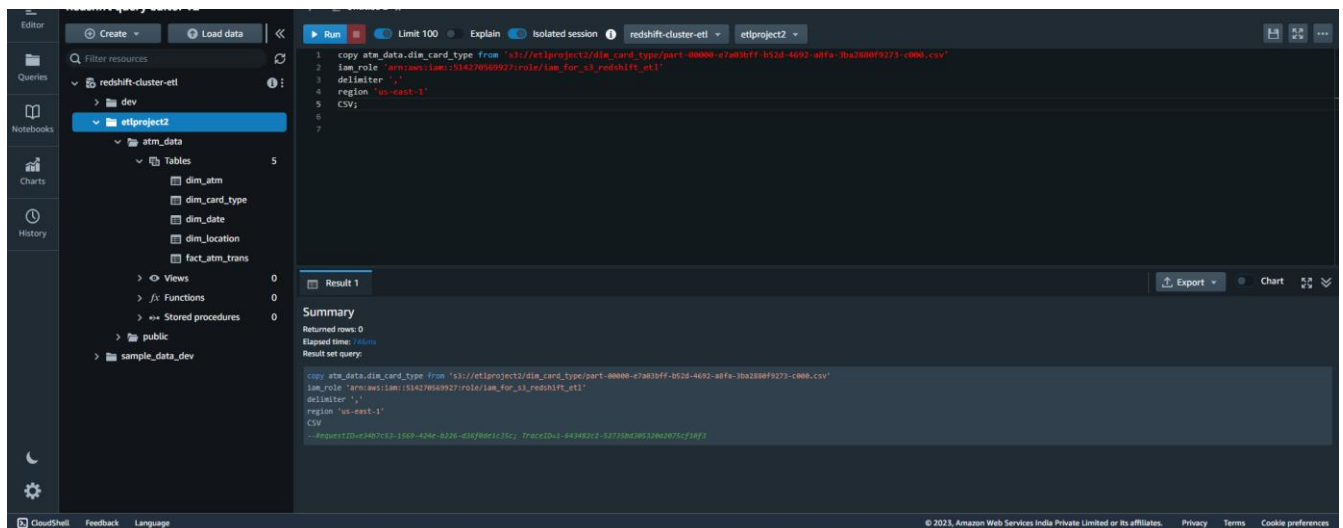**Copying the data to dim_card_type table**

copy atm_data.dim_card_type from 's3://etlproject2/dim_card_type/part-00000-e7a03bff-b52d-4692-a8fa-3ba2880f9273-c000.csv'

iam_role 'arn:aws:iam::514270569927:role/iam_for_s3_redshift_etl'

delimiter ','

region 'us-east-1'

CSV;

Copying the data to fact_atm_trans table

copy atm_data.fact_atm_trans from 's3://etlproject2/fact_atm_trans/part-00000-bc87adae-848d-4915-9cec-0ed34794034f-c000.csv'

iam_role 'arn:aws:iam::514270569927:role/iam_for_s3_redshift_etl'

delimiter ','

region 'us-east-1'

CSV;