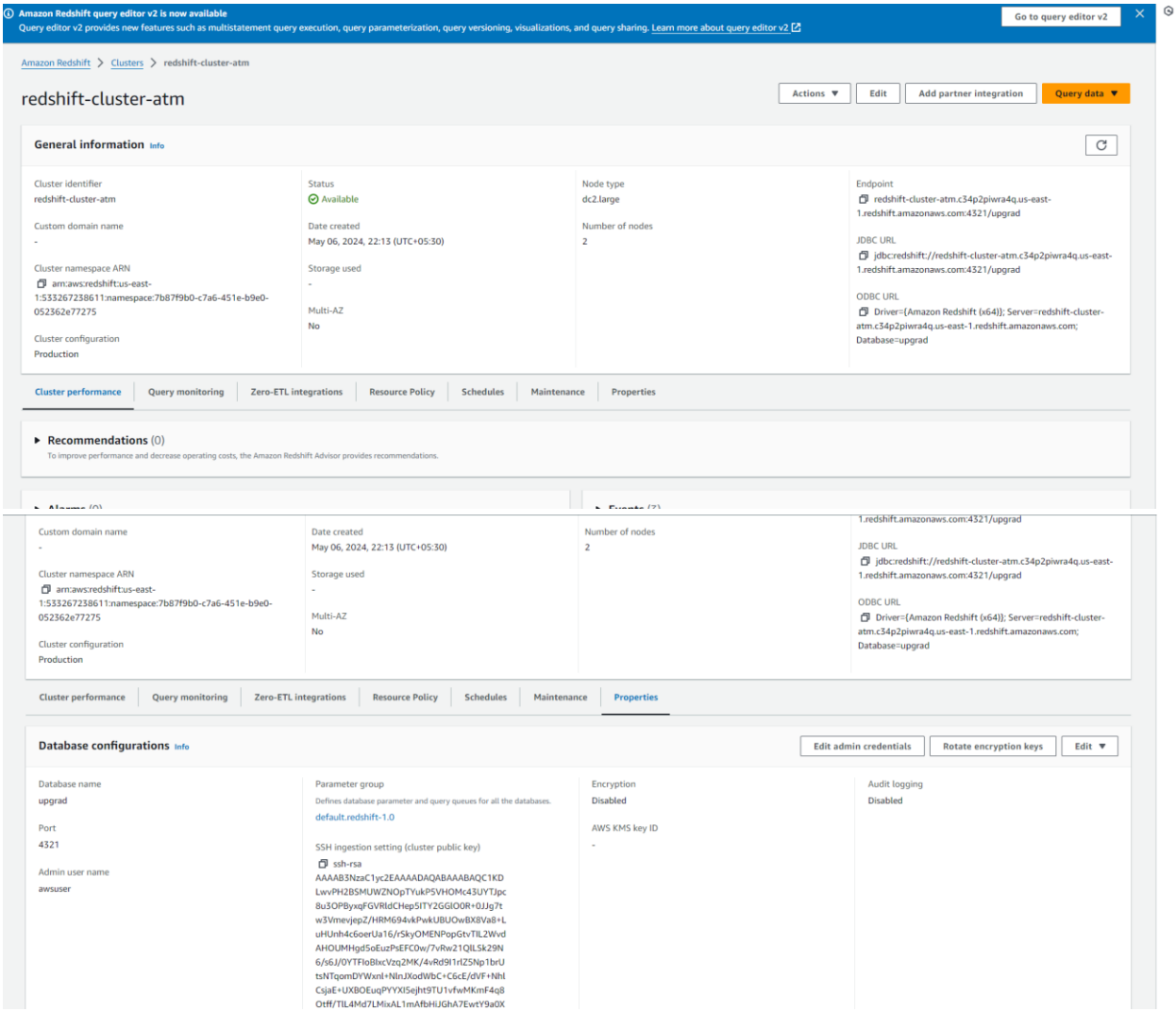
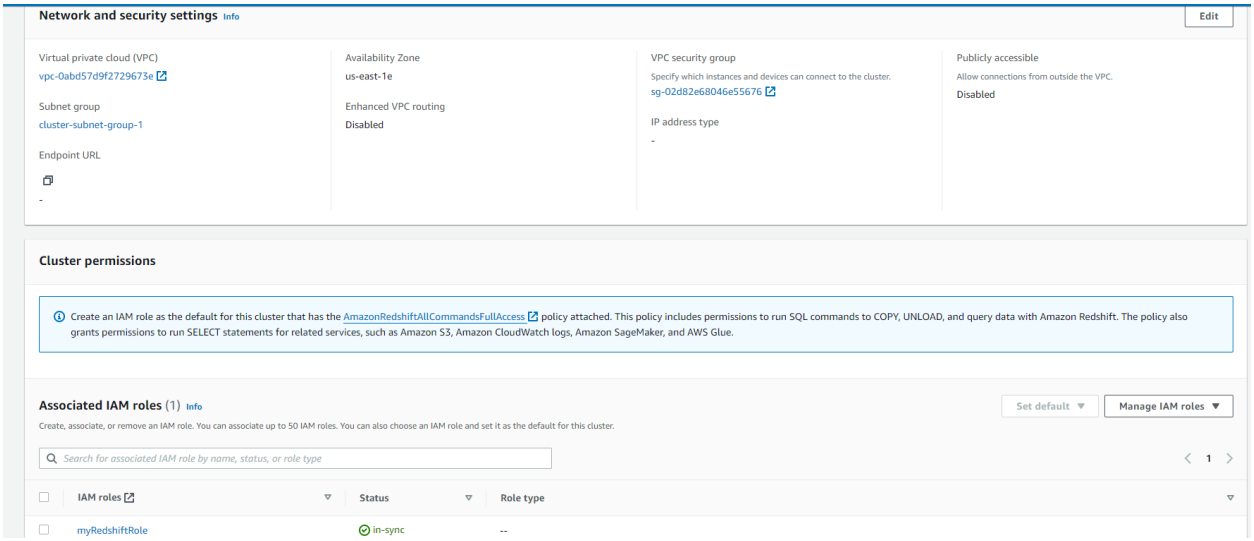
Creation of a Redshift Cluster

