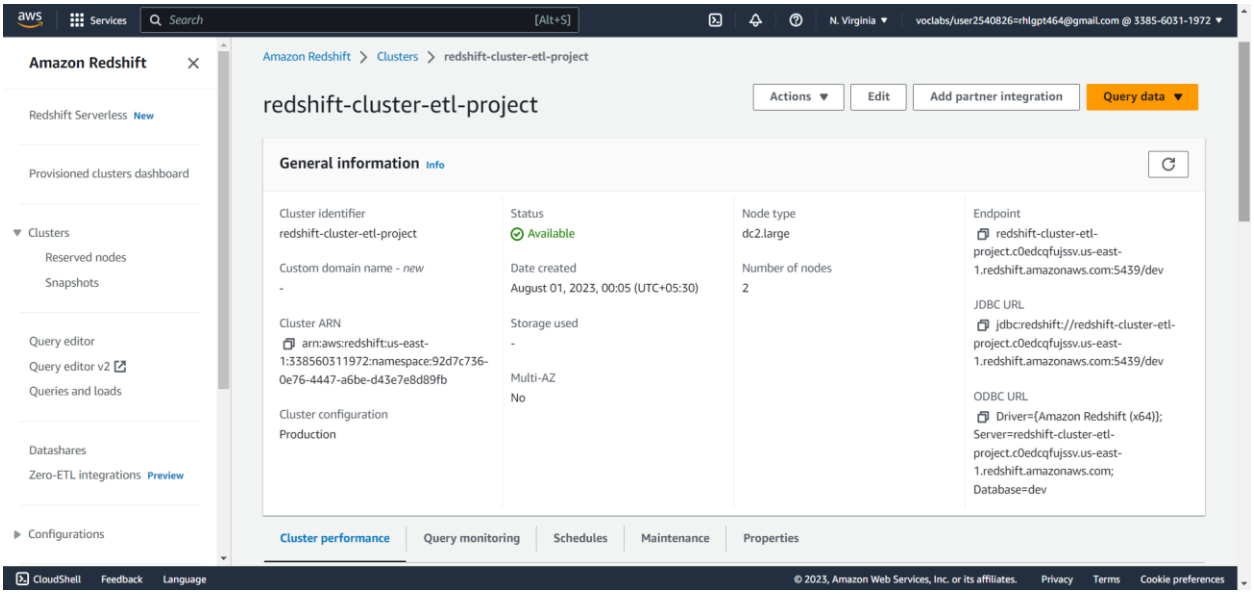
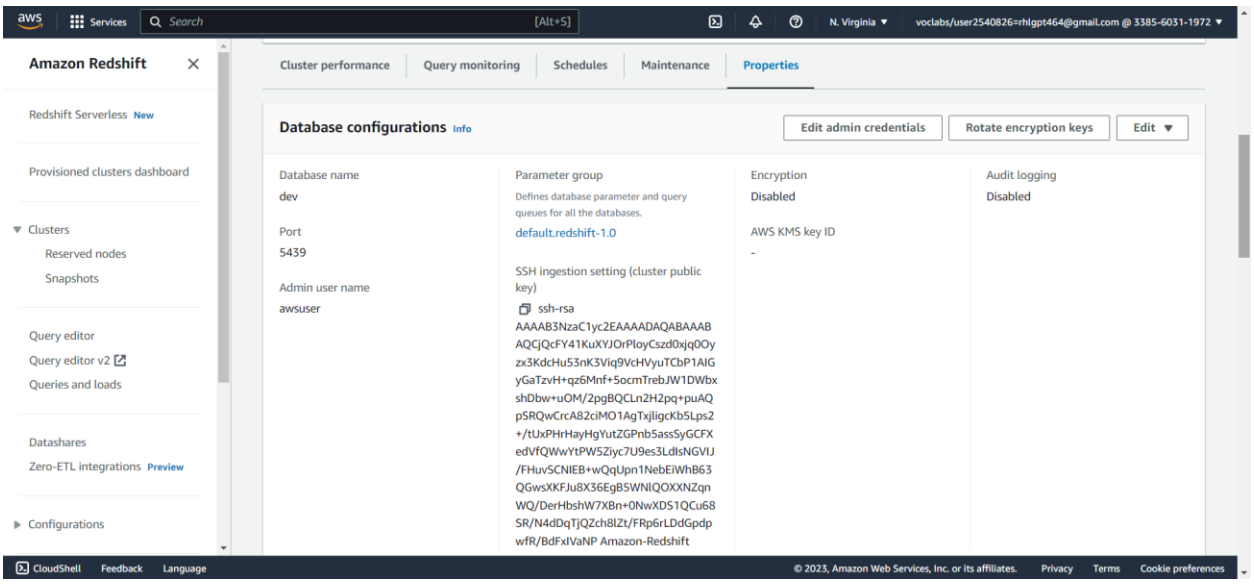
Creation of a Redshift Cluster

