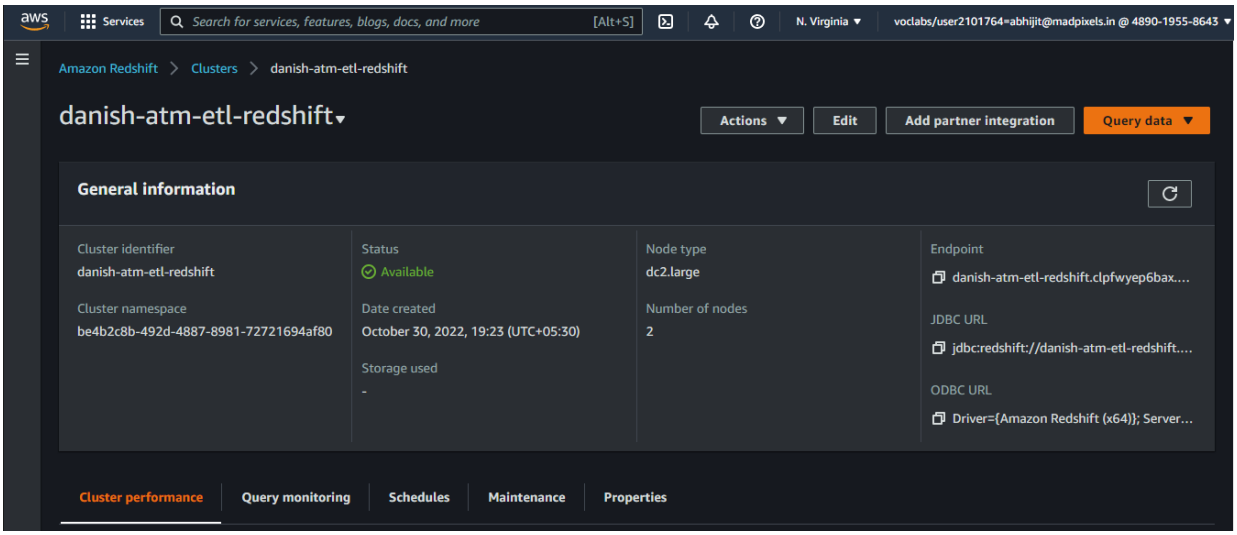
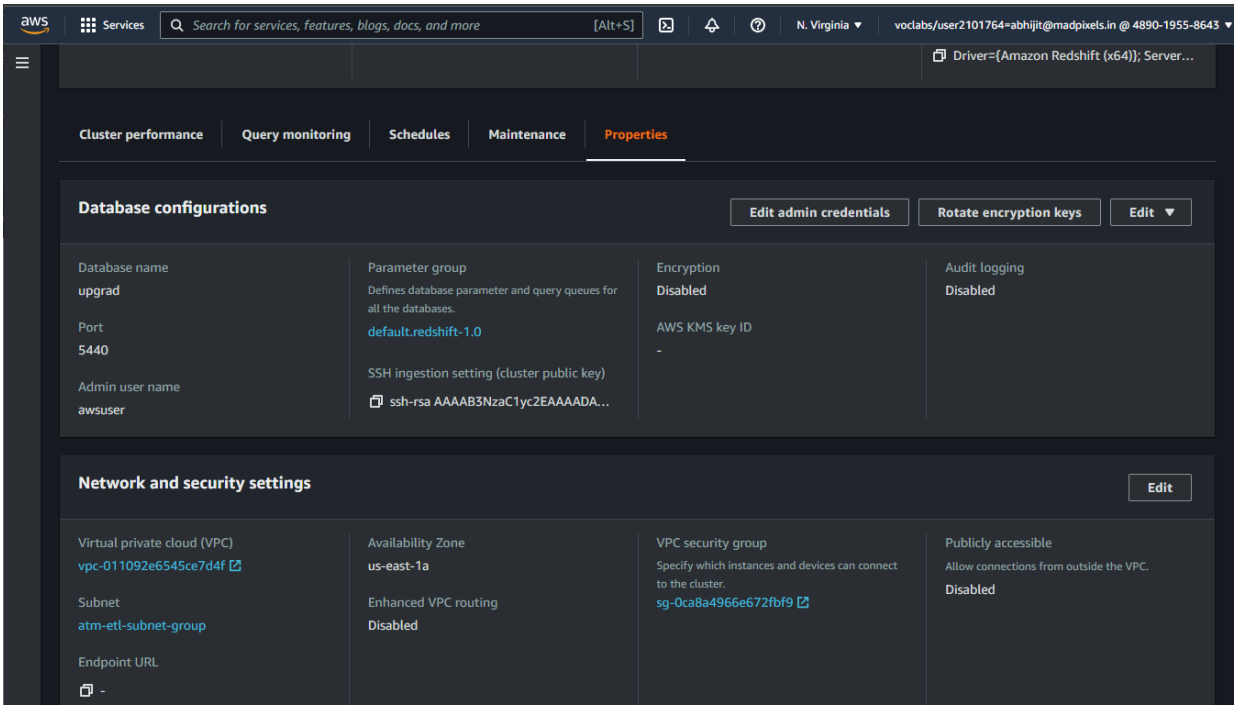
Creation of a Redshift Cluster

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





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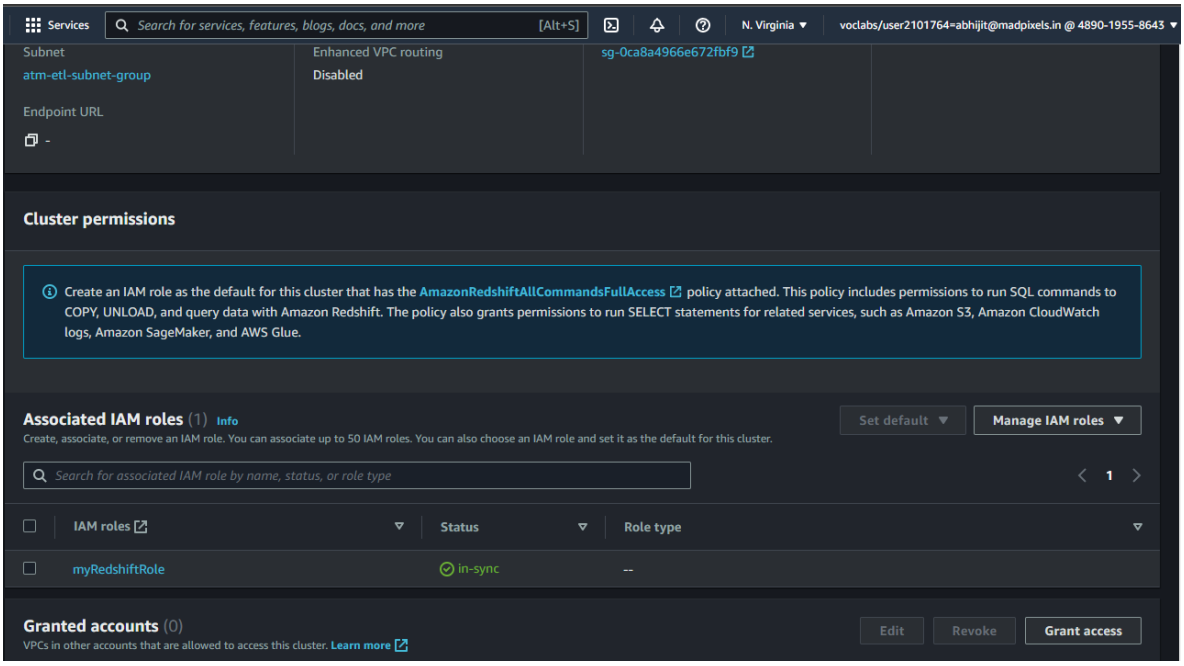
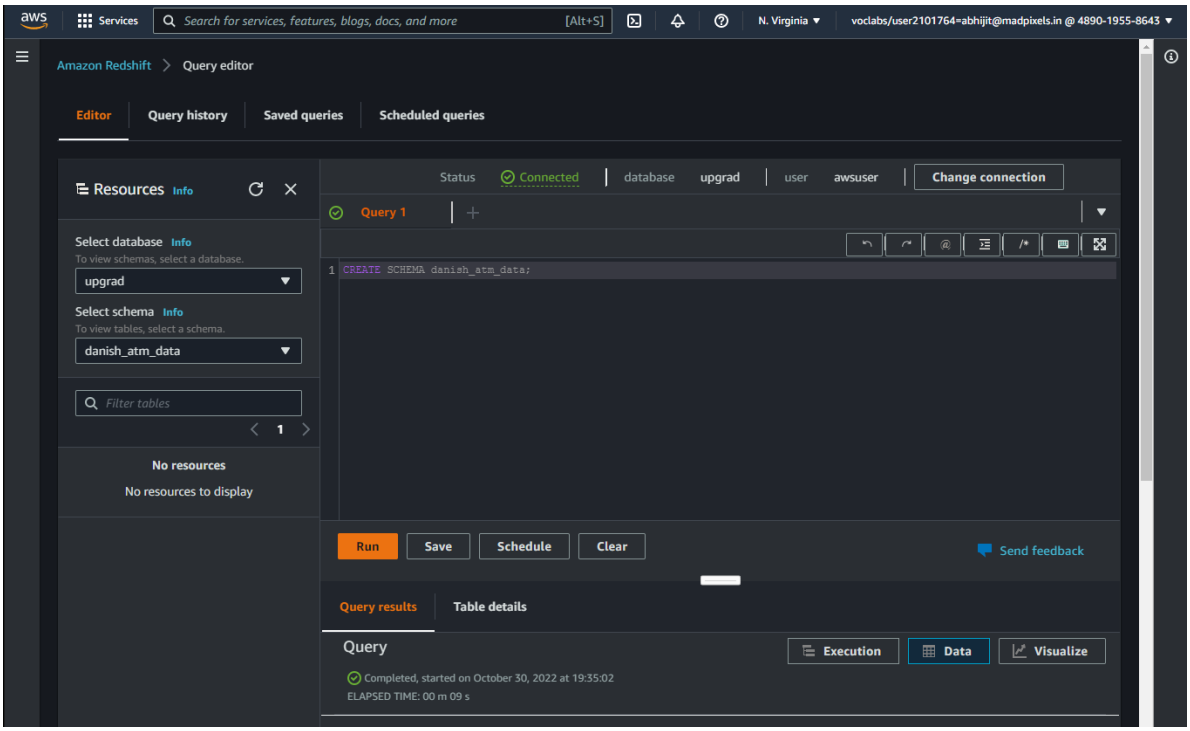


Setting up a database in the Redshift cluster and running queries to create the dimension and fact tables

Creating Schema:

CREATE SCHEMA danish_atm_data;