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

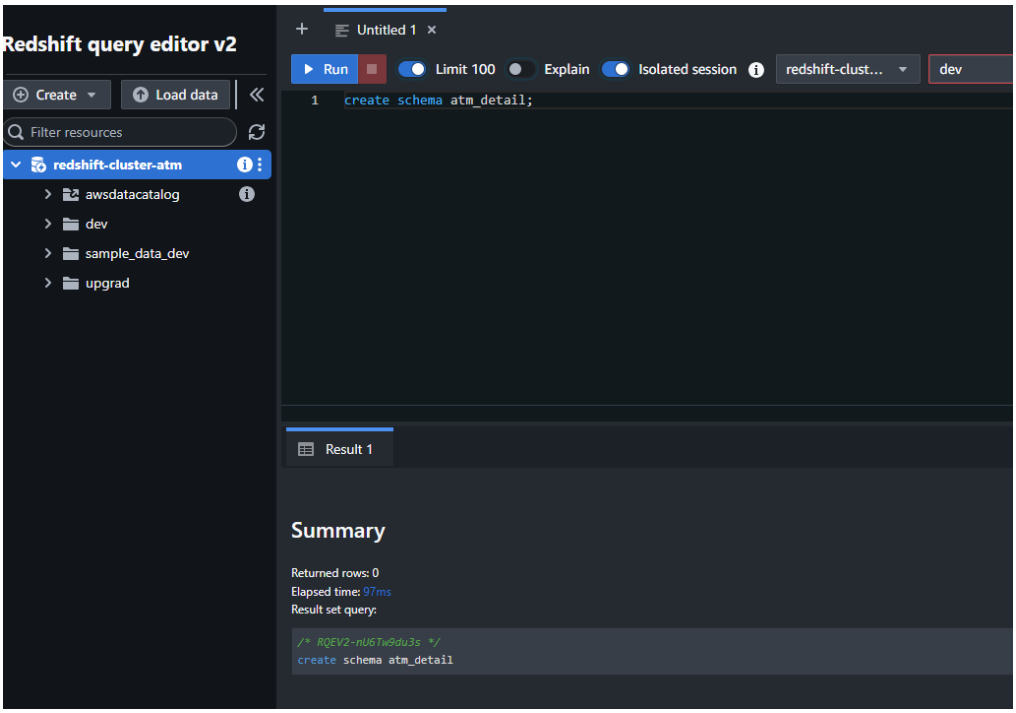




Setting up a database in the Redshift cluster and running queries to create the dimension and fact tables

