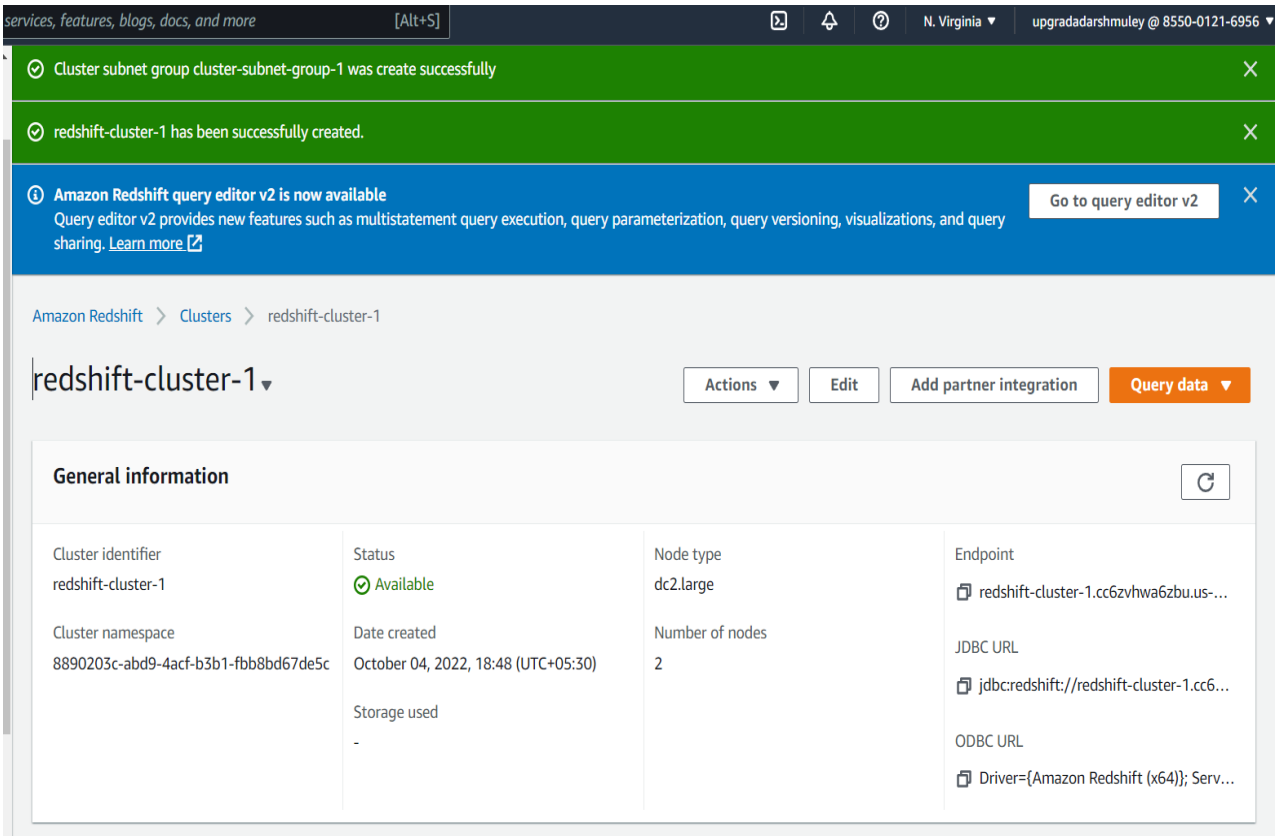
Creation of a Redshift Cluster

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



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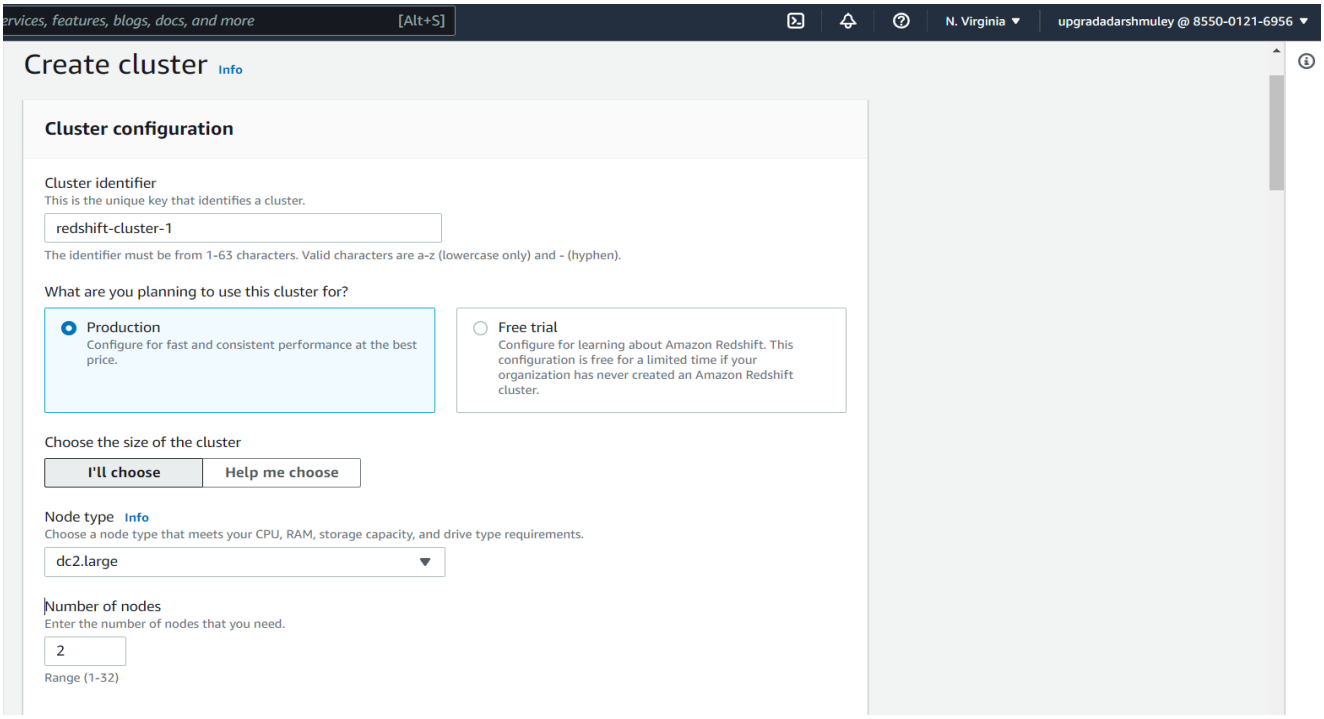

