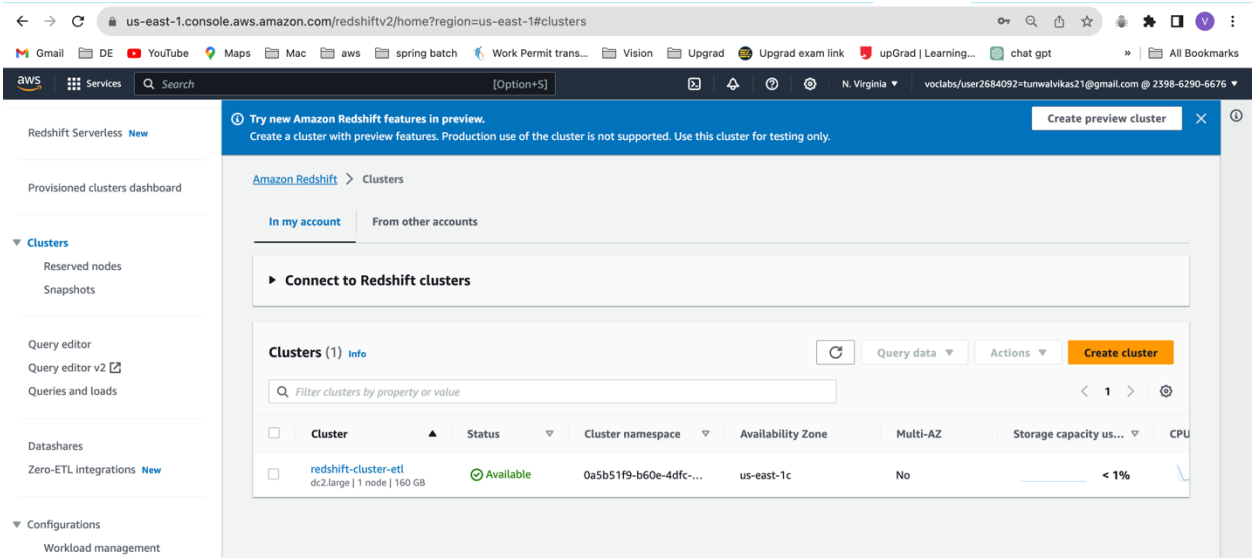
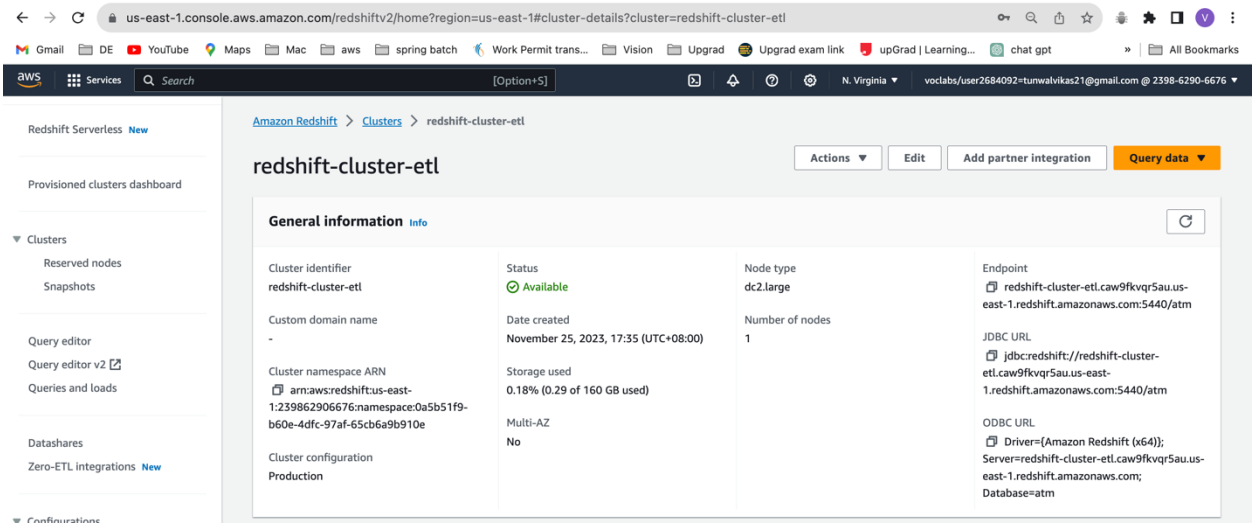
Redshift Cluster setup