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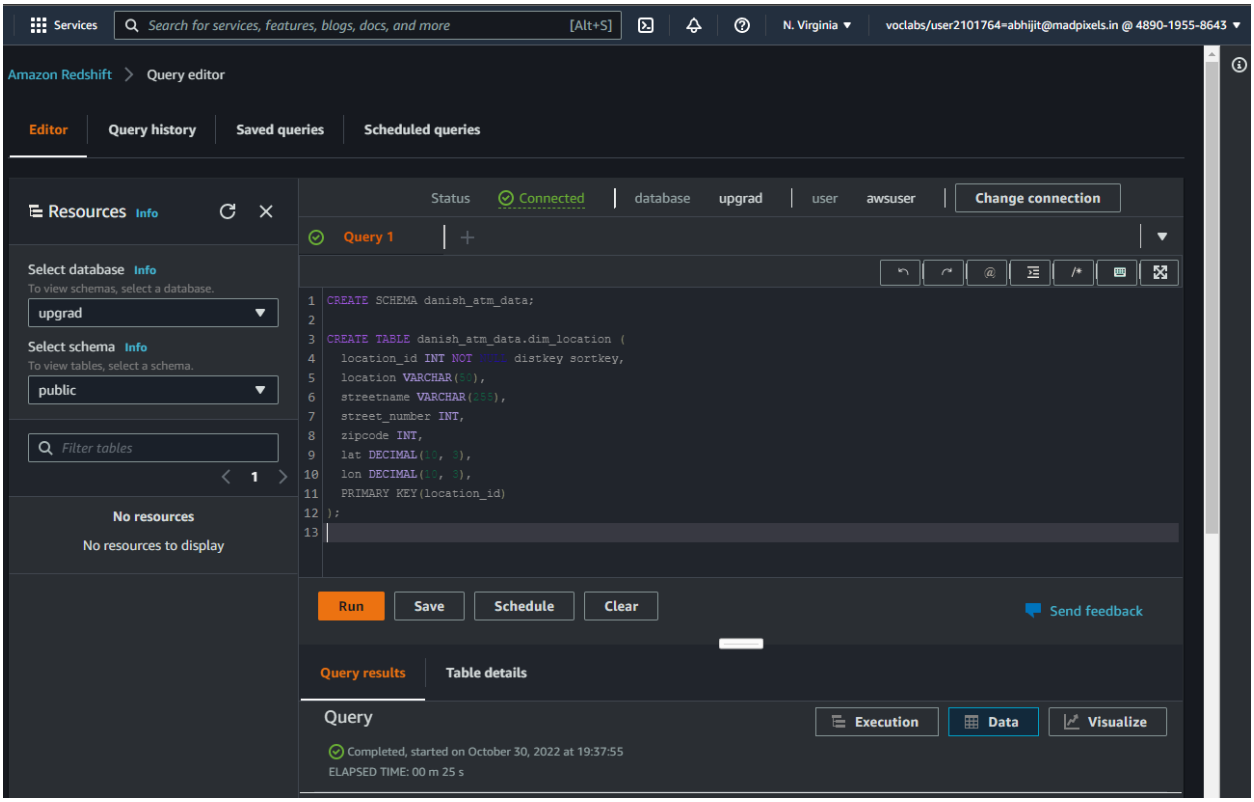
Queries to create the various dimension and fact tables with appropriate primary and foreign keys:

• Creating location dimension table

```
CREATE TABLE danish_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)
);
```



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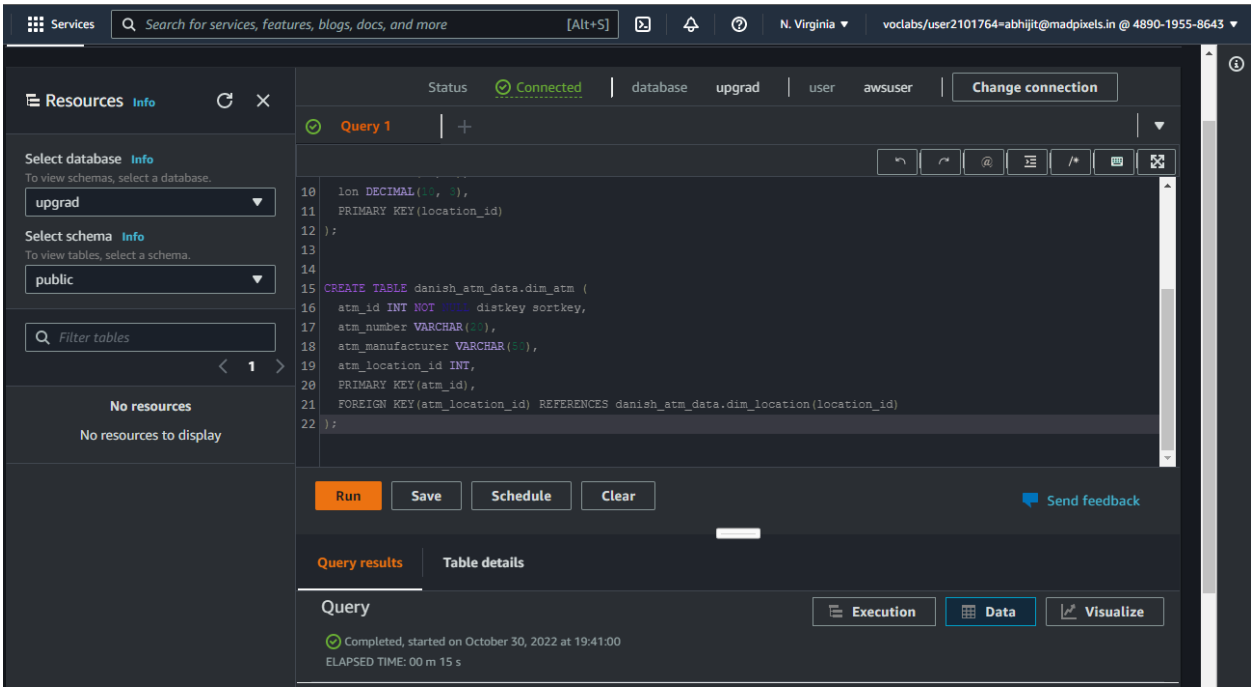
• **Creating atm dimension table**

```
CREATE TABLE danish_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 danish.atm_data.dim_location(location_id)