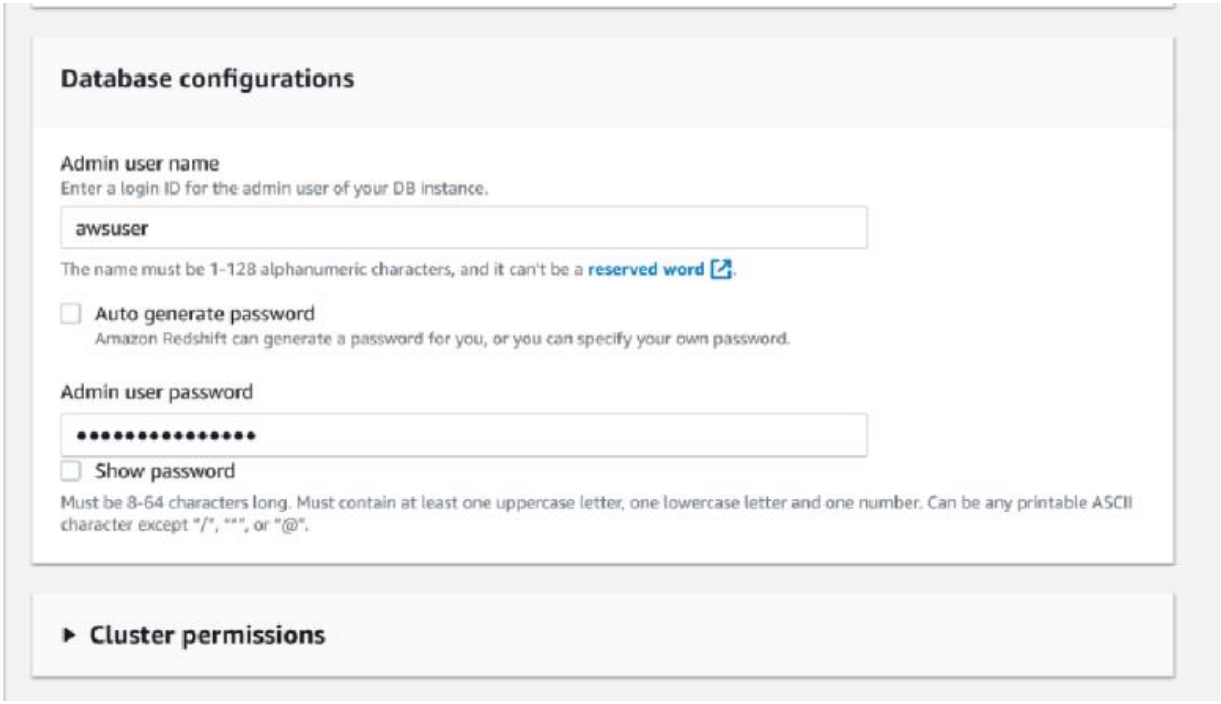

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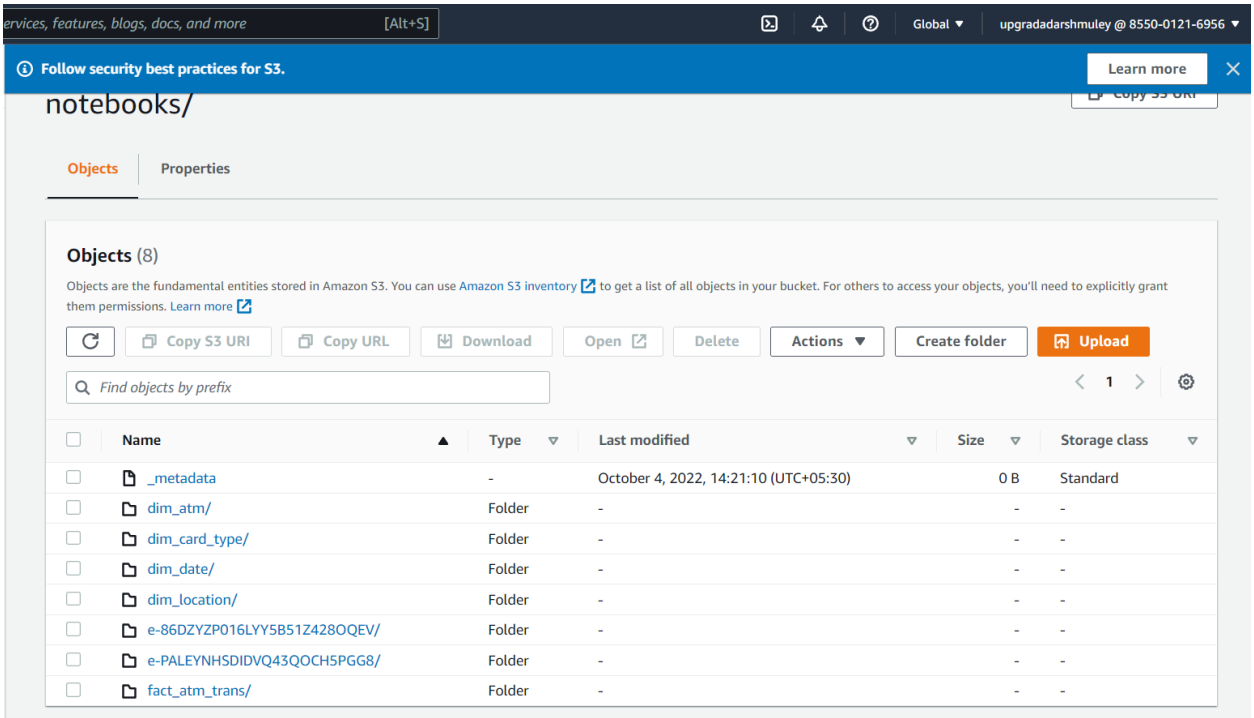
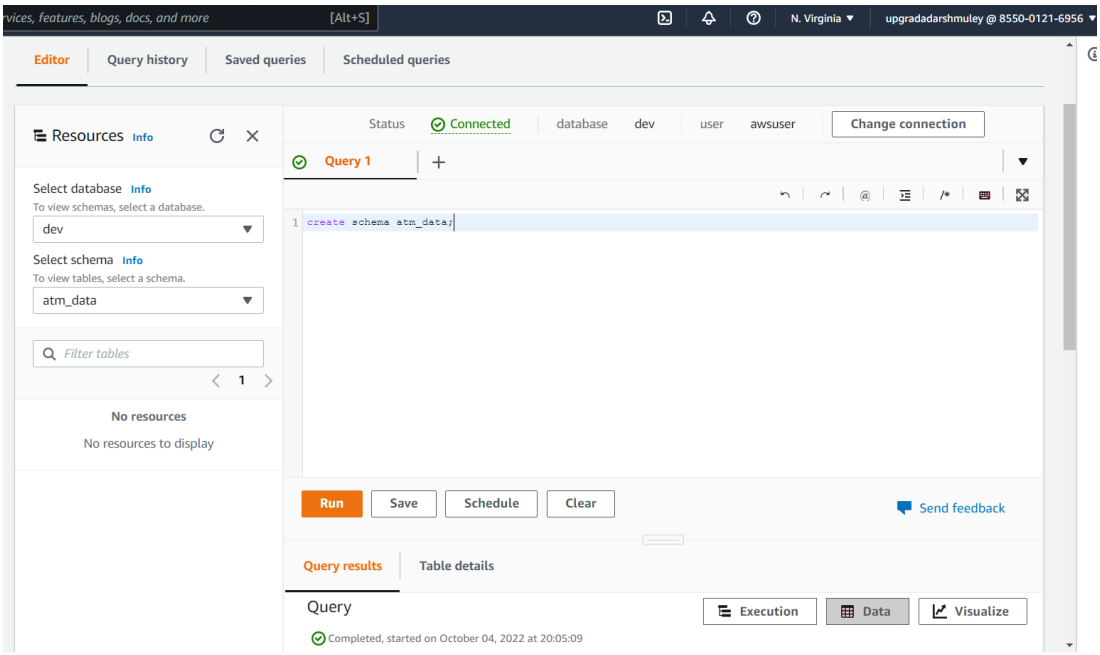
Setting up a database in the Redshift cluster and running queries to create the dimension and fact tables