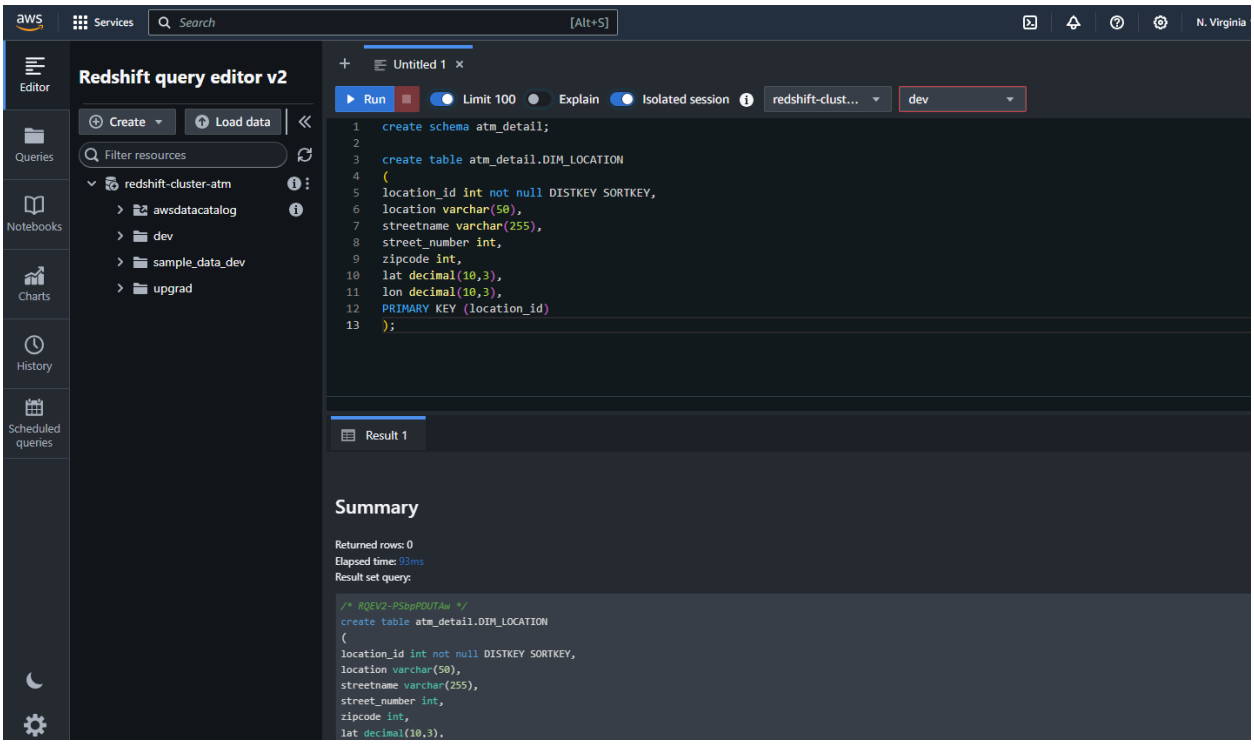
Queries to create the various dimension and fact tables with appropriate primary and foreign keys:

- **Create schema:**
  Query: create schema atm_detail;