Screenshots of the configuration of the Redshift cluster that you have created:



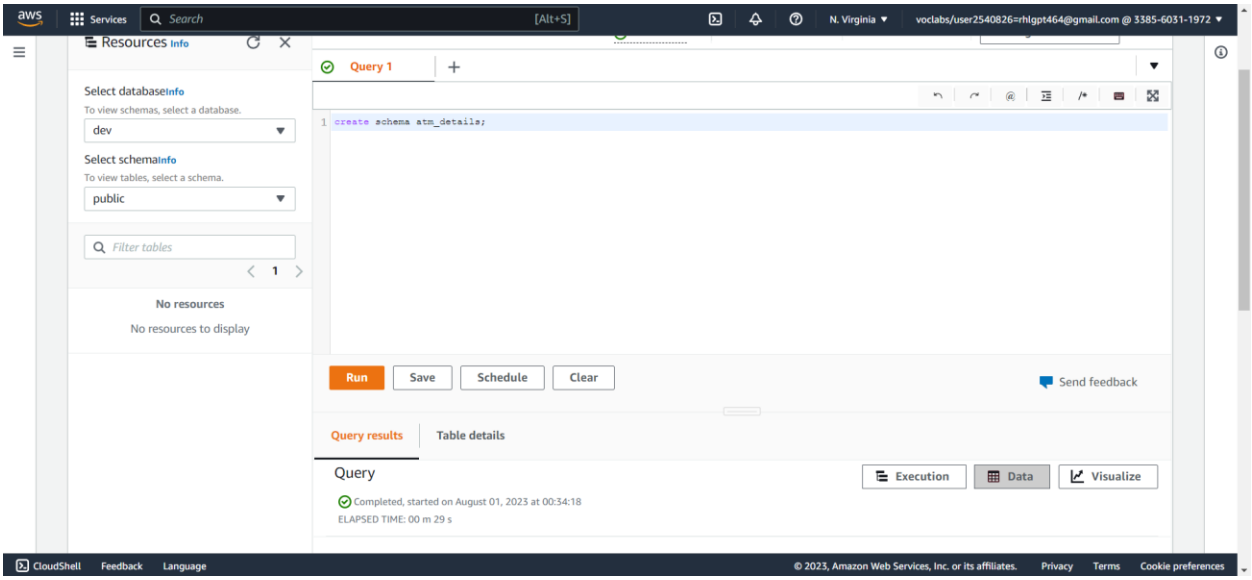


Setting up a database in the Redshift cluster and running queries to create the dimension and fact tables