Data in Amazon S3 bucket:



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

create schema atm_data;



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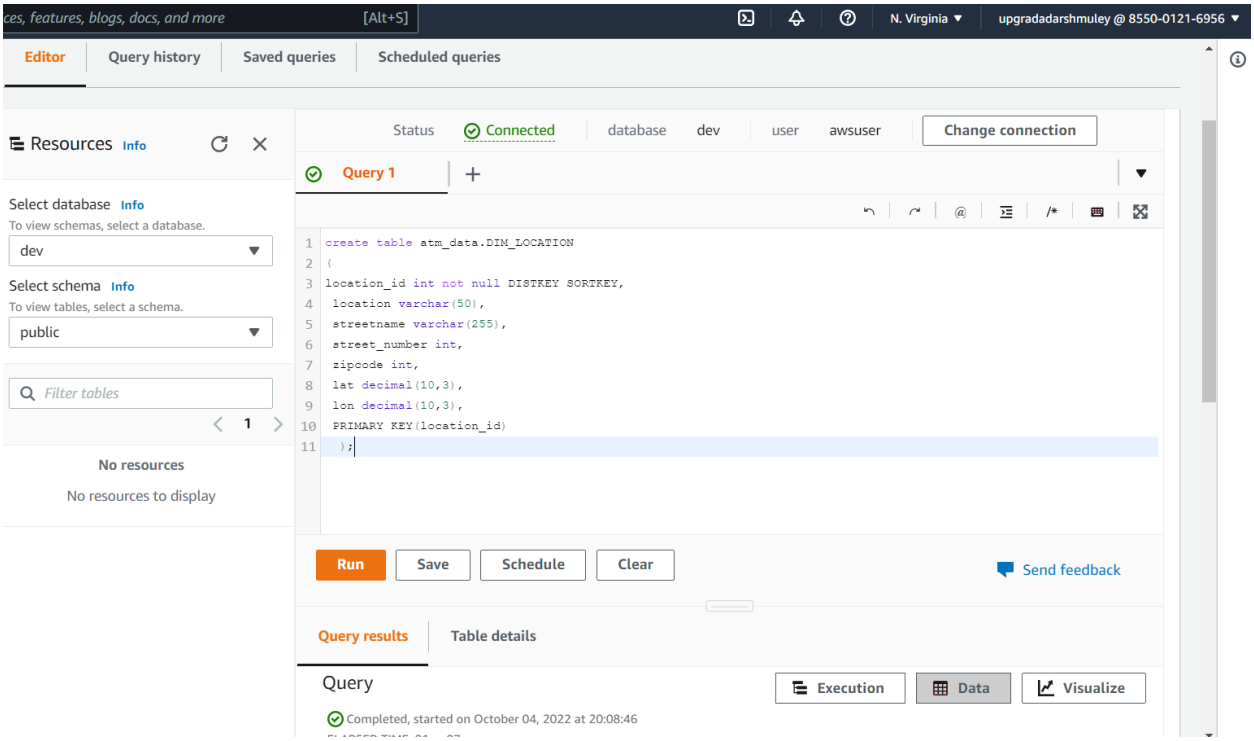
```
create table atm_data.DIM_LOCATION
(
location_id int not null DISTKEY SORTKEY,
 location varchar(50),
 streetname varchar(255),
 street_number int,
 zipcode int,
 lat decimal(10,3),
 lon decimal(10,3),
 PRIMARY KEY(location_id)
  );
```




```
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)
```