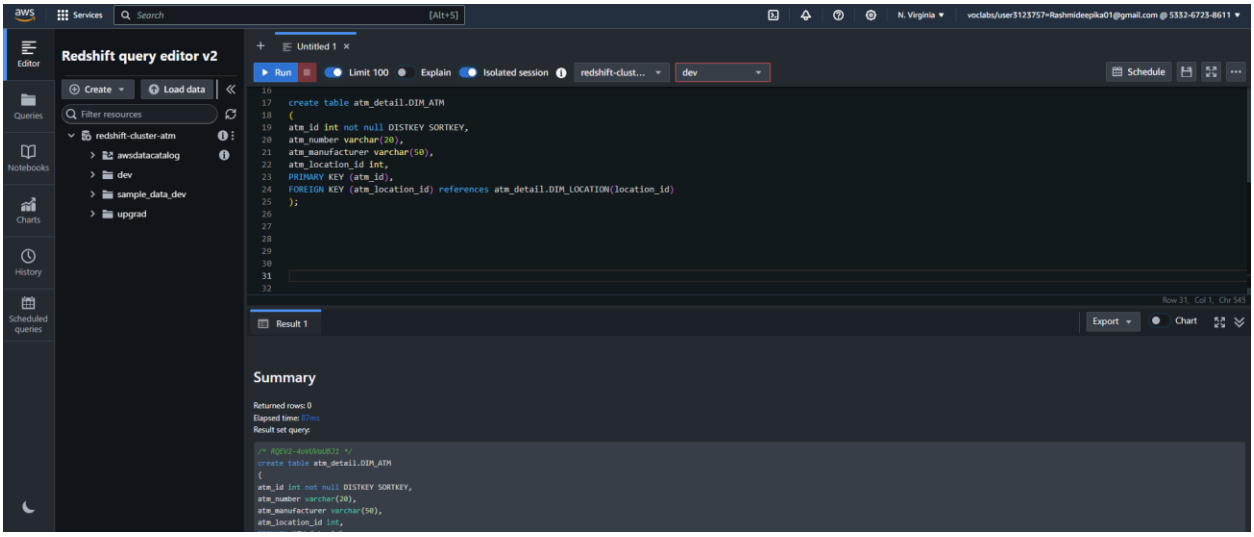
- **Create DIM_LOCATION table on Redshift:**
  Query:

```
create table atm_detail.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)
);
```



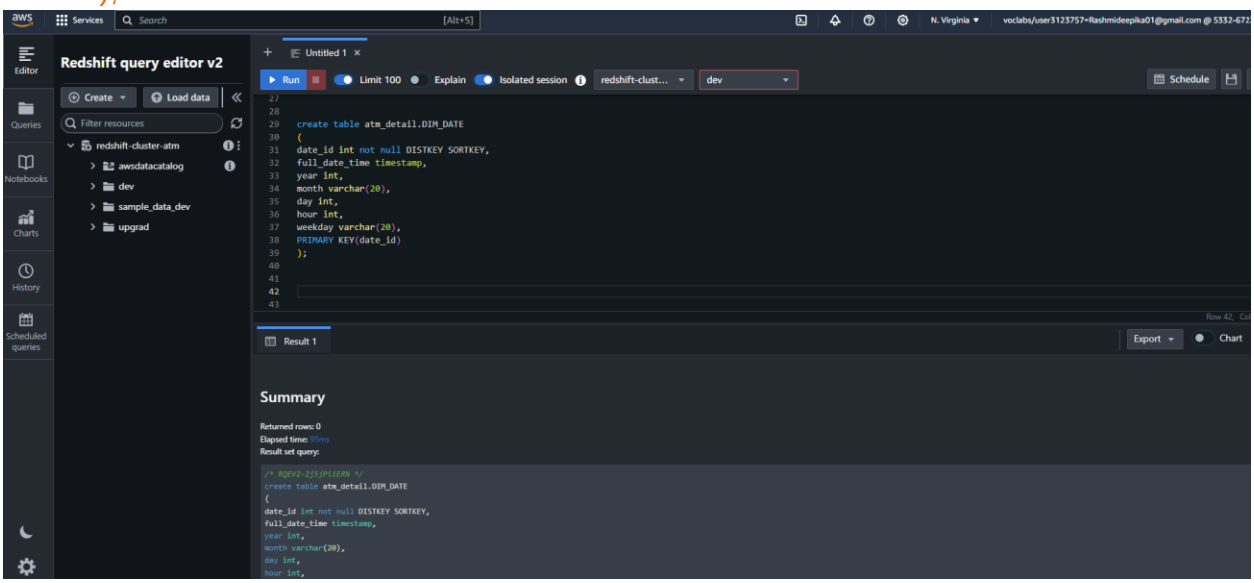
- **Create DIM_ATM table on Redshift:**
  Query:

  ```
  create table atm_detail.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_detail.DIM_LOCATION(location_id)
  );
  ```



