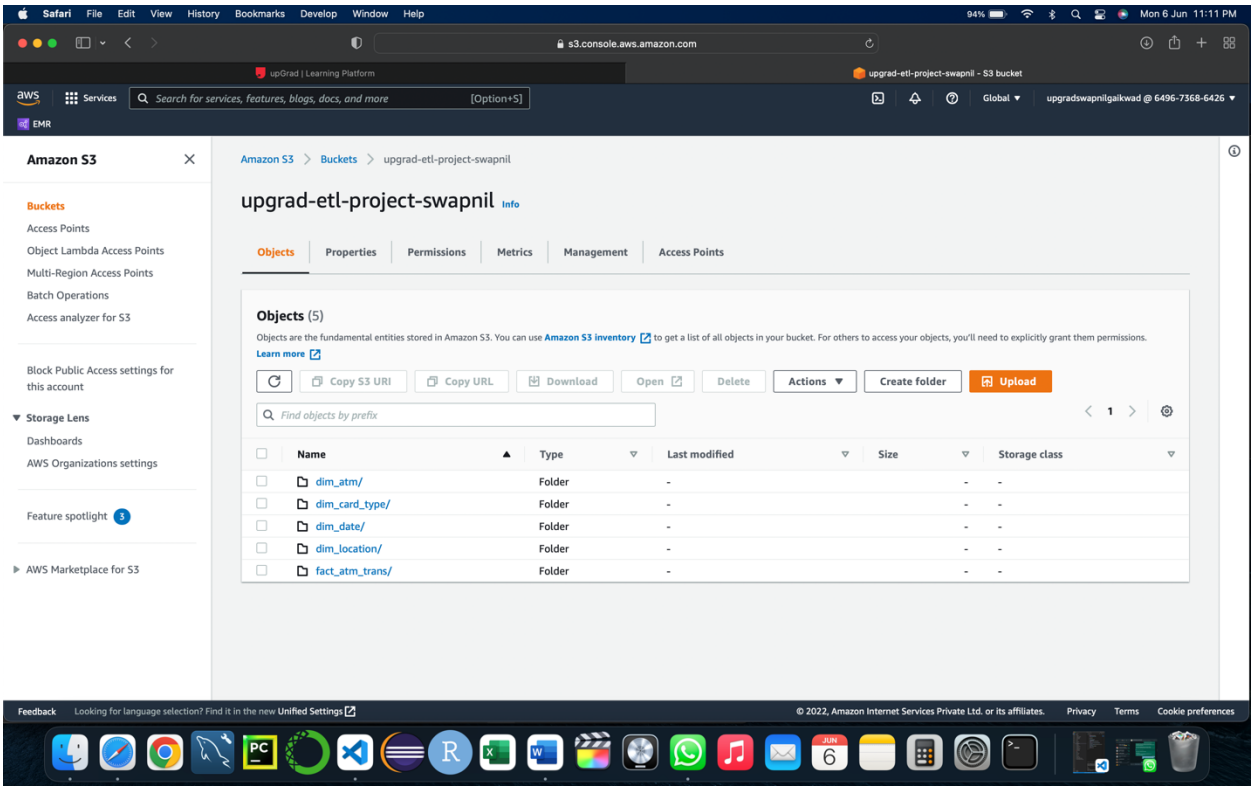
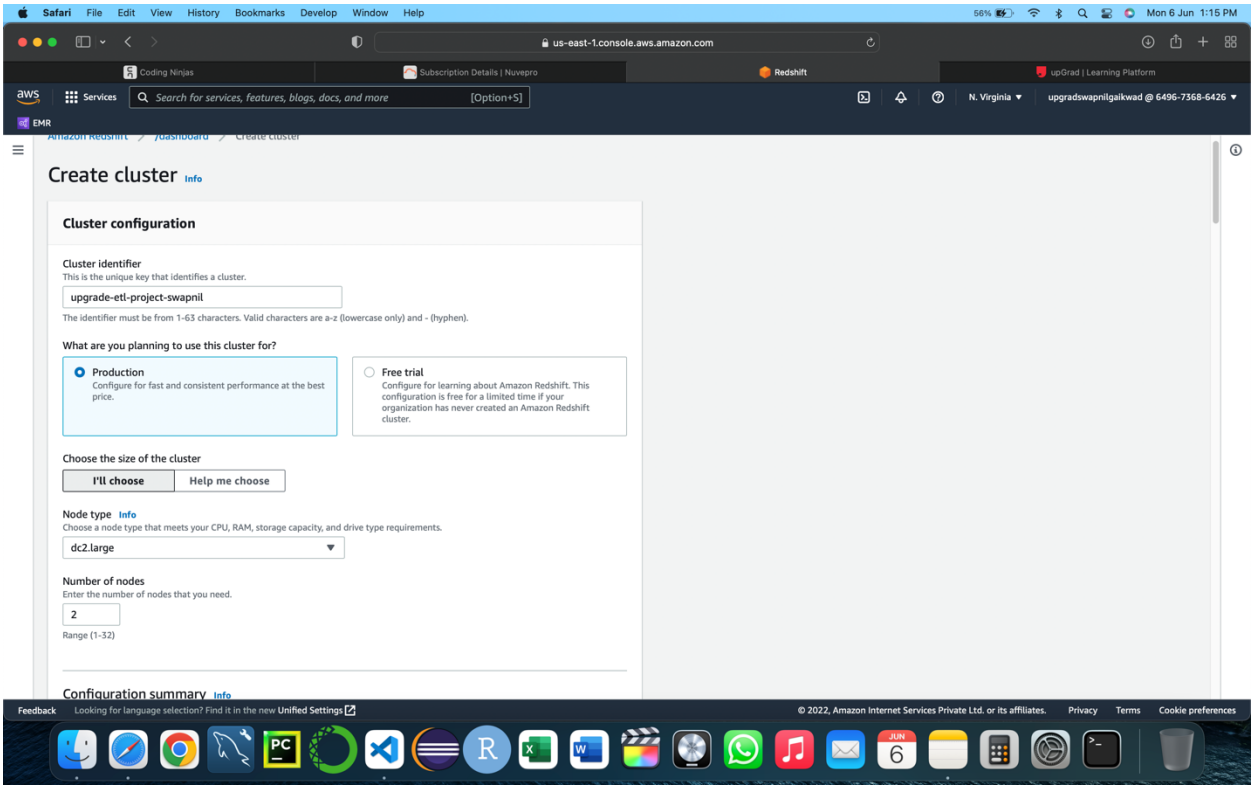