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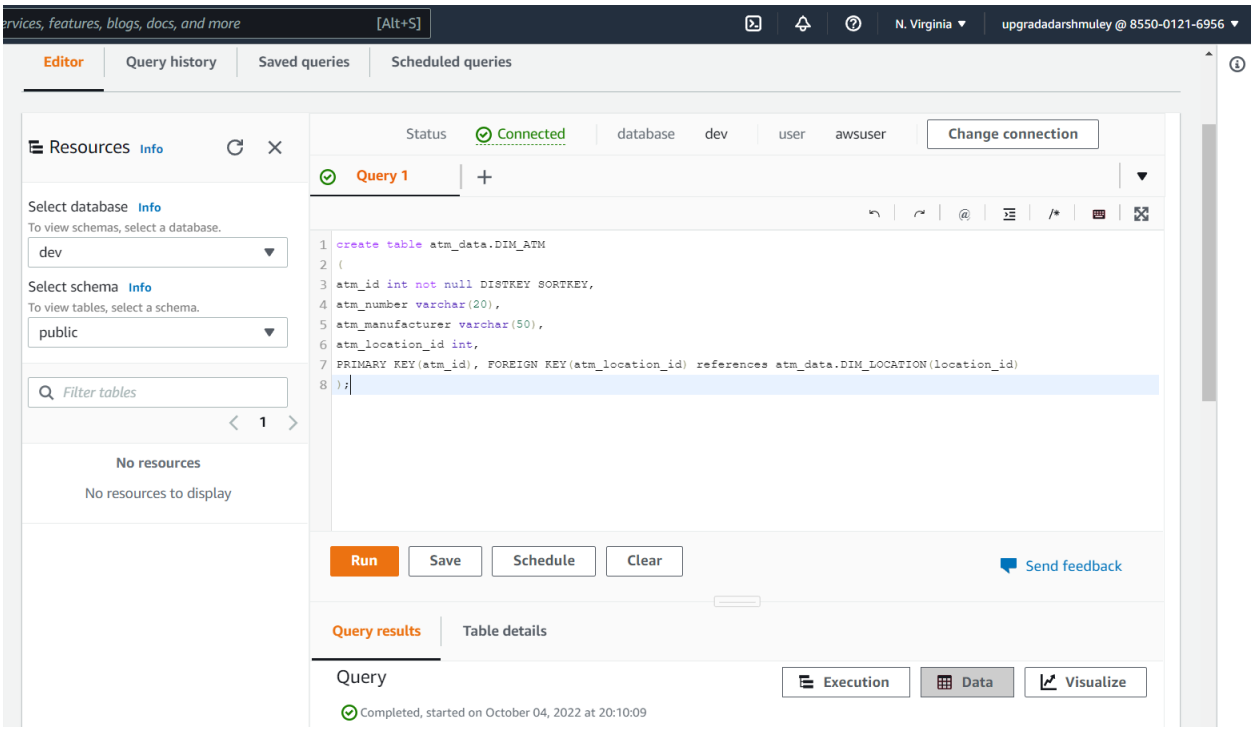
);




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

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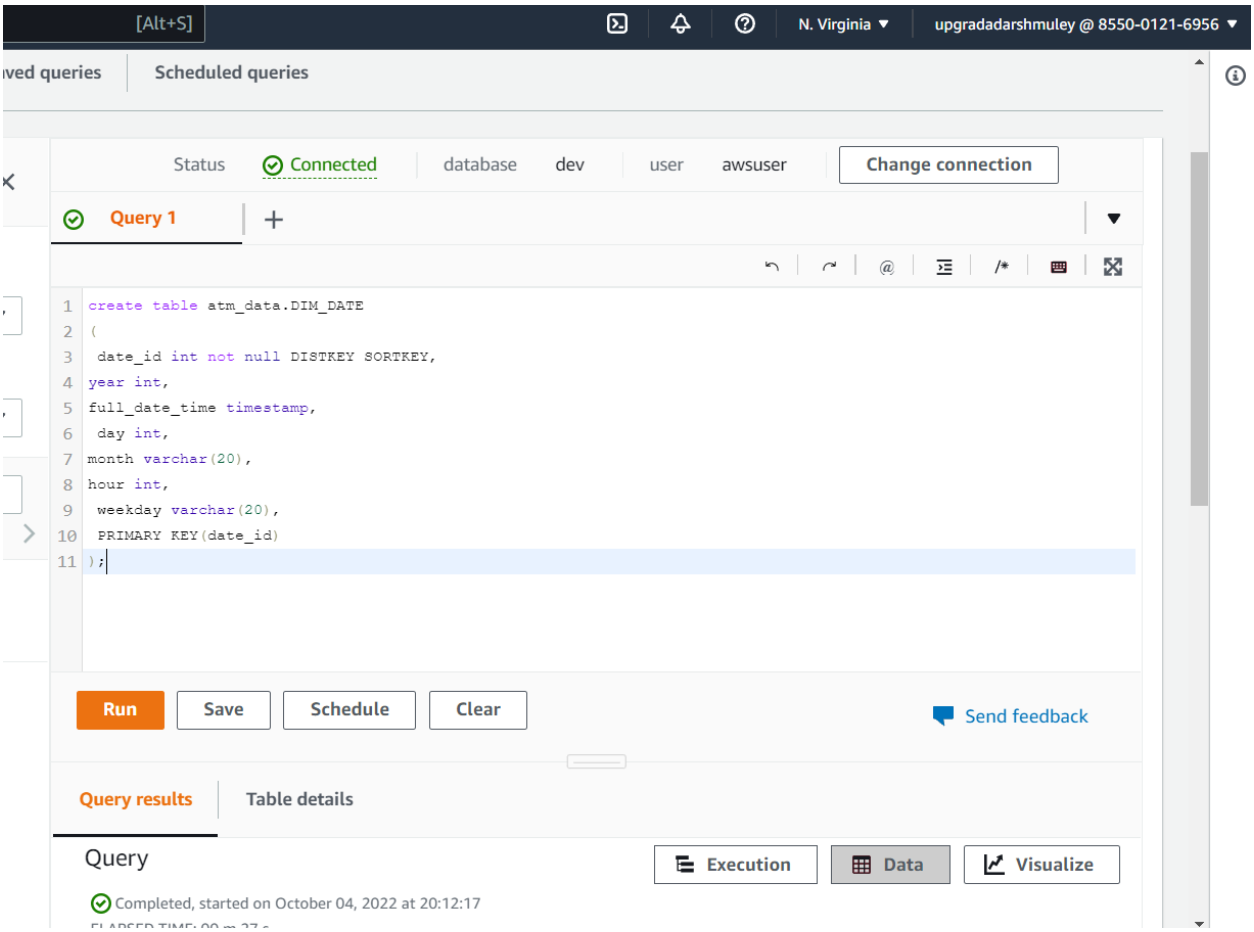
);