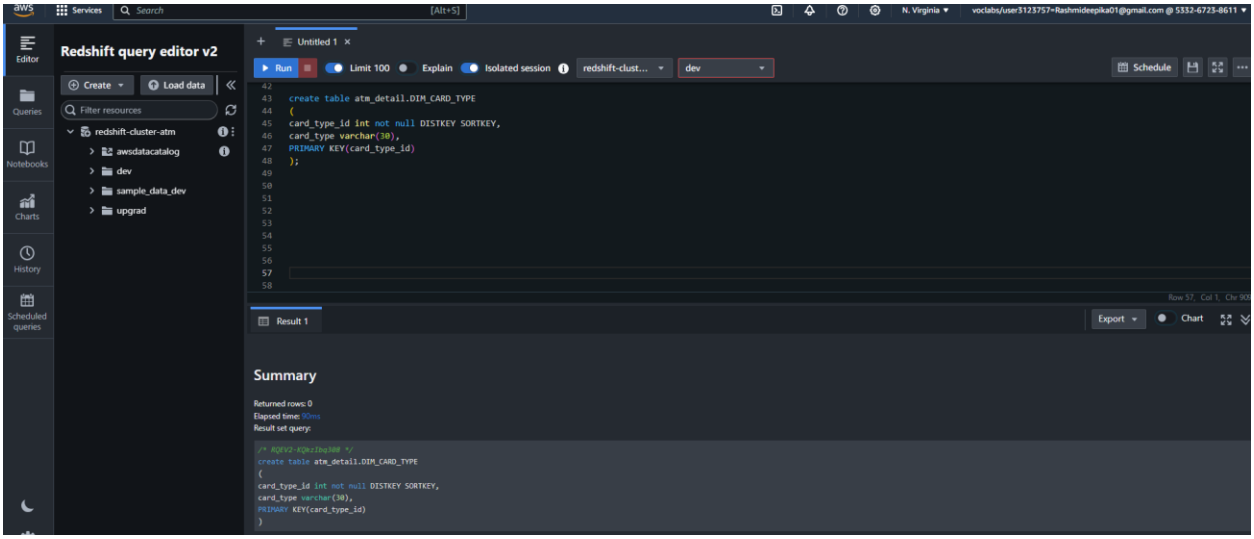
- **Create DIM_DATE on Redshift:**
  Query:

```
create table atm_detail.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)
);
```



- **Create DIM_CARD_TYPE on Redshift:**
  Query:

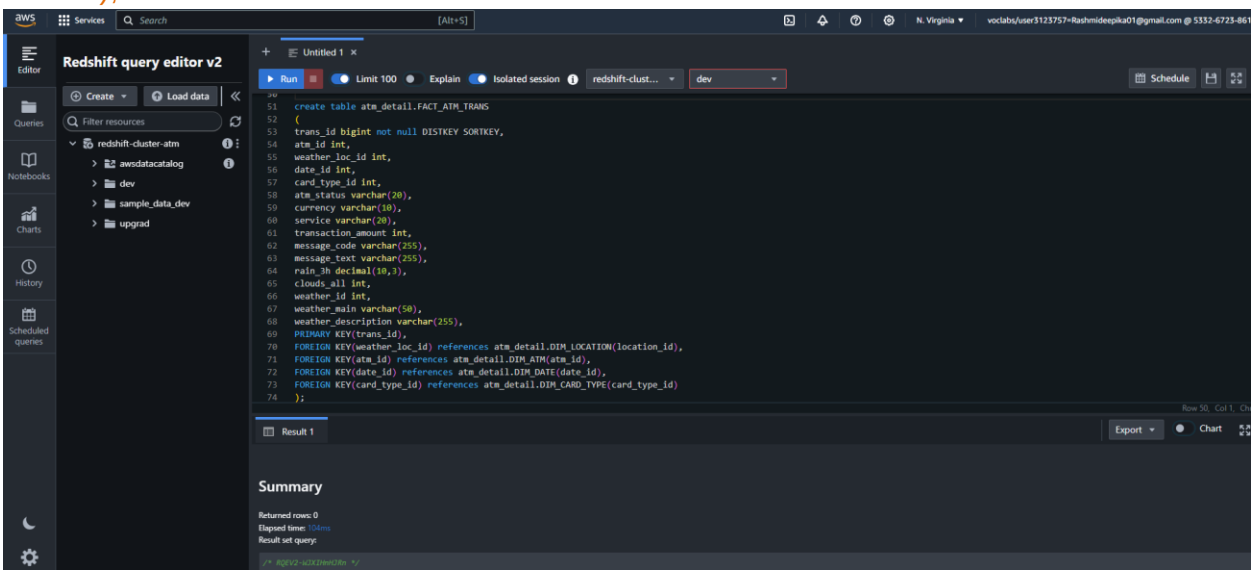
```
create table atm_detail.DIM_CARD_TYPE
(
card_type_id int not null DISTKEY SORTKEY,
card_type varchar(30),
PRIMARY KEY(card_type_id)
);
```



