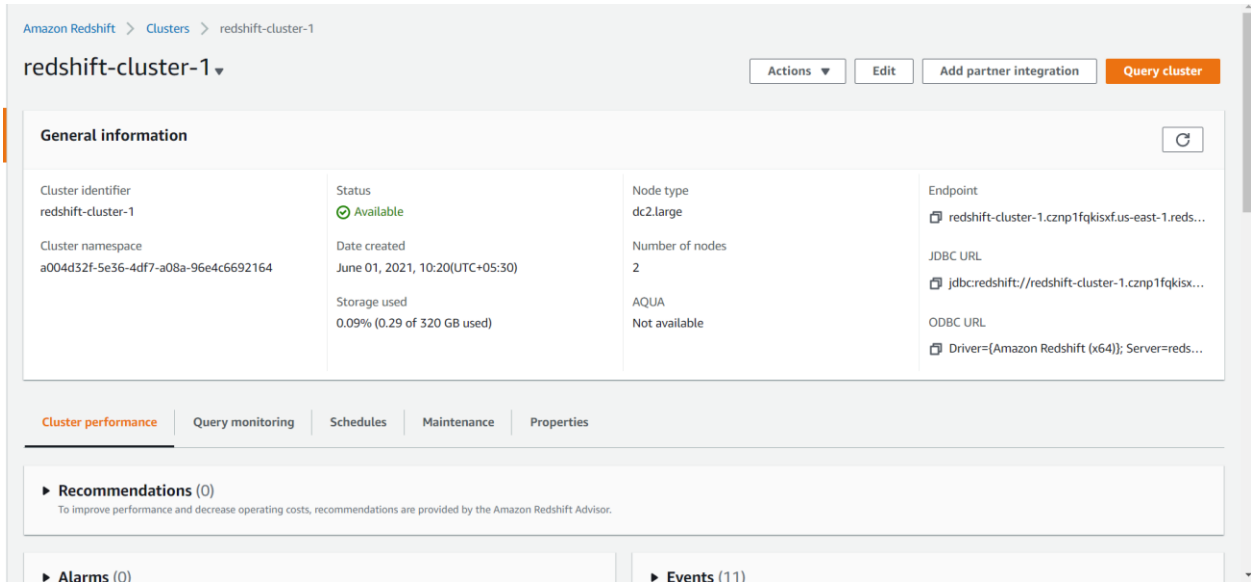
Creation of a RedShift Cluster

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

<Screenshot of the type of machine used along with number of nodes>

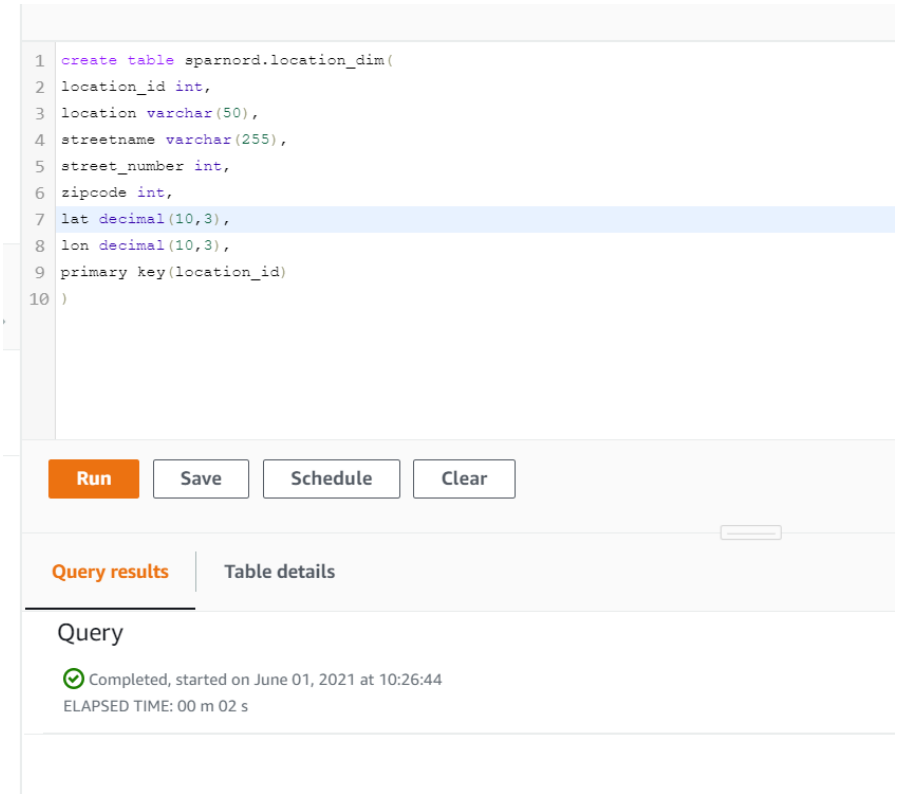


Setting up a database in the RedShift cluster and running queries to create the dimension and fact tables

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

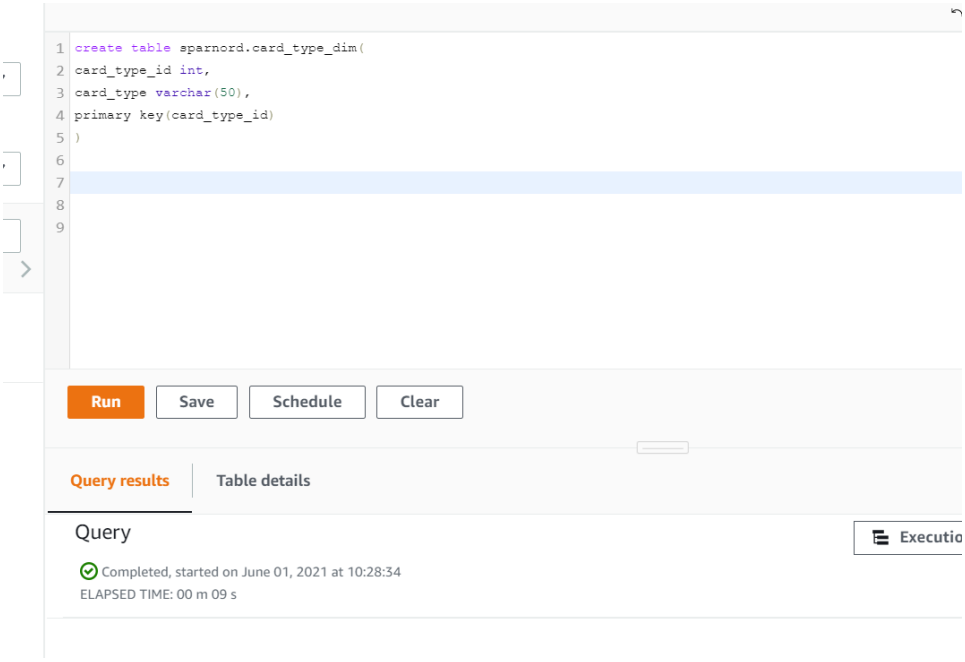