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

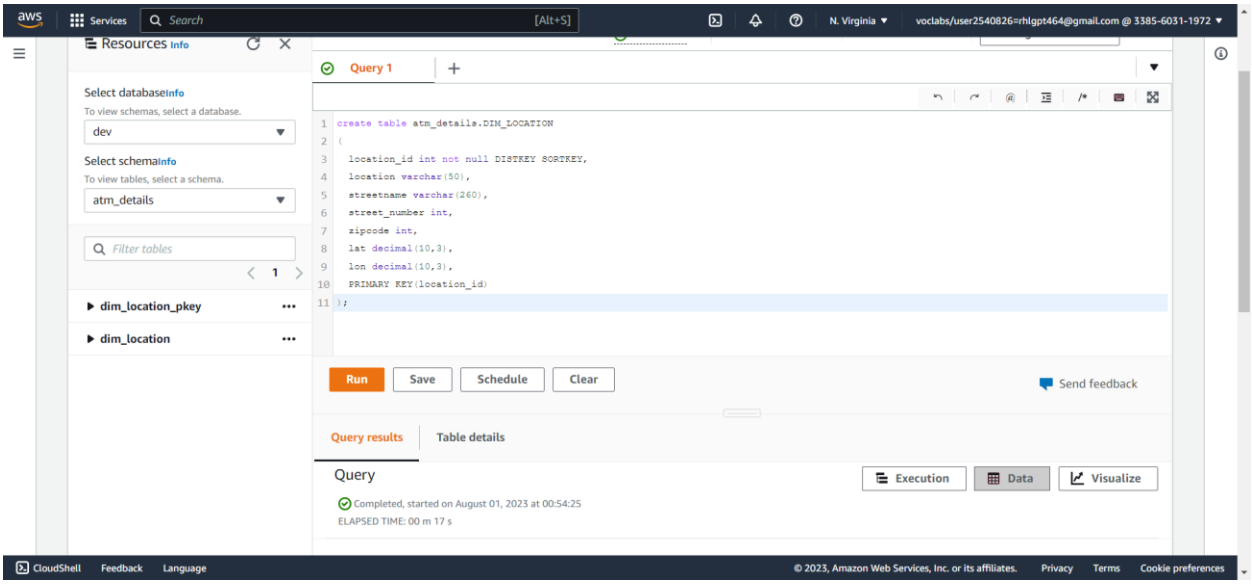
- Query for creating schema:

```
create schema atm_details;
```



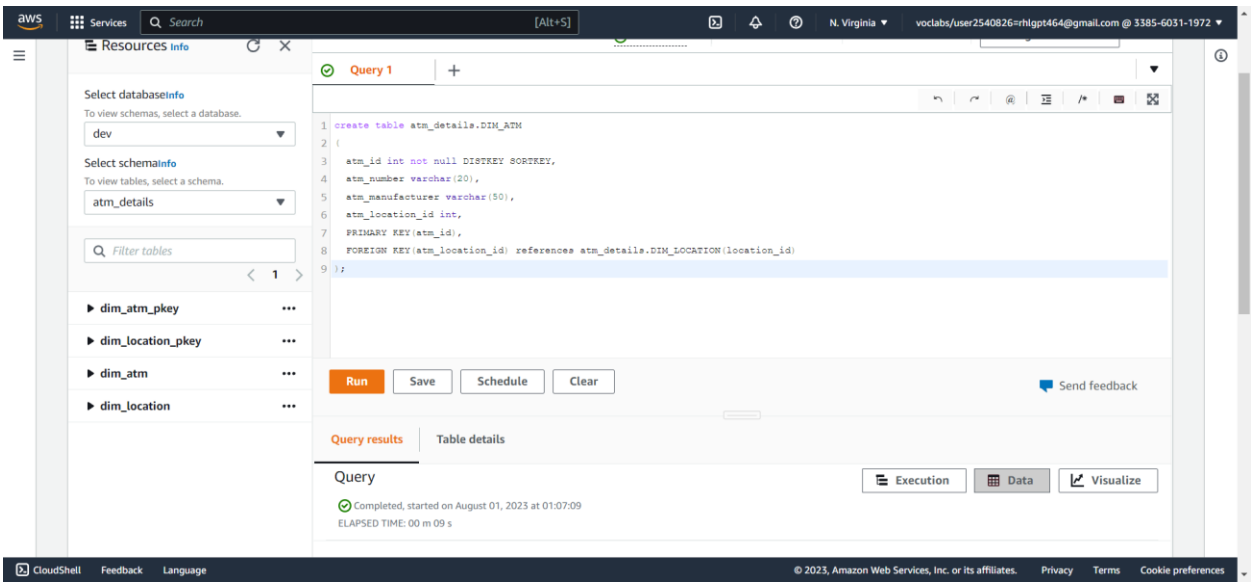
- Query for creating location dimension table:

```
create table atm_details.DIM_LOCATION
(
  location_id int not null DISTKEY SORTKEY,
  location varchar(50),
  streetname varchar(260),
  street_number int,
  zipcode int,
  lat decimal(10,3),
  lon decimal(10,3),
  PRIMARY KEY(location_id)
);
```