- **Create FACT_ATM_TRANS on Redshift:**
  Query:

```
 create table atm_detail.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(255),
message_text varchar(255),
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_detail.DIM_LOCATION(location_id),
FOREIGN KEY(atm_id) references atm_detail.DIM_ATM(atm_id),
FOREIGN KEY(date_id) references atm_detail.DIM_DATE(date_id),
FOREIGN KEY(card_type_id) references atm_detail.DIM_CARD_TYPE(card_type_id)
);
```



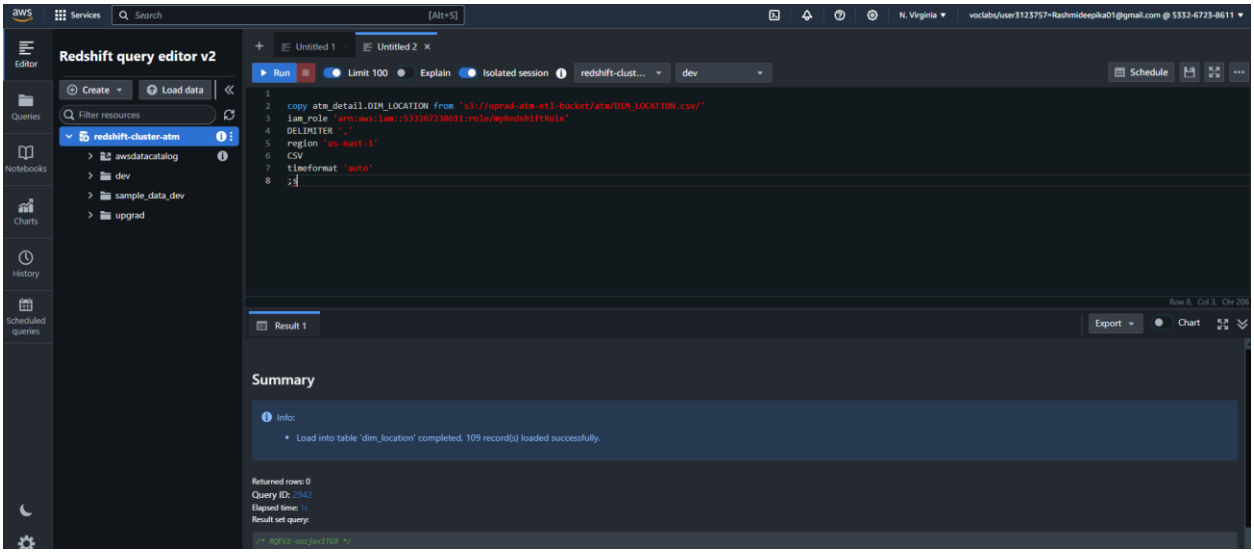
Loading data into a Redshift cluster from Amazon S3 bucket