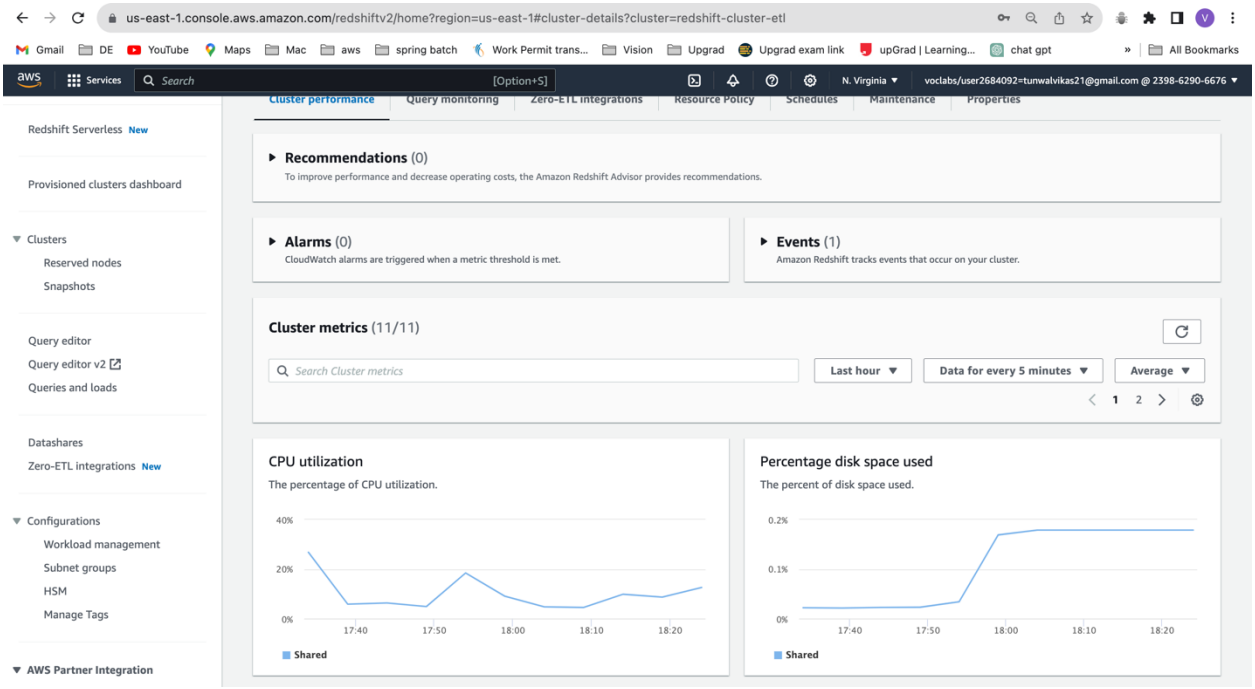
Redshift Cluster created – `redshift-cluster-etl`