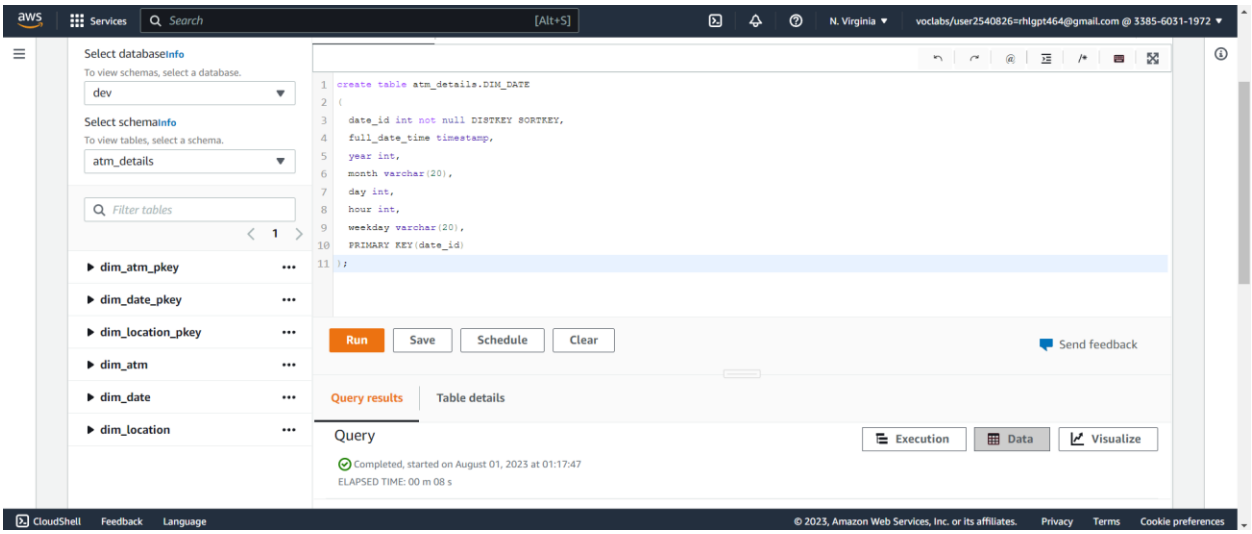
- Query for creating atm dimension table:

```
create table atm_details.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_details.DIM_LOCATION(location_id)
);
```