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

- **Load Data to DIM_LOCATION:**

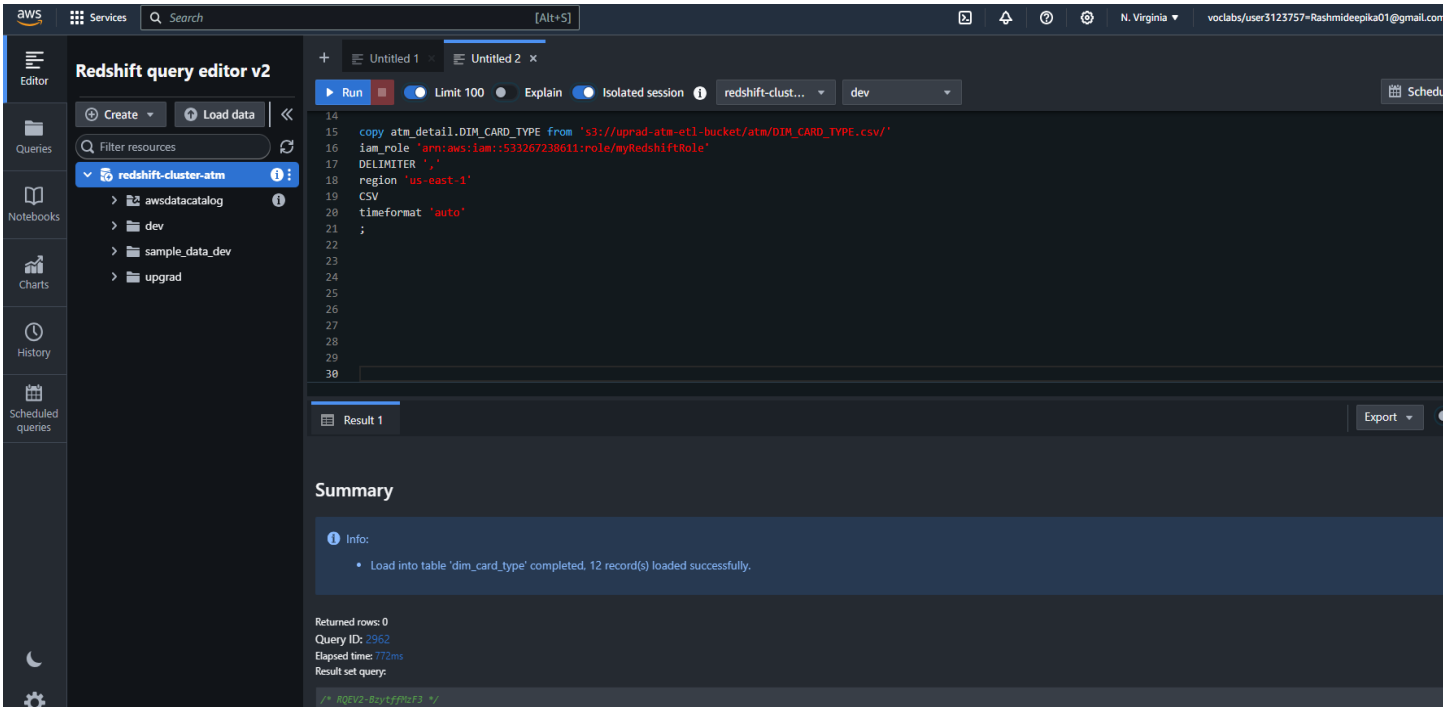
  Query:

```
copy atm_detail.DIM_LOCATION from 's3://uprad-atm-etl-bucket/atm/DIM_LOCATION.csv/'
iam_role 'arn:aws:iam::533267238611:role/myRedshiftRole'
DELIMITER ','
region 'us-east-1'
CSV
timeformat 'auto'
;
```



- **Load Data toDIM_CARD_TYPE:**
  Query:

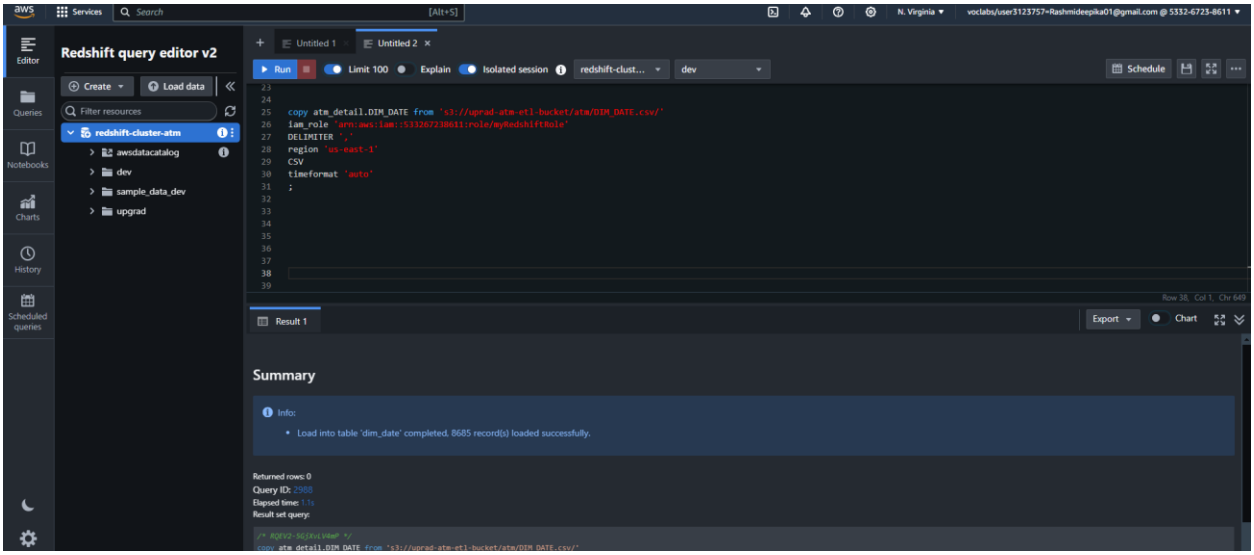
```
copy atm_detail.DIM_CARD_TYPE from 's3://uprad-atm-etl-bucket/atm/DIM_CARD_TYPE.csv/'
iam_role 'arn:aws:iam::533267238611:role/myRedshiftRole'
DELIMITER ','
region 'us-east-1'
CSV
timeformat 'auto'
;
```