);
```



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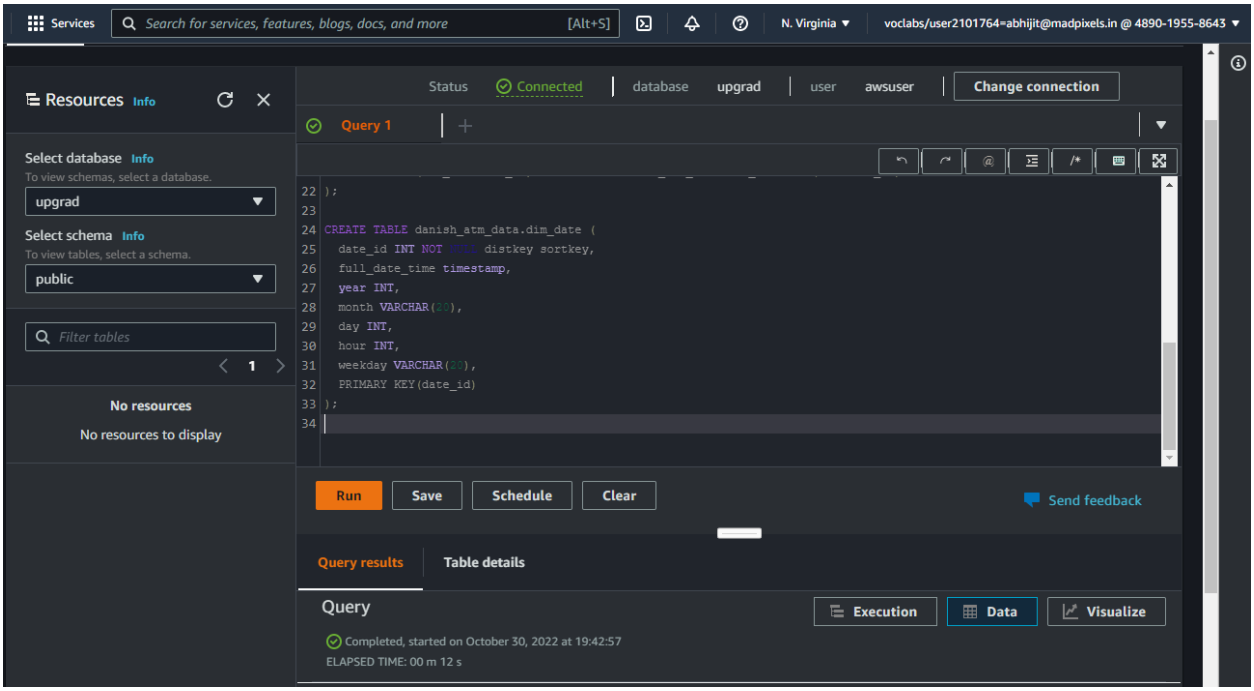
• **Creating date dimension table**

```
CREATE TABLE danish_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)
);
```



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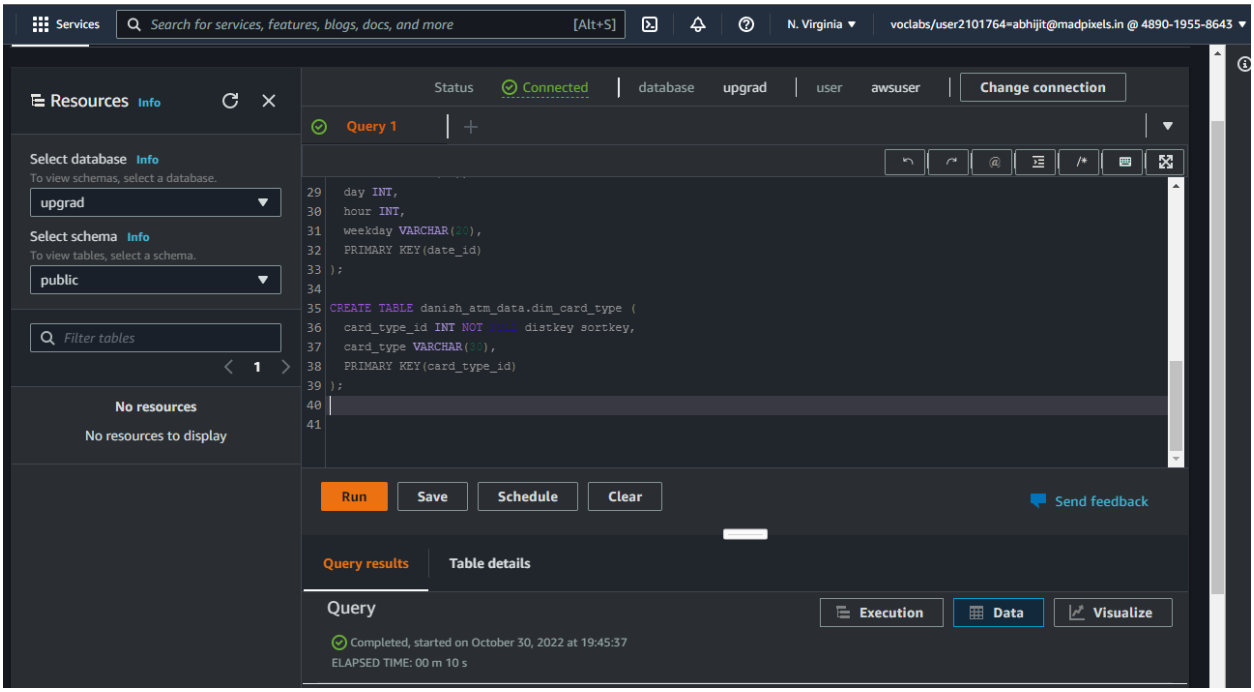
• **Creating card type dimension table**

```
CREATE TABLE danish_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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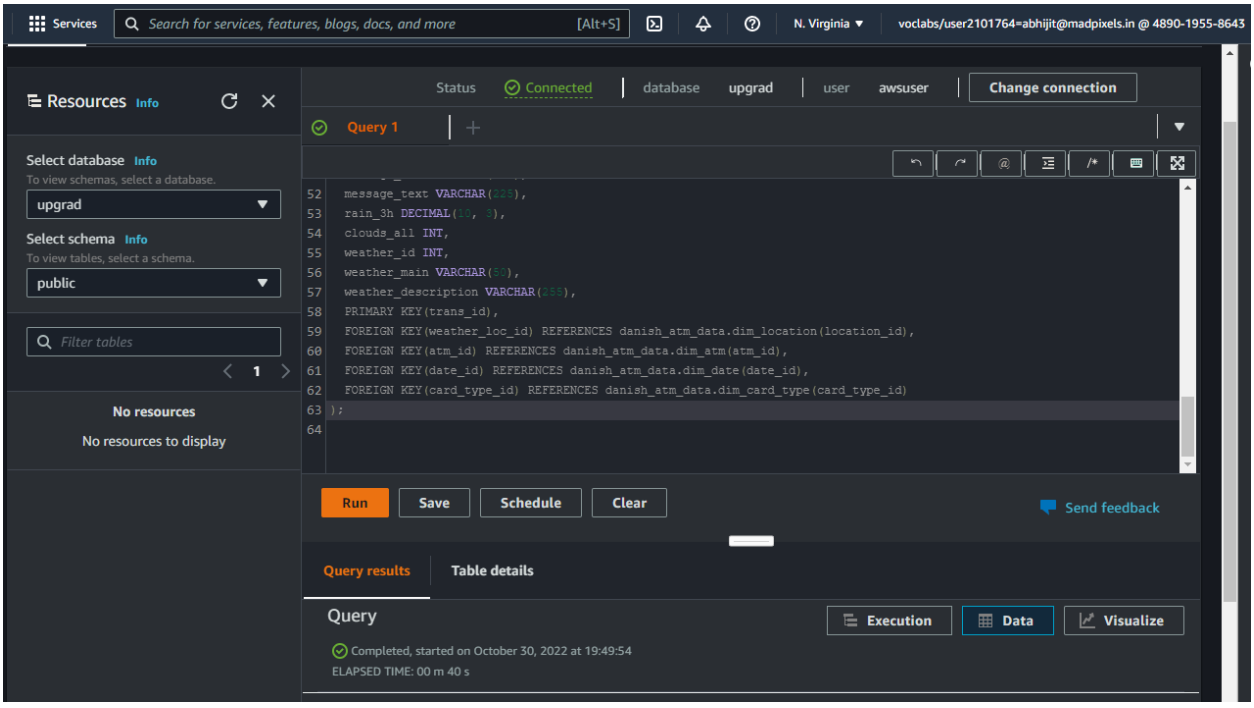