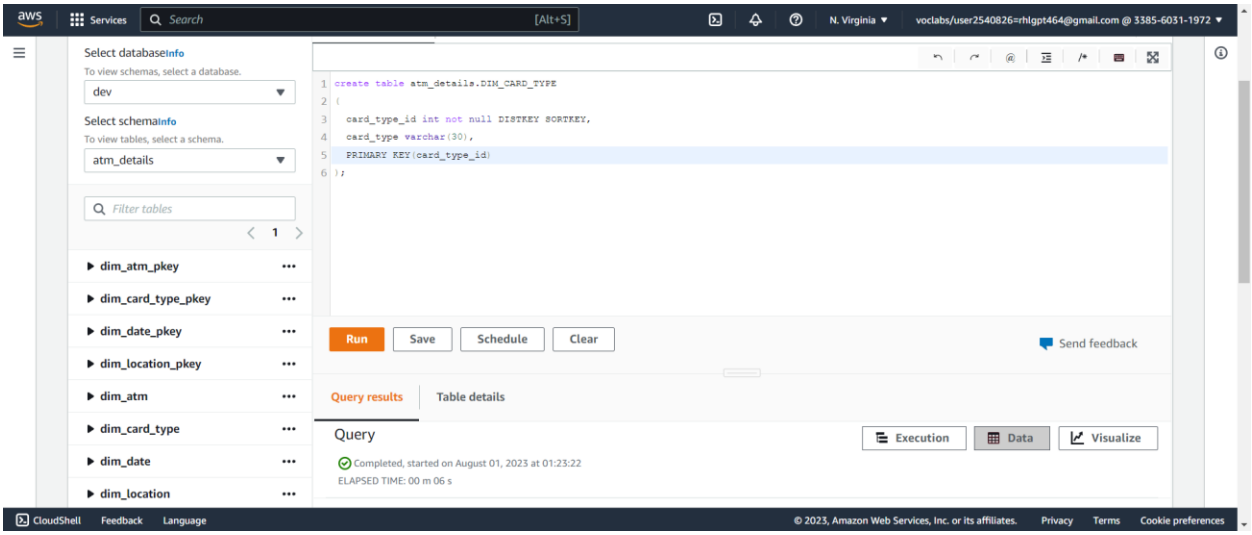
- Query for creating date dimension table:

```
create table atm_details.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)
);
```



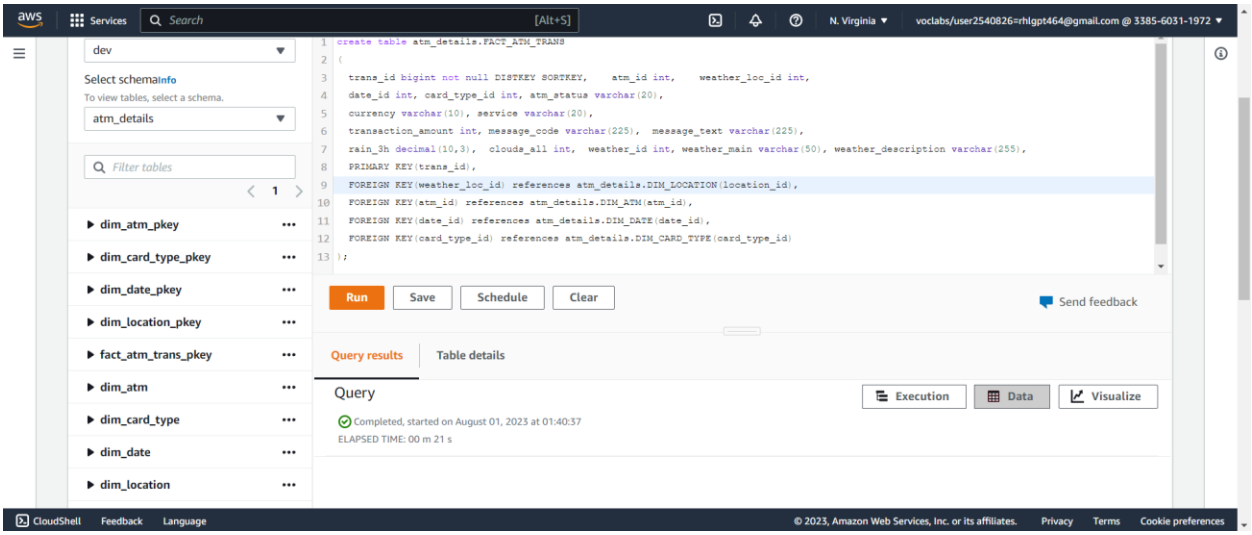
- Query for creating card type dimension table:

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



- Query for creating atm transactions fact table:

```
create table atm_details.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_details.DIM_LOCATION(location_id),
  FOREIGN KEY(atm_id) references atm_details.DIM_ATM(atm_id),
  FOREIGN KEY(date_id) references atm_details.DIM_DATE(date_id),
  FOREIGN KEY(card_type_id) references atm_details.DIM_CARD_TYPE(card_type_id)
);
```

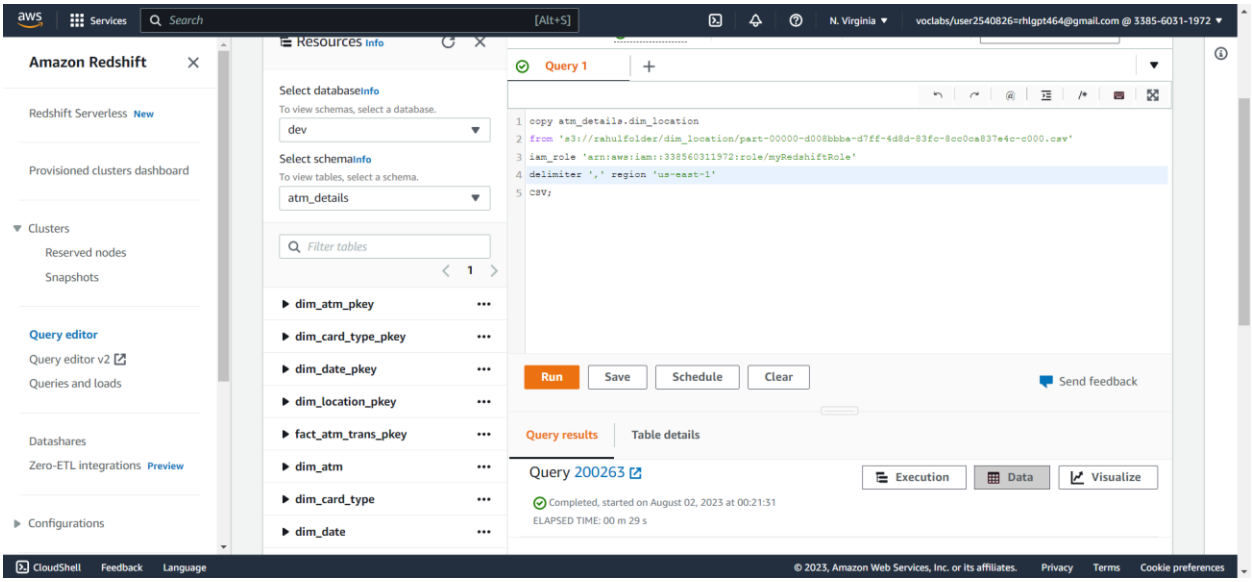


Loading data into a Redshift cluster from Amazon S3 bucket

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