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

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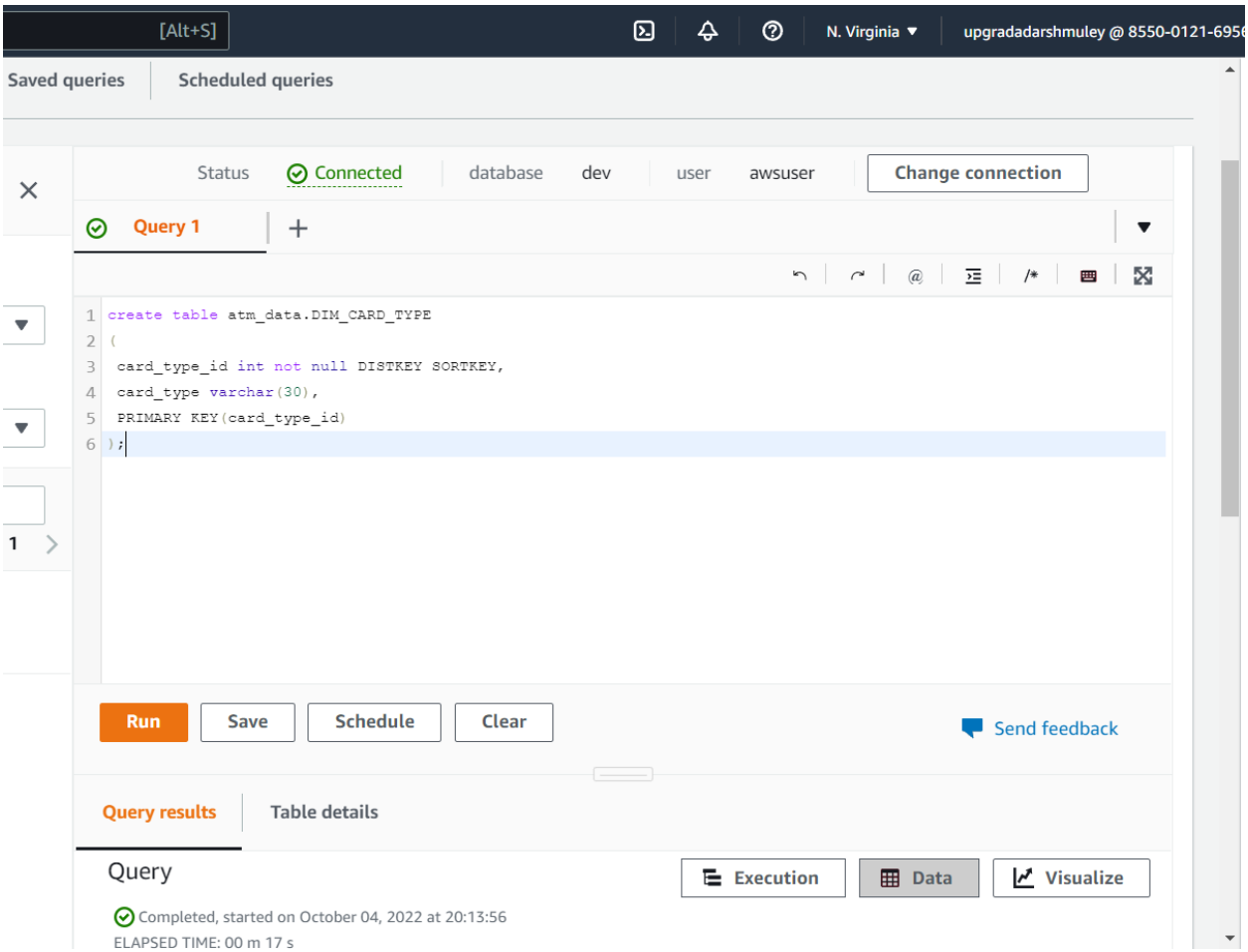
);




```
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),
```

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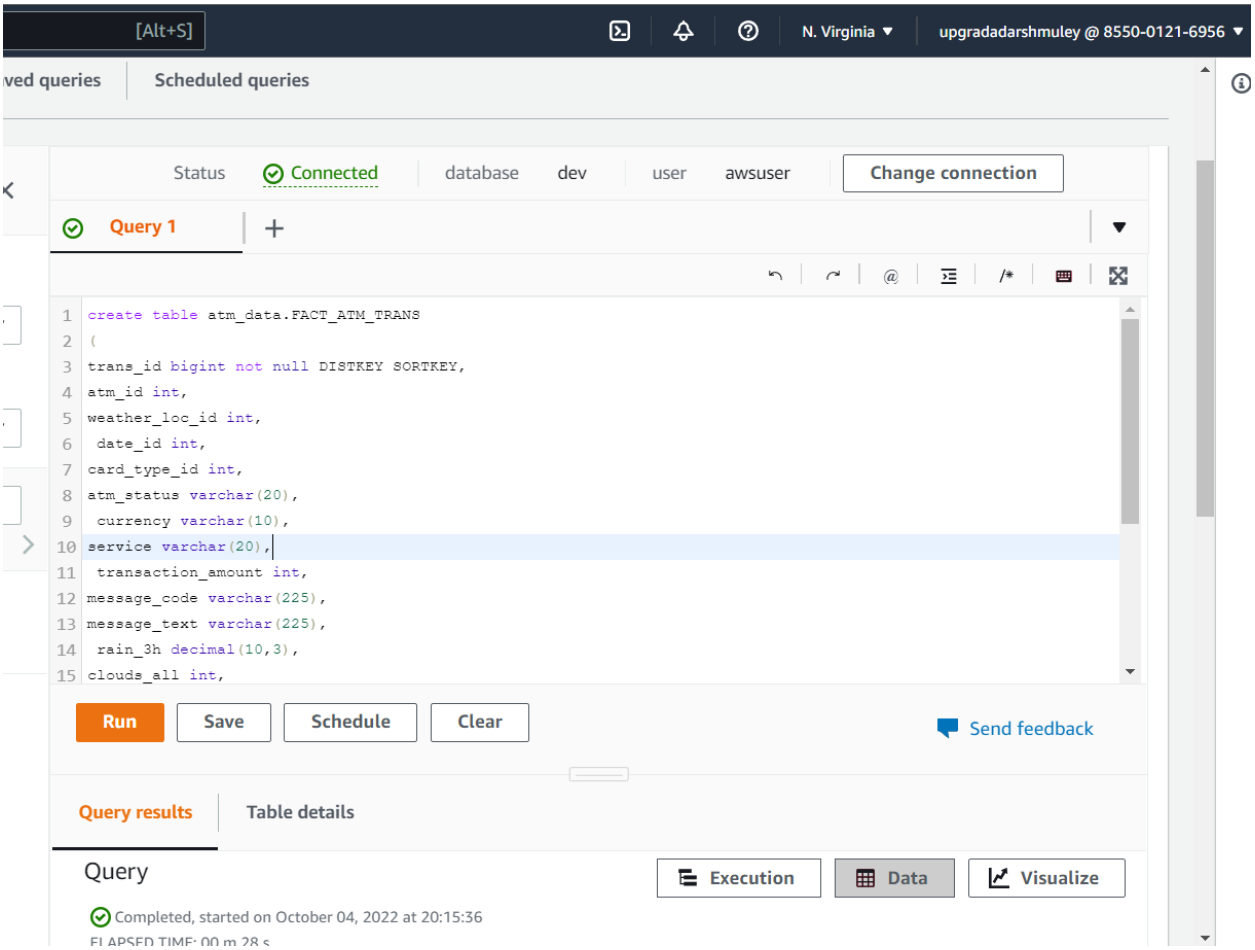
PRIMARY KEY(trans_id),
FOREIGN KEY(weather_loc_id) references atm_data.DIM_LOCATION(location_id),
FOREIGN KEY(atm_id) references atm_data.DIM_ATM (atm_id),
FOREIGN KEY(date_id) references atm_data.DIM_DATE(date_id),
FOREIGN KEY(card_type_id) references atm_data.DIM_CARD_TYPE(card_type_id)
);