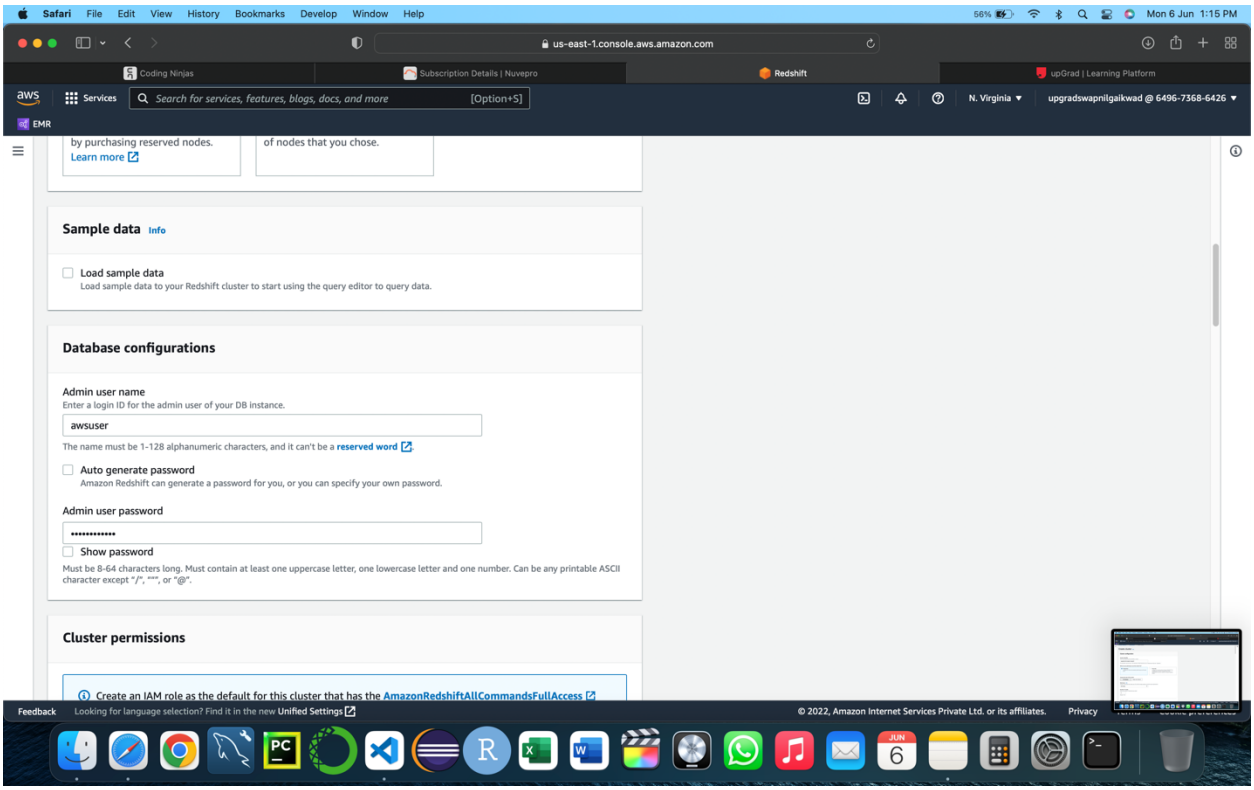