<Queries>
Location dimension table:

```
create table sparnord.location_dim(
location_id int,
location varchar(50),
streetname varchar(255),
street_number int,
zipcode int,
lat decimal(10,3),
lon decimal(10,3),
primary key(location_id)
)
```



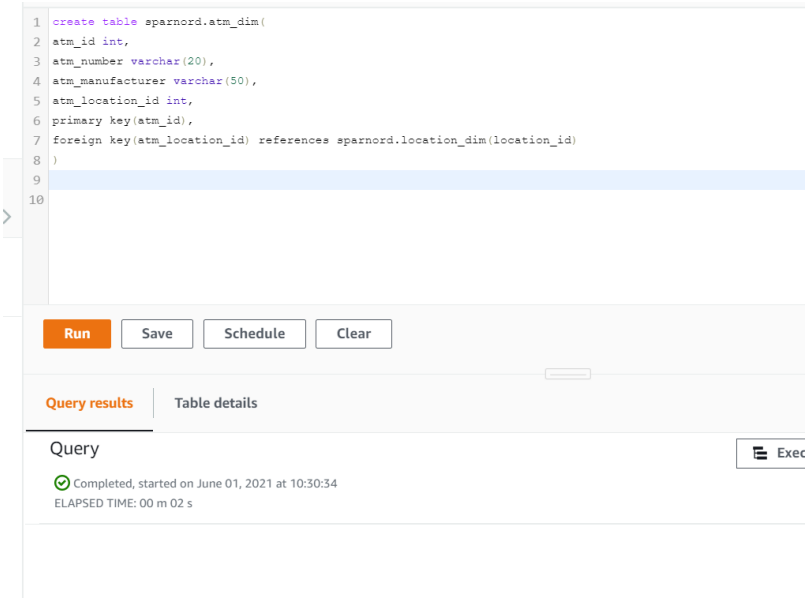
Card type dimension table:

```
create table sparnord.card_type_dim(
card_type_id int,
card_type varchar(50),
primary key(card_type_id)
)
```