Loading data into a Redshift cluster from Amazon S3 bucket

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

copy atm_data.dim_location from 's3://aws-emr-resources-855001216956-us-east-1/notebooks/dim_location/part-00000-5a269165-1076-4728-93ca-7b70c540df40-c000.csv' iam_role 'arn:aws:iam::855001216956:role/redshift_s3_fullaccess' delimiter',' region 'us-east-1'

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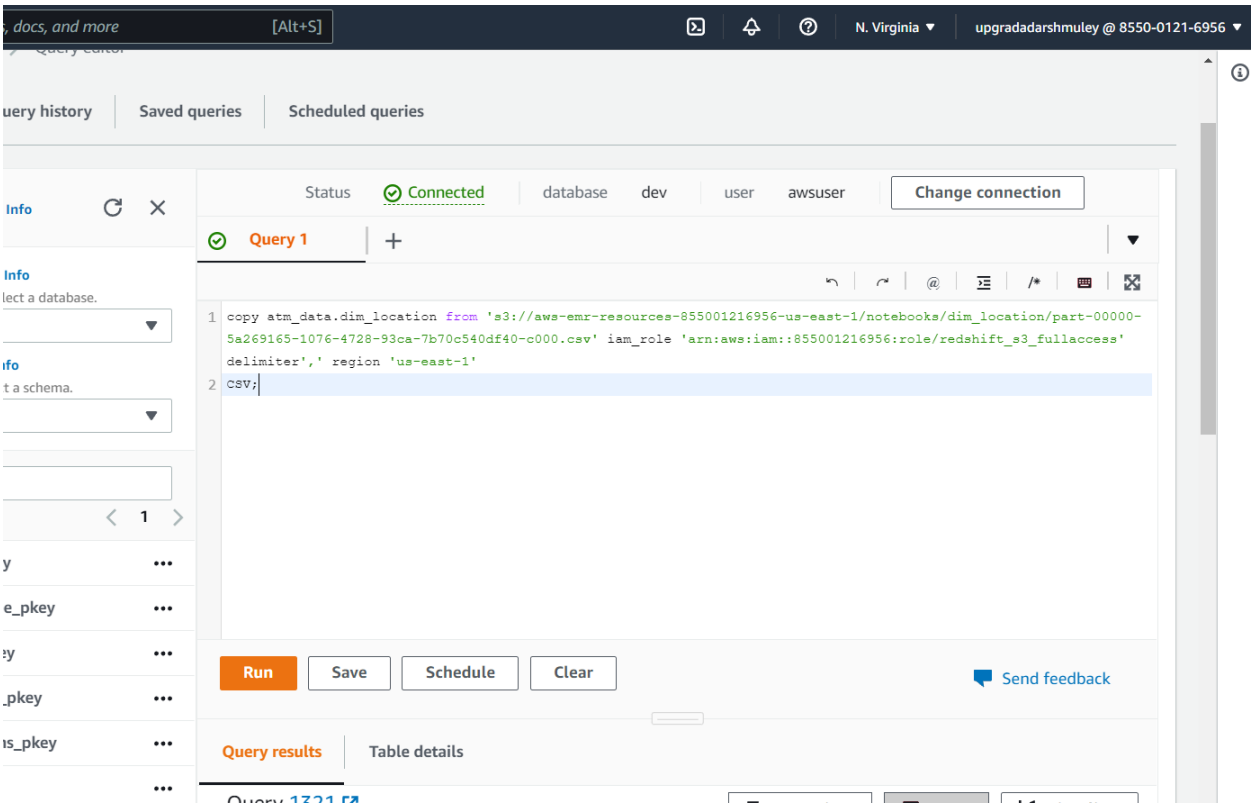
CSV;



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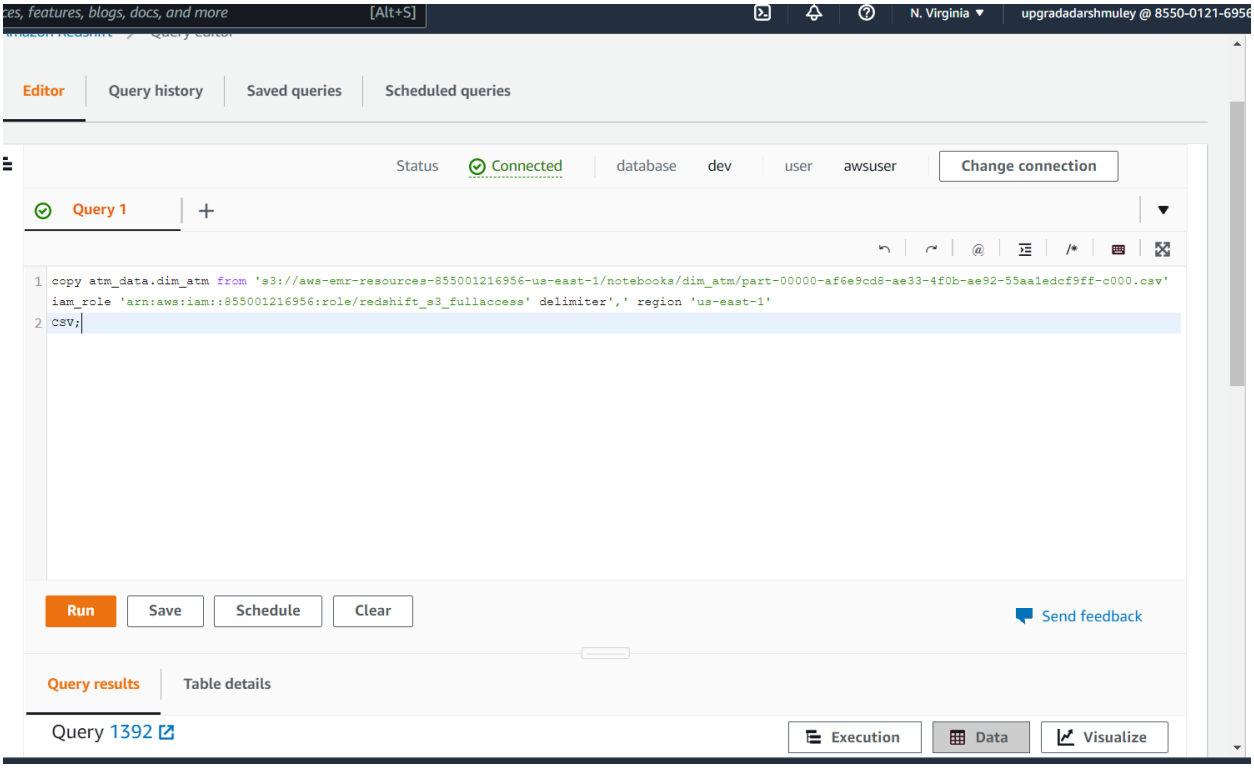
copy atm_data.dim_atm from 's3://aws-emr-resources-855001216956-us-east-1/notebooks/dim_atm/part-00000-af6e9cd8-ae33-4f0b-ae92-55aa1edcf9ff-c000.csv' iam_role 'arn:aws:iam::855001216956:role/redshift_s3_fullaccess' delimiter',' region 'us-east-1'
CSV;