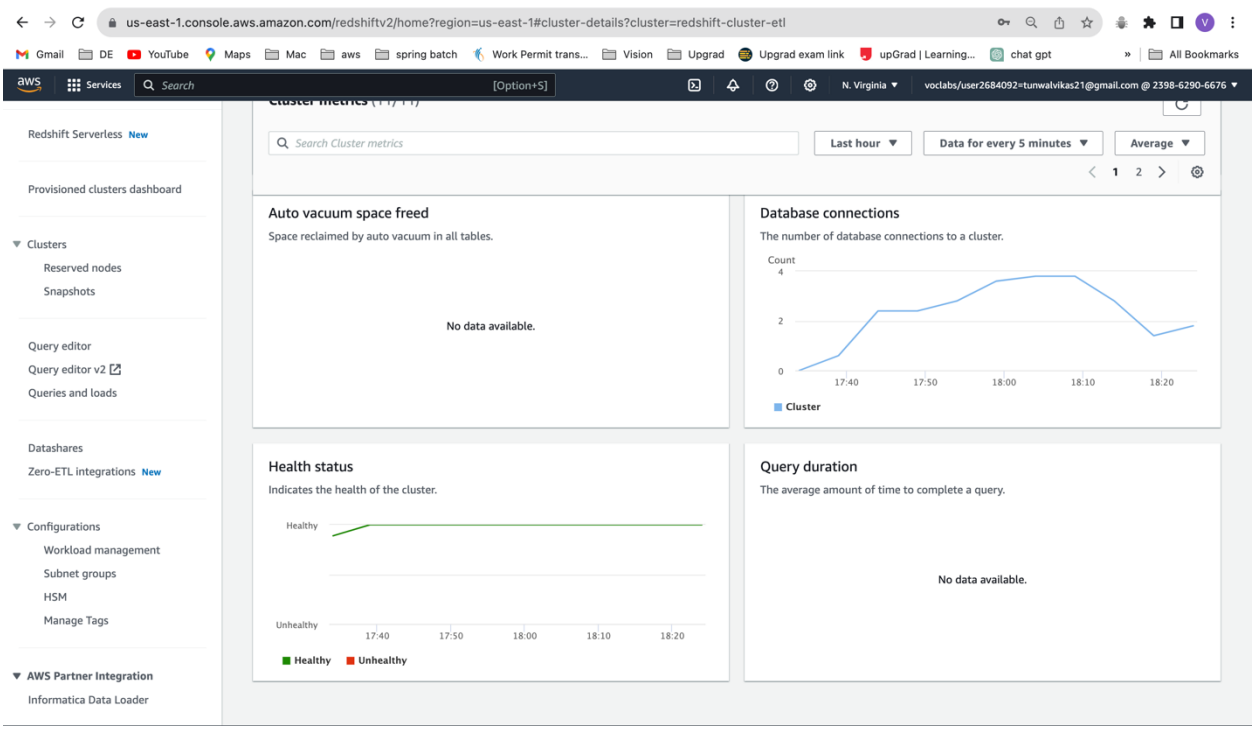


Cluster General Information about Endpoint, ARN, JDBC and ODBC URL etc.