• **Creating atm transactions fact table**

```
CREATE TABLE danish_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 danish_atm_data.dim_location(location_id),
  FOREIGN KEY(atm_id) REFERENCES danish_atm_data.dim_atm(atm_id),
  FOREIGN KEY(date_id) REFERENCES danish_atm_data.dim_date(date_id),
  FOREIGN KEY(card_type_id) REFERENCES danish_atm_data.dim_card_type(card_type_id)
);
```



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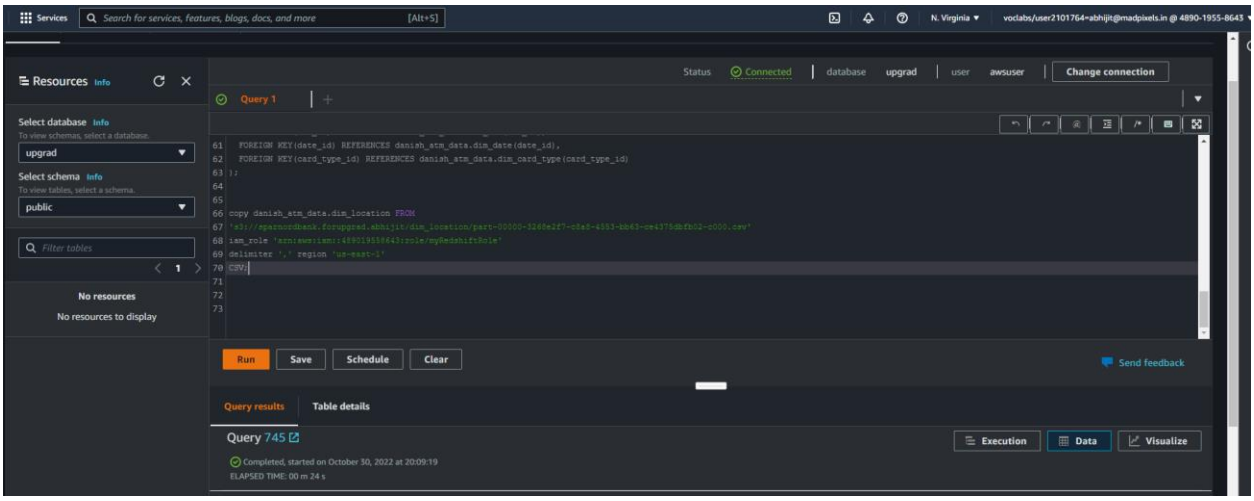