copy atm_data.dim_date from 's3://aws-emr-resources-855001216956-us-east-1/notebooks/dim_date/part-00000-e360e563-568b-4413-8927-fb1dd7457ab4-c000.csv' iam_role 'arn:aws:iam::855001216956:role/redshift_s3_fullaccess' delimiter',' region 'us-east-1'

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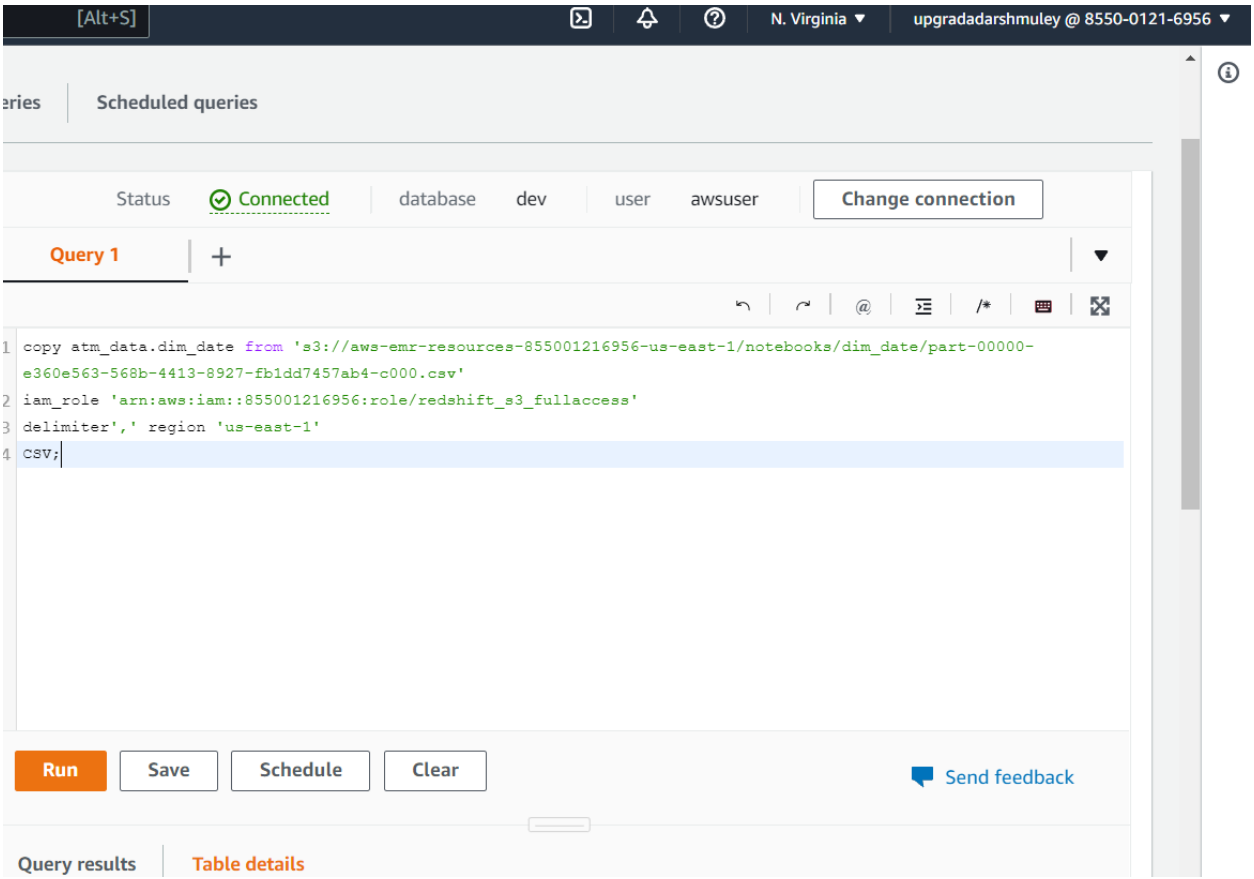
CSV;



copy atm_data.dim_card_type from 's3://aws-emr-resources-855001216956-us-east-1/notebooks/dim_card_type/part-00000-c69c831b-2e4a-4a69-bee2-0ebbd2b6a1e2-c000.csv'
iam_role 'arn:aws:iam::855001216956:role/redshift_s3_fullaccess'
delimiter',' region 'us-east-1'