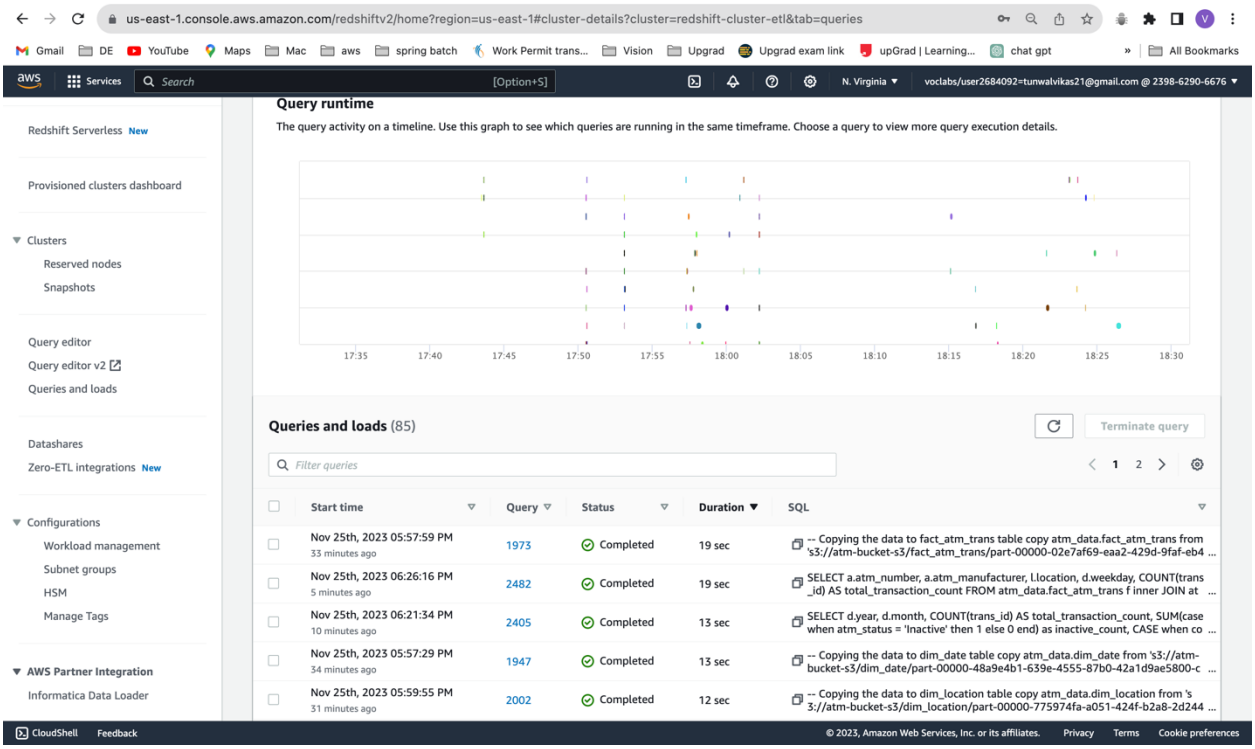


Cluster performance Metrics

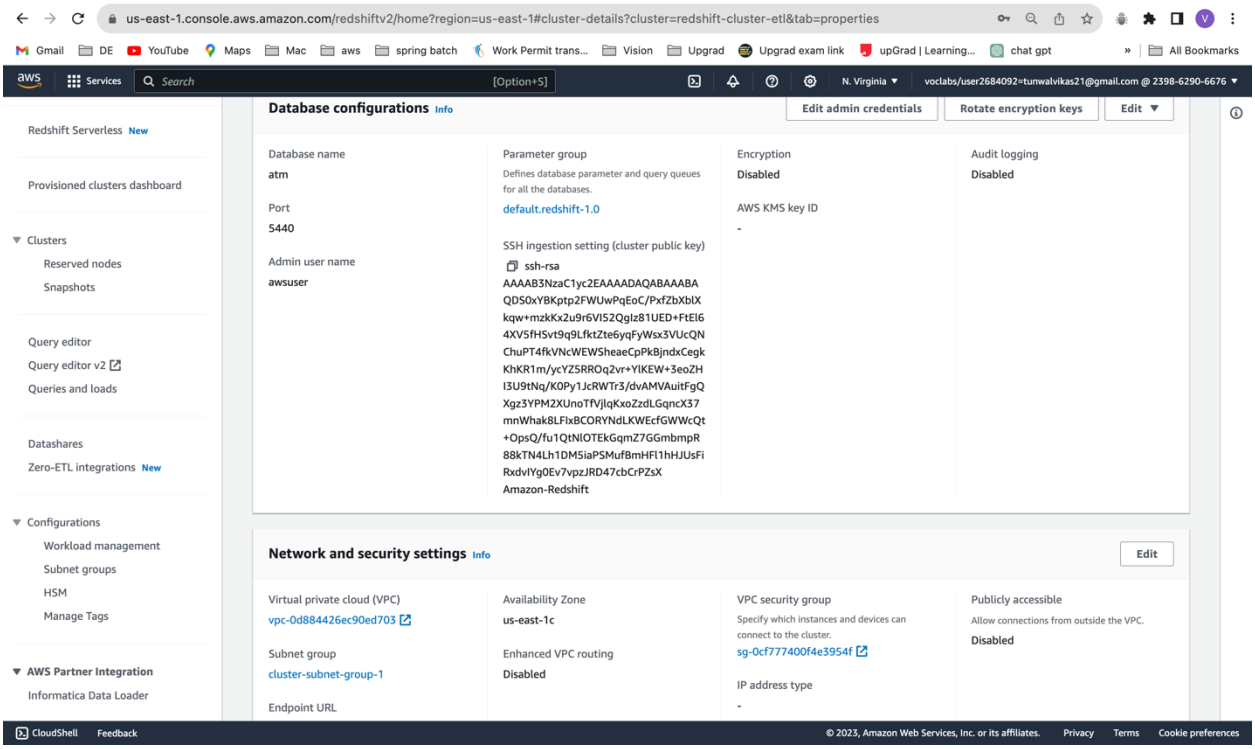




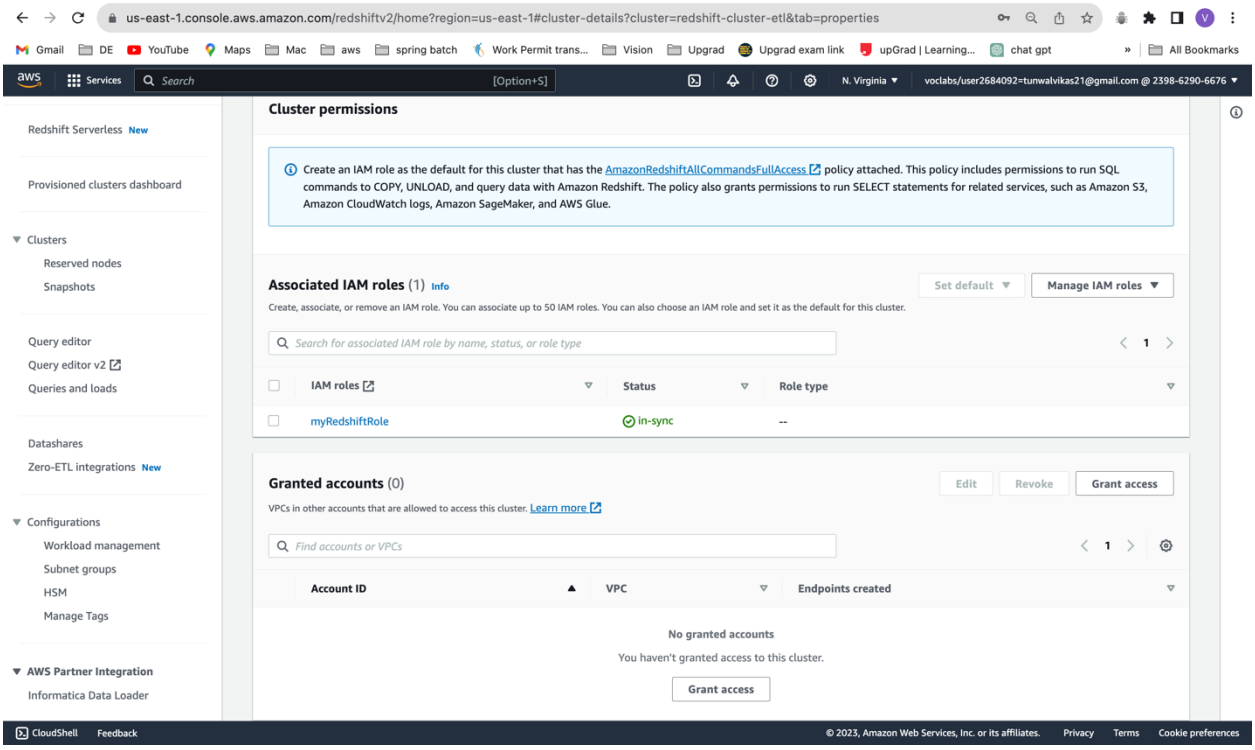
Query History and listings



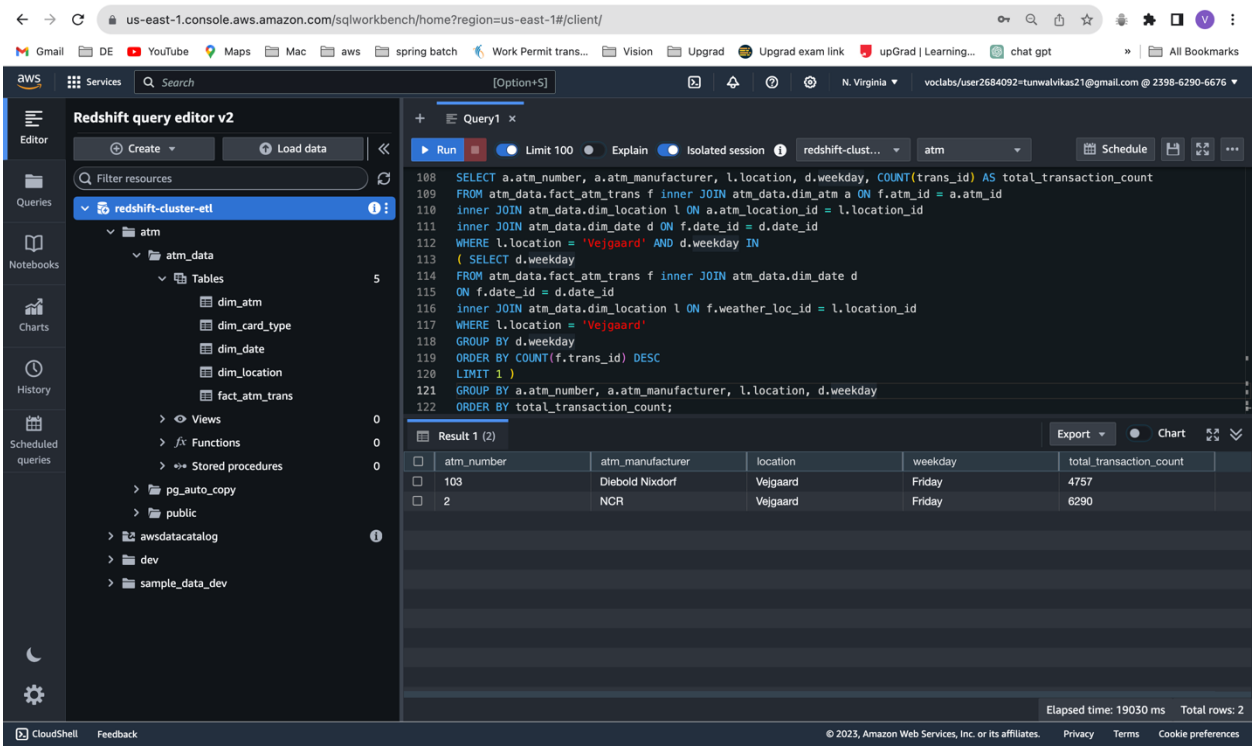
Database configurations:- Database name 'atm', user awsuser and password 'AWSUser1'.



Custom IAM role to allow Redshift the S3 access



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:

Creating schema

```
create schema atm_data;
```

Creating location dimension table

```
--
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) );
```

Creating atm dimension table

```
--
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) );
```

Creating date dimension table

```
--
create table 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) );
```

Creating card type dimension table

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

Creating atm transactions fact table

```
-- Creating atm transactions fact table
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),
    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) );
```