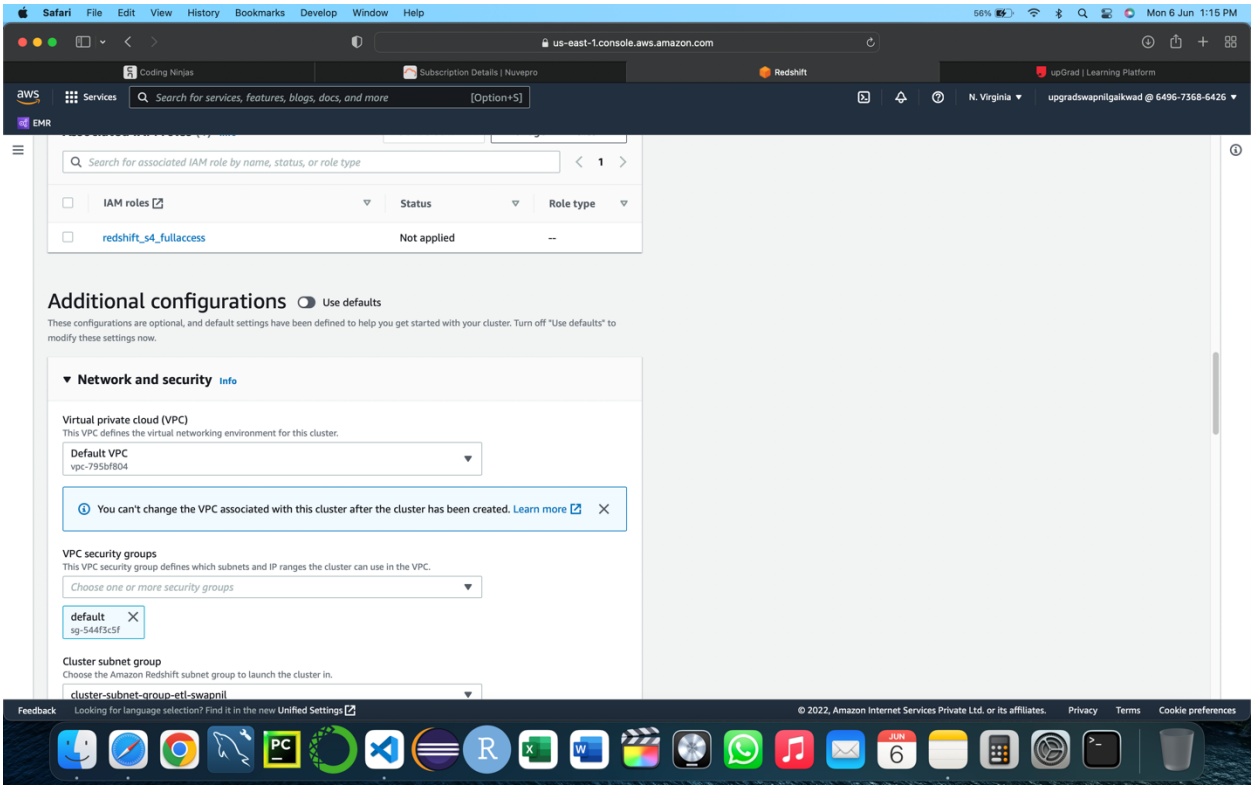
Creation of a Redshift Cluster