Loading data into a Redshift cluster from Amazon S3 bucket

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

• Copying the data to dim_location table

```
copy danish_atm_data.dim_location FROM
's3://sparnordbank.forupgrad.abhijit/dim_location/part-00000-3268e2f7-c8a8-4553-bb63-ce4375dbfb02-c000.csv'
iam_role 'ARN:AWS:IAM::489019558643:role/myredshiftrole'
delimiter ',' region 'us-east-1 CSV;
```



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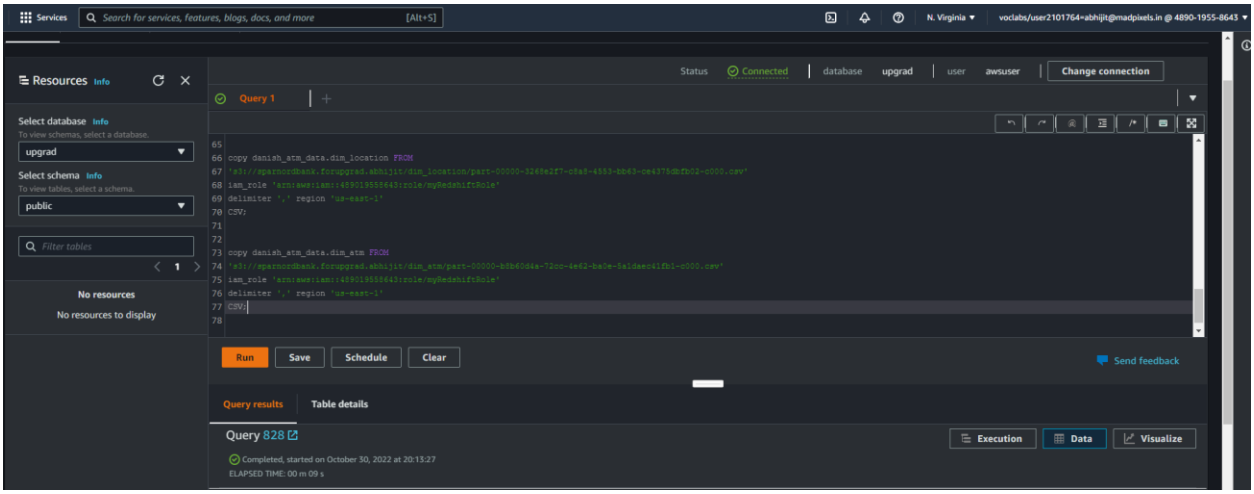