- **Load Data to DIM_DATE:**

  Query:

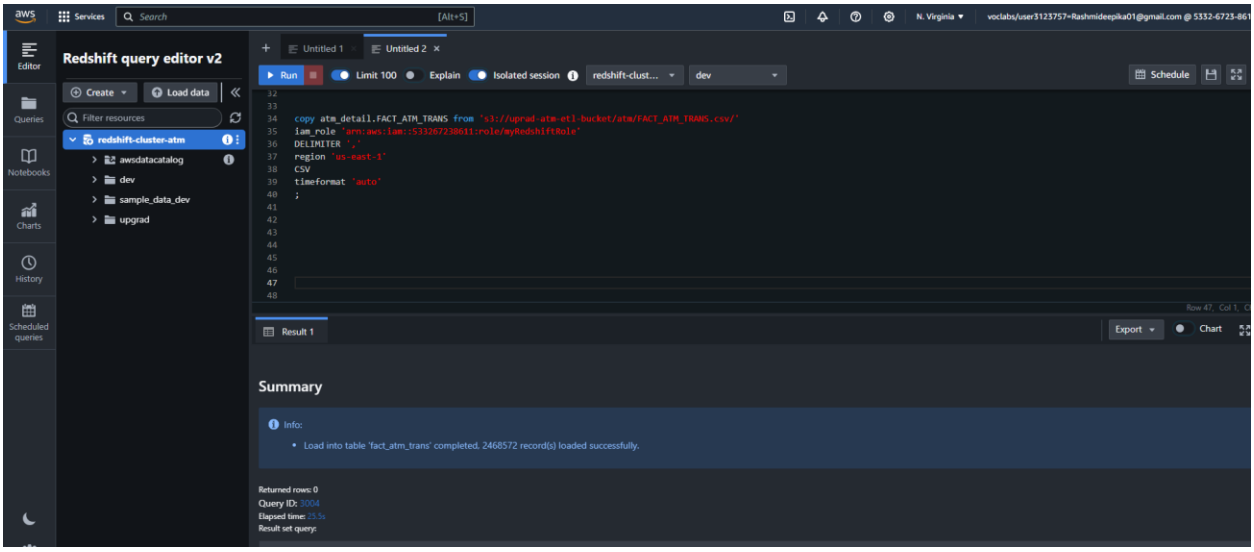
  ```
  copy atm_detail.DIM_DATE from 's3://uprad-atm-etl-bucket/atm/DIM_DATE.csv/'
  iam_role 'arn:aws:iam::533267238611:role/myRedshiftRole'
  DELIMITER ','
  region 'us-east-1'
  CSV
  timeformat 'auto'
  ;
  ```



- **Load Data to FACT_ATM_TRANS:**

  Query:

  ```
  copy atm_detail.FACT_ATM_TRANS from 's3://uprad-atm-etl-
  bucket/atm/FACT_ATM_TRANS.csv/'
  iam_role 'arn:aws:iam::533267238611:role/myRedshiftRole'
  DELIMITER ','
  region 'us-east-1'
  CSV
  timeformat 'auto'
  ;
  ```



- **Load Data to DIM_ATM**
  Query:

  copy atm_detail.DIM_ATM from 's3://uprad-atm-etl-bucket/atm/DIM_ATM.csv/'
  iam_role 'arn:aws:iam::533267238611:role/myRedshiftRole'
  DELIMITER ','
  region 'us-east-1'
  CSV
  timeformat 'auto'
  ;