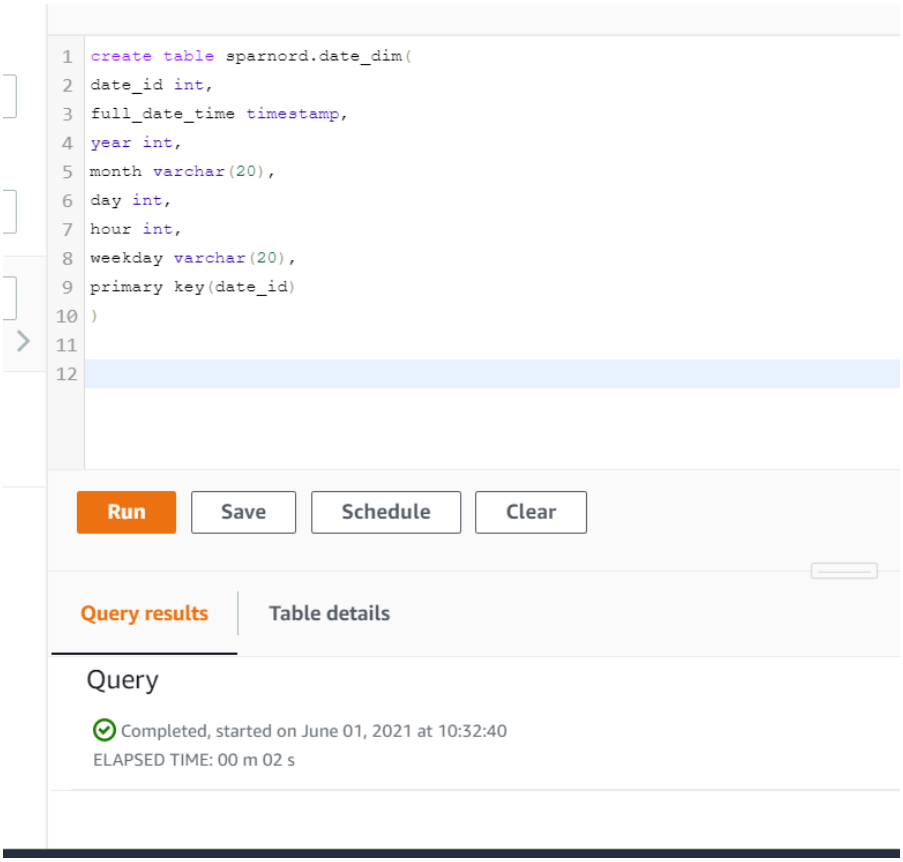
Atm dimension table:

```
create table sparnord.atm_dim(
atm_id int,
atm_number varchar(20),
atm_manufacturer varchar(50),
atm_location_id int,
primary key(atm_id),
foreign key(atm_location_id) references sparnord.location_dim(location_id)
)
```



Date dimension table:

```
create table sparnord.date_dim(
date_id int,
full_date_time timestamp,
year int,
month varchar(20),
day int,
hour int,
weekday varchar(20),
primary key(date_id)
)
```