• **Copying the data to dim_atm table**

```
copy danish_atm_data.dim_atm FROM
's3://sparnordbank.forupgrad.abhijit/dim_atm/part-00000-b8b60d4a-72cc-4e62-ba0e-5a1daec41fb1-c000.csv'
iam_role 'arn:aws:iam::489019558643:role/myRedshiftRole'
delimiter ',' region 'us-east-1'
CSV;
```



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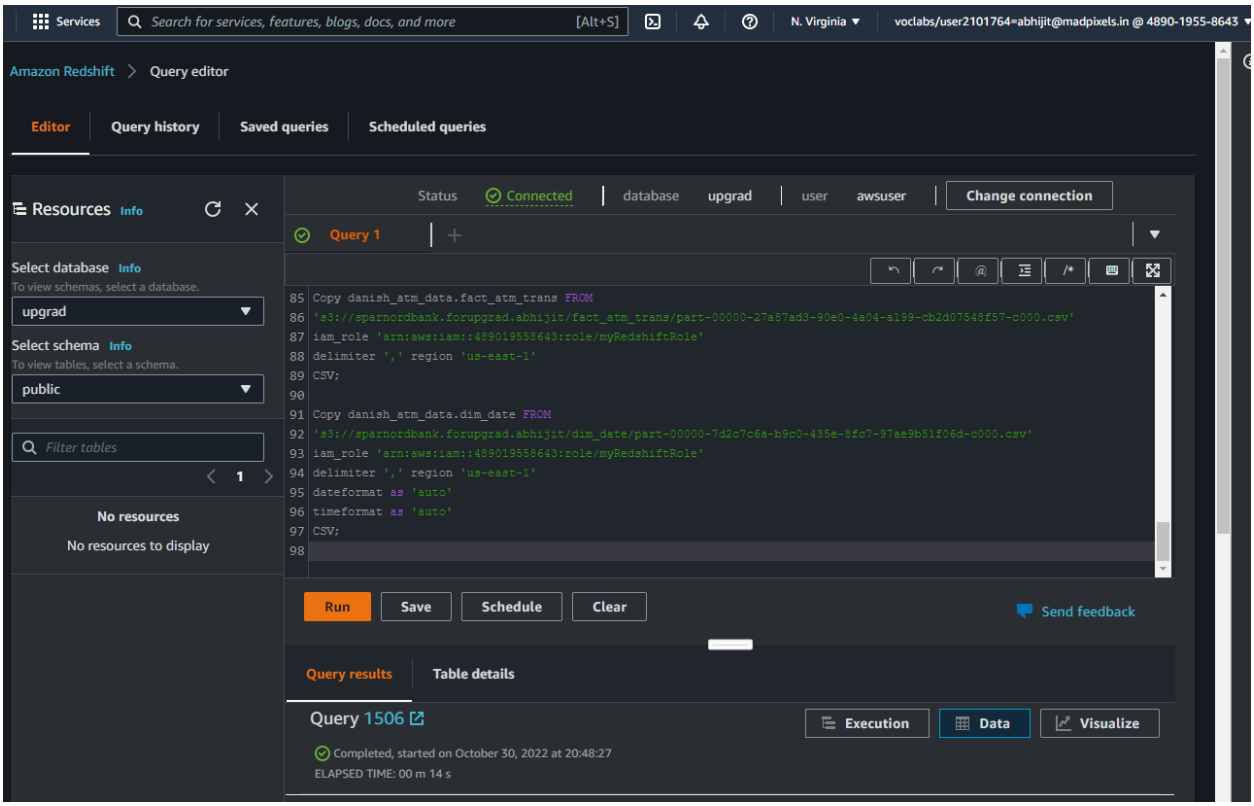
• **Copying the data to dim_date table**

```
Copy danish_atm_data.dim_date FROM
's3://sparnordbank.forupgrad.abhijit/dim_date/part-00000-7d2c7c6a-b9c0-435e-8fc7-97ae9b51f06d-c000.csv'