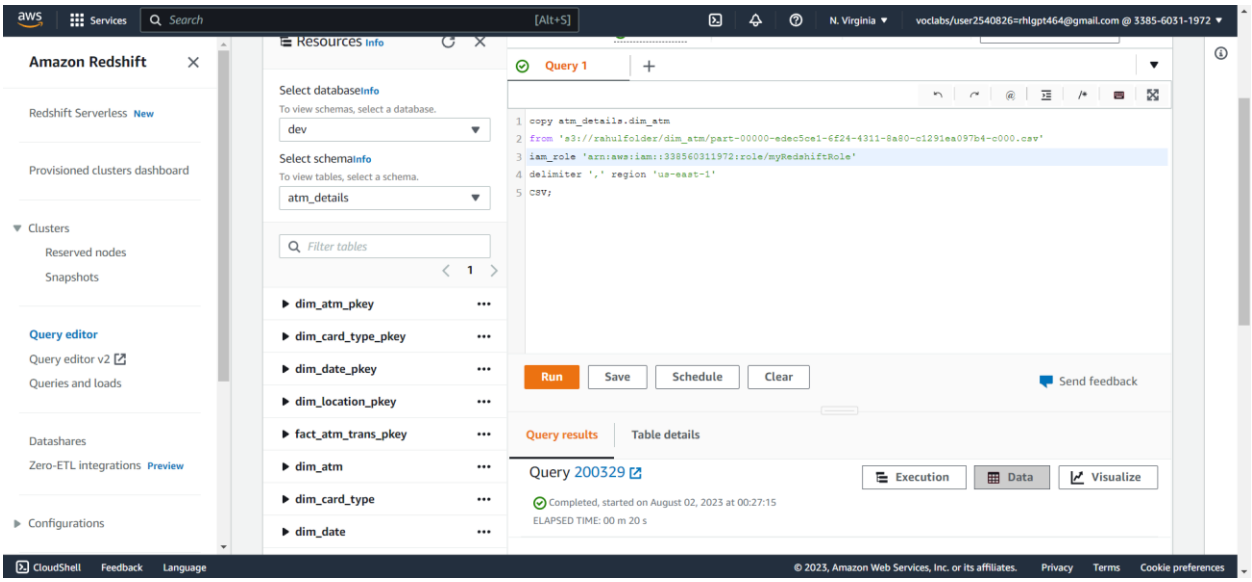
- Query to copy the data to location dimension table:

```
copy atm_details.dim_location
from 's3://rahulfolder/dim_location/part-00000-d008bbba-d7ff-4d8d-83fc-8cc0ca837e4c-c000.csv'
iam_role 'arn:aws:iam::338560311972:role/myRedshiftRole'
delimiter ',' region 'us-east-1'
CSV;
```



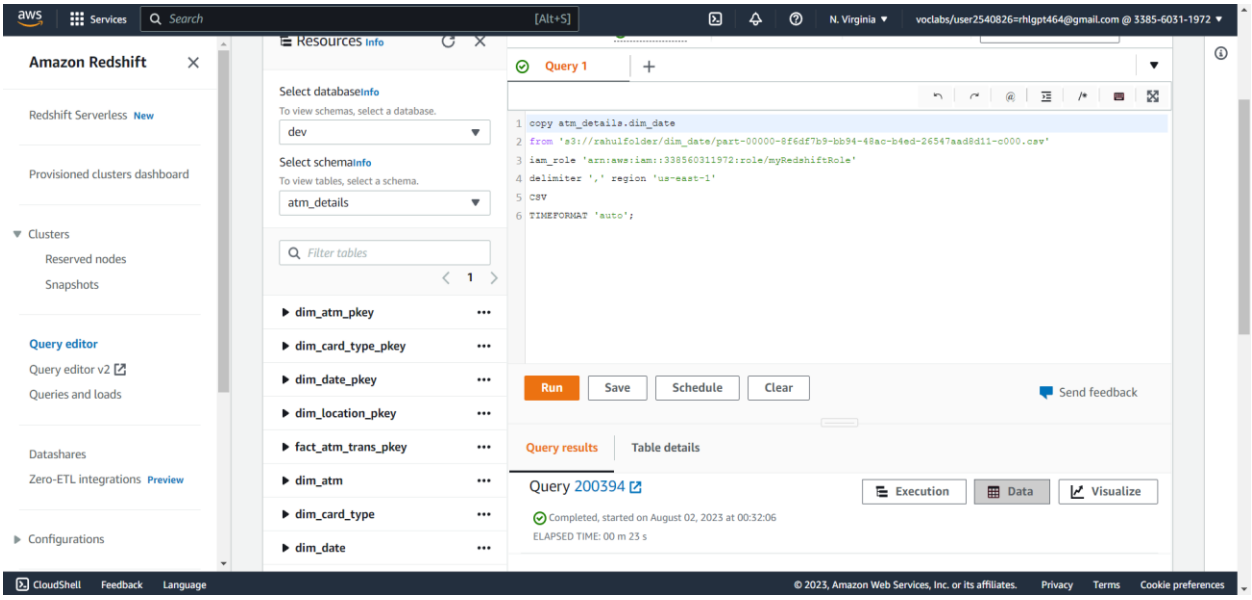
- Query to copy the data to atm table:

```
copy atm_details.dim_atm
from 's3://rahulfolder/dim_atm/part-00000-edec5ce1-6f24-4311-8a80-c1291ea097b4-c000.csv'
iam_role 'arn:aws:iam::338560311972:role/myRedshiftRole'
delimiter ',' region 'us-east-1'
CSV;
```