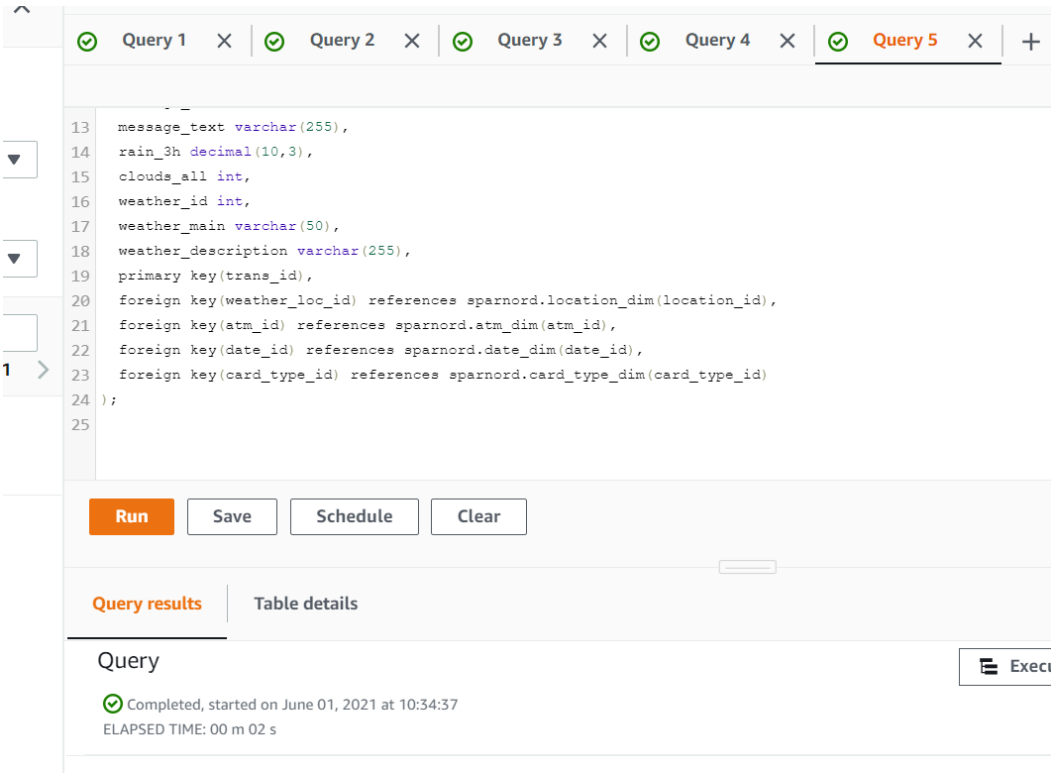


Transaction-fact table:

```
create table sparnord.transaction_fact
(
  trans_id Bigint,
  atm_id int,
  weather_loc_id int,
  date_id int,
  card_type_id int,
  atm_status varchar(20),
  currency varchar(20),
  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 sparnord.location_dim(location_id),
foreign key(atm_id) references sparnord.atm_dim(atm_id),
foreign key(date_id) references sparnord.date_dim(date_id),
foreign key(card_type_id) references sparnord.card_type_dim(card_type_id)
);