iam_role 'arn:aws:iam::489019558643:role/myRedshiftRole'
delimiter ',' region 'us-east-1'
dateformat as 'auto'
timeformat as 'auto'
CSV;
```



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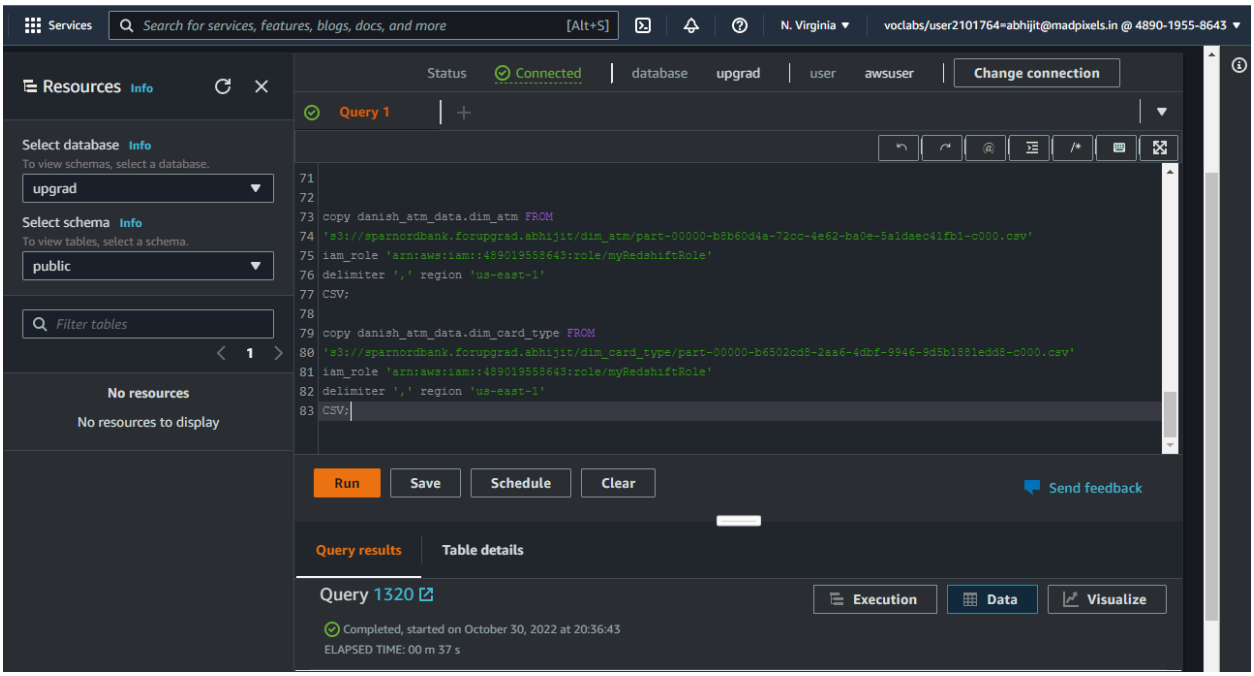
- **Copying the data to dim_card_type table**

copy danish_atm_data.dim_care_type FROM
'S3://sparnordbank.forupgrad.abhijit/dim_card_type/part-00000-b6502cd8-2aa6-4dbf-9946-9d5b1881edd8-c000.csv'