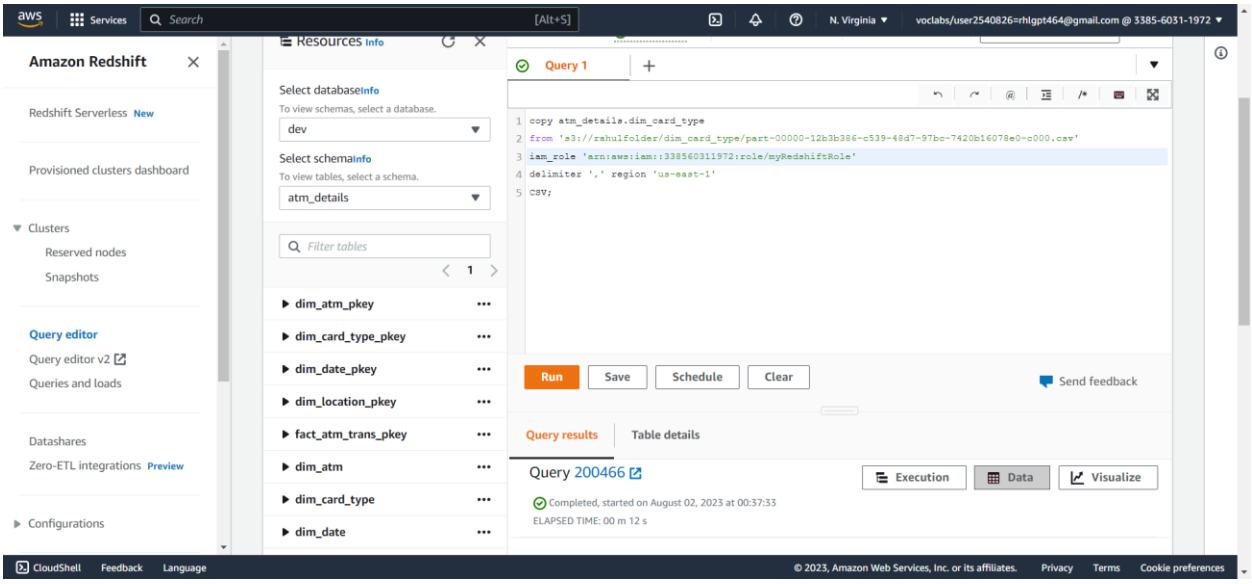
- Query to copy the data to date table:

```
copy atm_details.dim_date
from 's3://rahulfolder/dim_date/part-00000-8f6df7b9-bb94-48ac-b4ed-26547aad8d11-c000.csv'
iam_role 'arn:aws:iam::338560311972:role/myRedshiftRole'
delimiter ',' region 'us-east-1'
CSV
TIMEFORMAT 'auto';
```



- Query to copy the data to card_type table:

```
copy atm_details.dim_card_type
from 's3://rahulfolder/dim_card_type/part-00000-12b3b386-c539-48d7-97bc-7420b16078e0-c000.csv'
iam_role 'arn:aws:iam::338560311972:role/myRedshiftRole'
delimiter ',' region 'us-east-1'
CSV;
```



- Query to copy the data to fact_atm_trans table:

```
copy atm_details.fact_atm_trans
from 's3://rahulfolder/fact_atm_trans/part-00000-918a7465-c454-4aee-a3c9-5d5c24238bfc-c000.csv'
iam_role 'arn:aws:iam::338560311972:role/myRedshiftRole'
delimiter ',' region 'us-east-1'
CSV;
```