```
create table sparnord.transaction_fact
(
  trans_id Bigint,
  atm_id int,
  weather_loc_id int,
  date_id int,
  card_type_id int,
  atm_status varchar(20),
  currency varchar(20),
  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 sparnord.location_dim(location_id),
  foreign key(atm_id) references sparnord.atm_dim(atm_id),
  foreign key(date_id) references sparnord.date_dim(date_id),
  foreign key(card_type_id) references sparnord.card_type_dim(card_type_id)
);
```

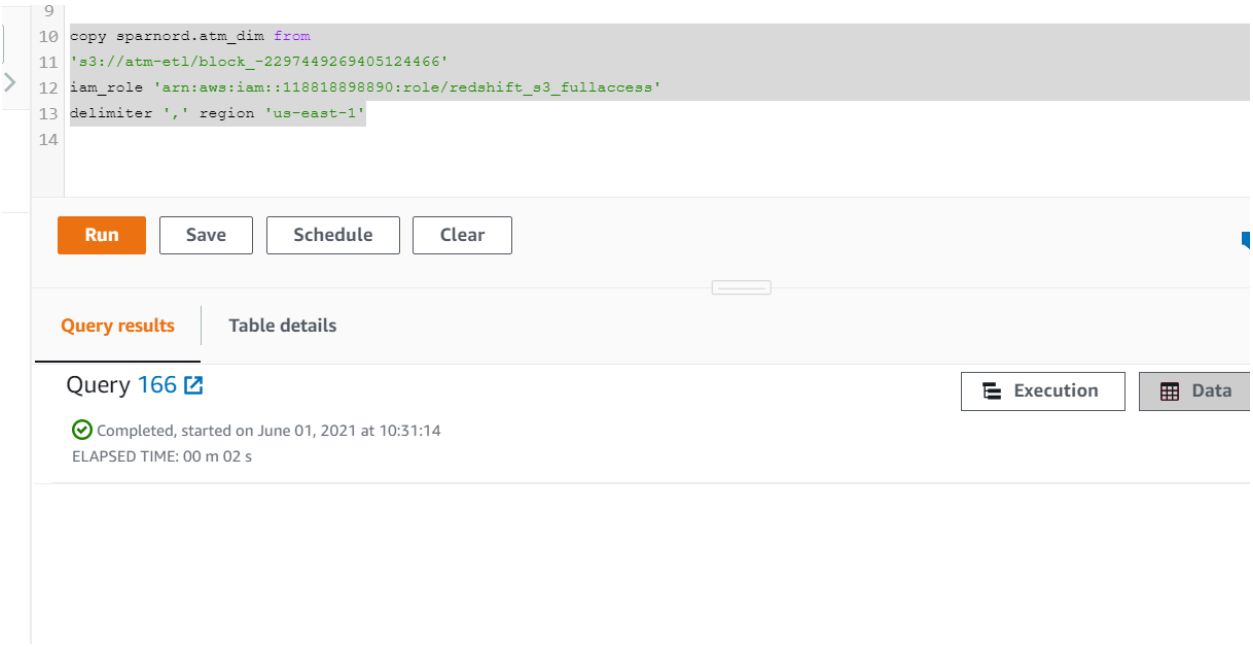


Loading data into a RedShift cluster from Amazon S3 bucket

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

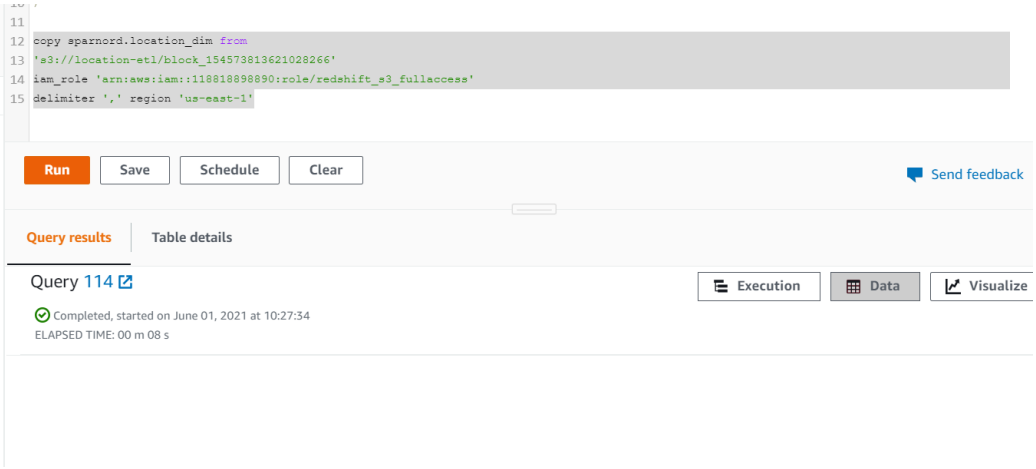
Atm dimension table:

copy sparnord.atm_dim from
's3://atm-etl/block_-2297449269405124466'
iam_role 'arn:aws:iam::118818898890:role/redshift_s3_fullaccess'
delimiter ',' region 'us-east-1'