iam_role 'arn:aws:iam::489019558643:role/myRedshiftRole' delimiter ',' region 'us-east-1'
CSV;



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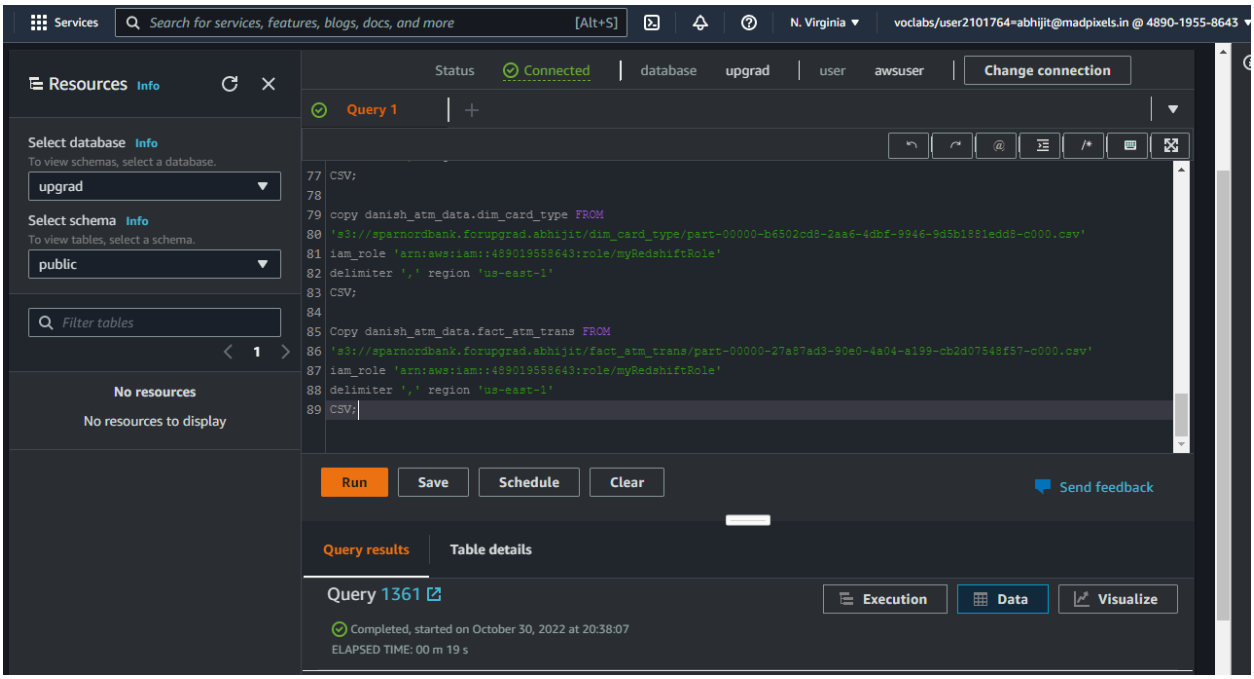
- **Copying the data to fact_atm_trans table**

Copy danish_atm_data.fact_atm_trans FROM
'S3://sparnordbank.forupgrad.abhijit/fact_atm_trans/part-00000-27a87ad3-90e0-4a04-a199-cb2d07548f57-c000.csv'
iam_role 'arn:aws:iam::489019558643:role/myRedshiftRole' delimiter ',' region 'us-east-1'
CSV;



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