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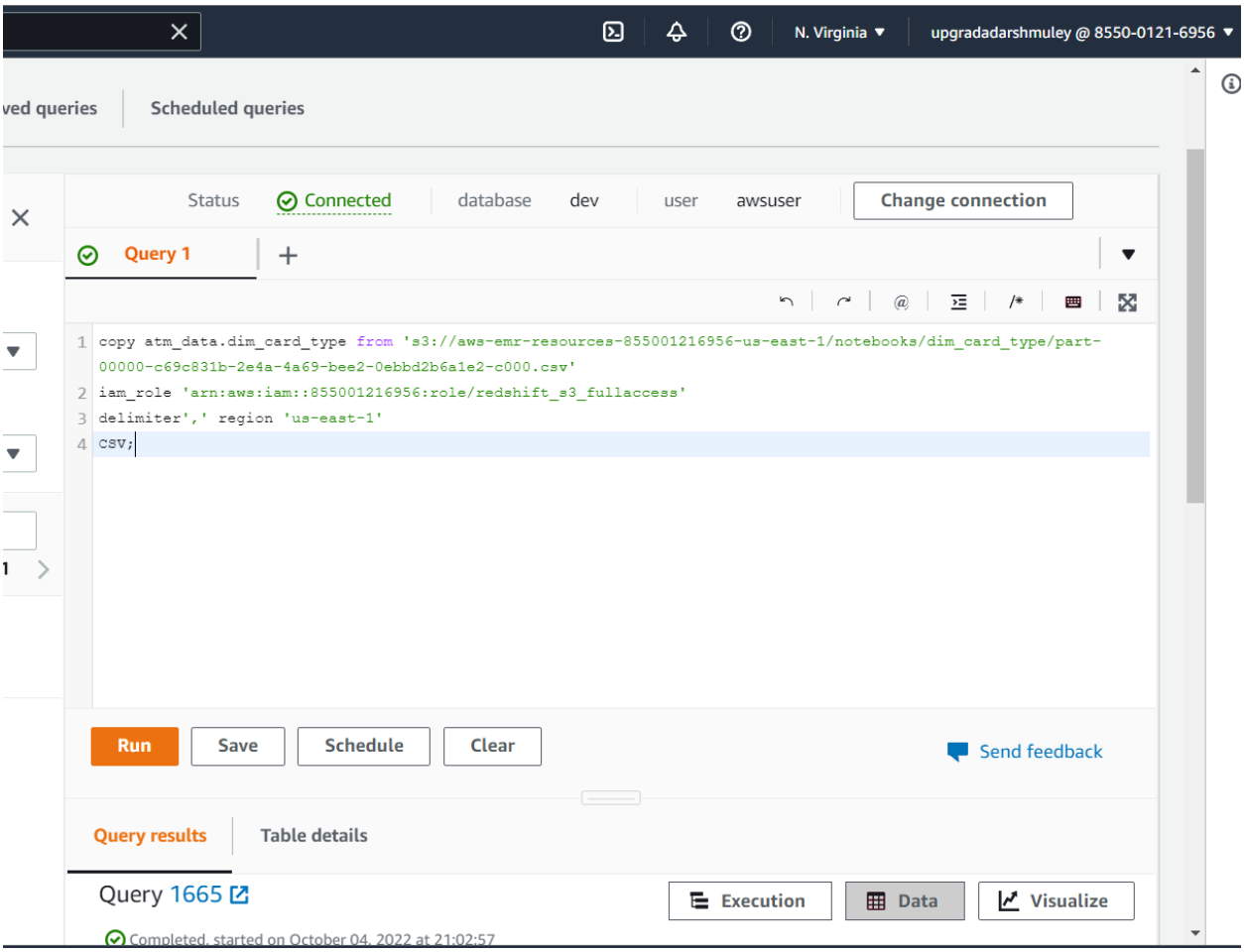
CSV;



copy atm_data.fact_atm_trans from 's3://aws-emr-resources-855001216956-us-east-1/notebooks/fact_atm_trans/part-00000-cd7eecd8-2ee0-4d15-adc4-07fceeff0823-c000.csv'
iam_role 'arn:aws:iam::855001216956:role/redshift_s3_fullaccess'
delimiter',' region 'us-east-1'
CSV;

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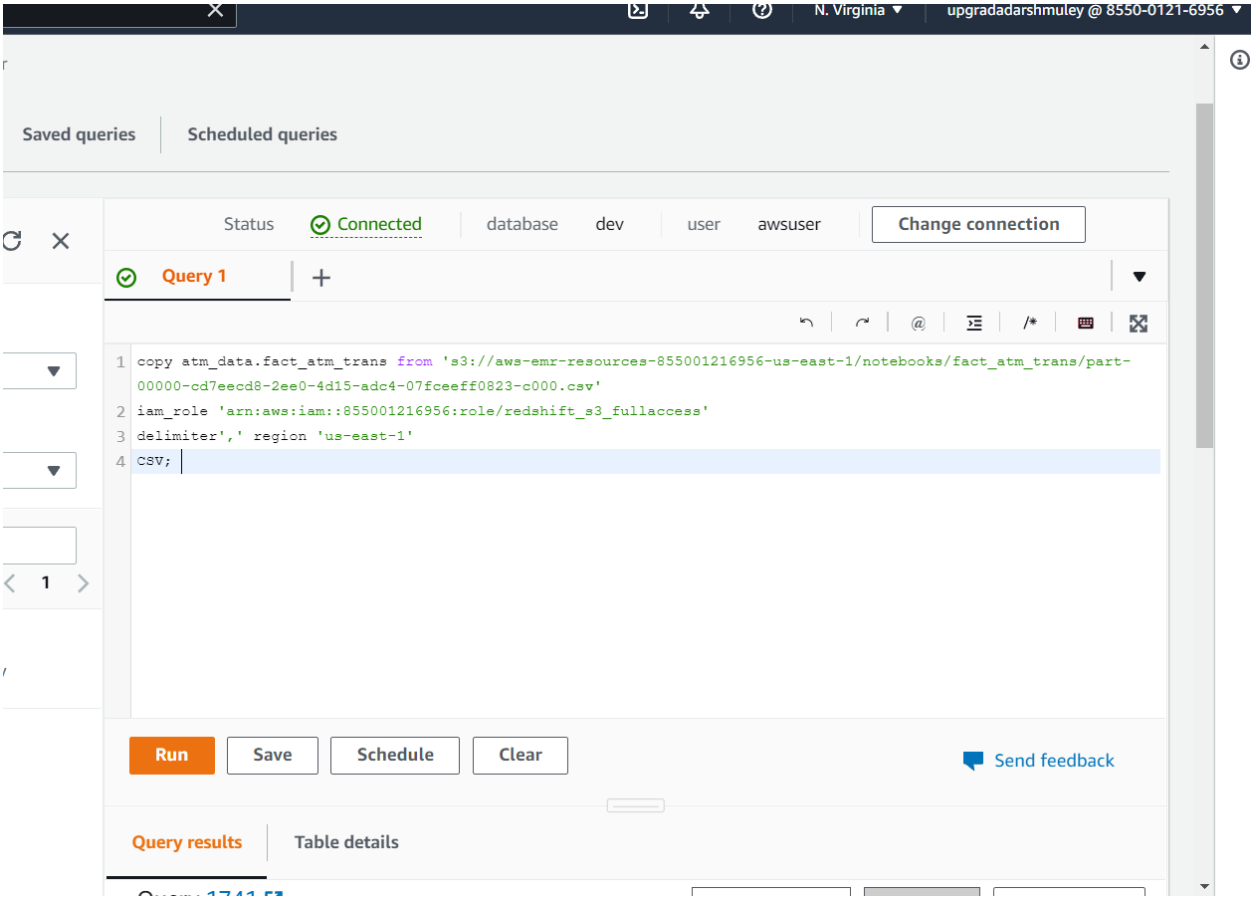

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