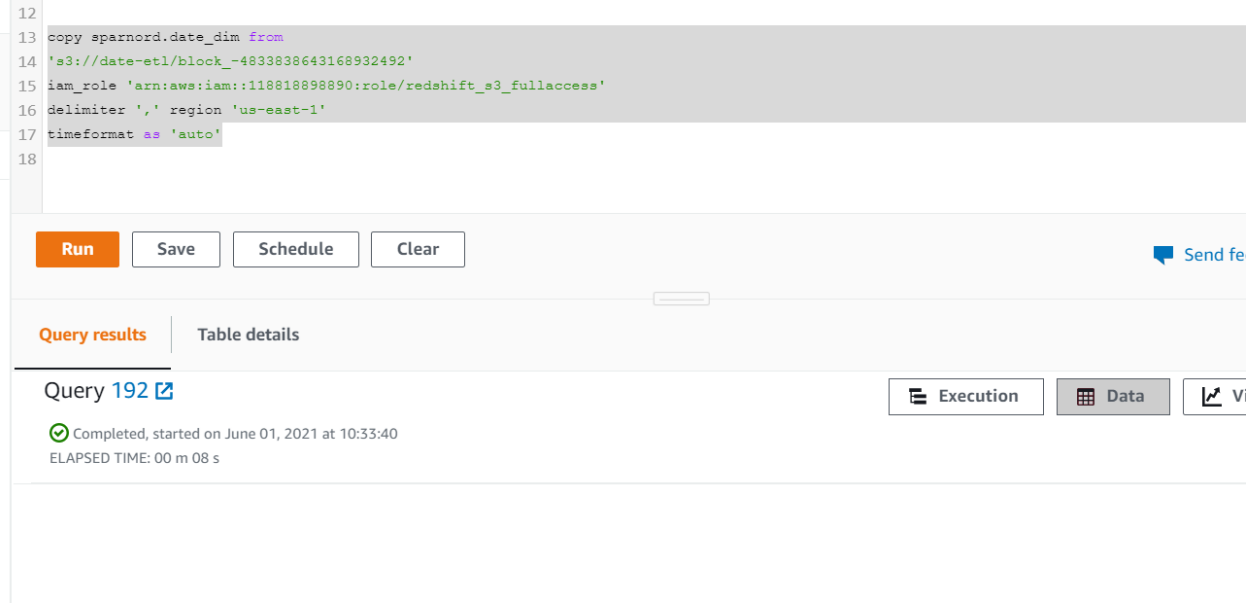
Location dimension table:

copy sparnord.location_dim from
's3://location-etl/block_154573813621028266'
iam_role 'arn:aws:iam::118818898890:role/redshift_s3_fullaccess'
delimiter ',' region 'us-east-1'



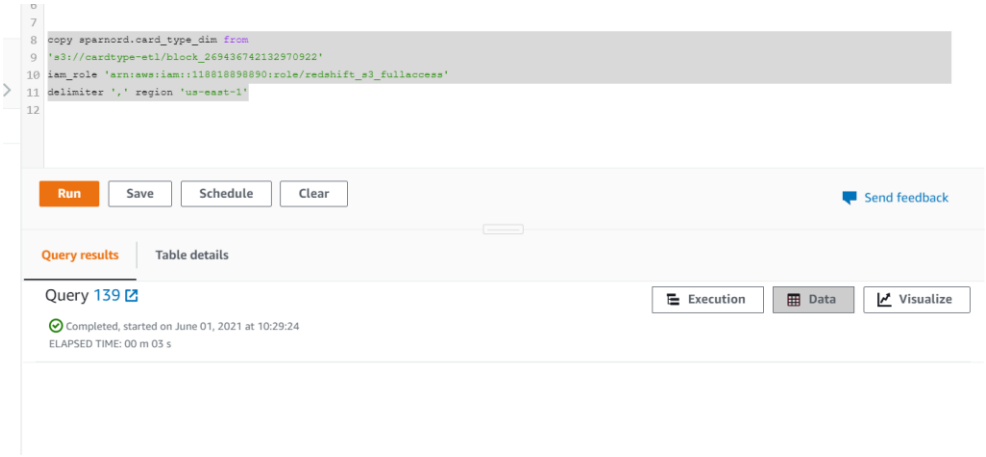
Date dimension table:

copy sparnord.date_dim from
's3://date-etl/block_-4833838643168932492'
iam_role 'arn:aws:iam::118818898890:role/redshift_s3_fullaccess'
delimiter ',' region 'us-east-1'
timeformat as 'auto'



Card type dimension table:

copy sparnord.card_type_dim from
's3://cardtype-etl/block_269436742132970922'
iam_role 'arn:aws:iam::118818898890:role/redshift_s3_fullaccess'
delimiter ',' region 'us-east-1'



Transaction fact table:

copy sparnord.transaction_fact from
's3://transaction-fact-etl/transaction-fact'
iam_role 'arn:aws:iam::118818898890:role/redshift_s3_fullaccess'
delimiter ',' region 'us-east-1'