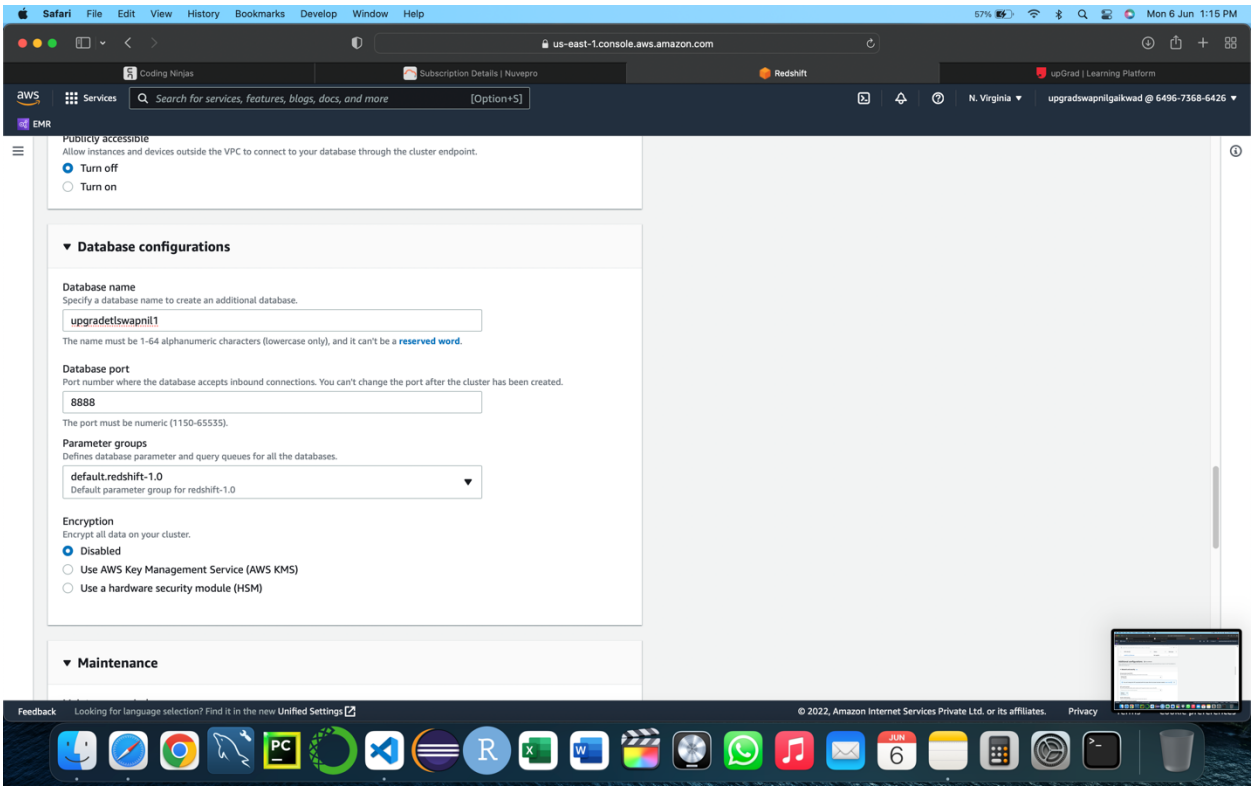
Screenshots of the configuration of the Redshift cluster that you have created:











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:

1. Query to create a schema for the deimension an fact tables :

```
create schema atm_data ;
```

2. Query to create the 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)
);
```

3. 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)
);
```

4. 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)
);
```

5.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)
);
```

6.Creating atm Transaction 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),
cloud_all int ,
weather_id int ,
weather_main varchar(50),
weather_description varchar(225),
PRIMARY KEYS(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

Following are the queries for loading the data from S3 to REDSHIFT :

1. copying data from s3 to dim_location table

```
copy atm_data.dim_location from s3://upgrad-etl-project-swapnil/dim_location/part-00000-e87d47c0-c8e1-4fbe-b880-54db72073c5c-c000.csv'
iam_role'arn:aws:iam::649673686426:role/redshift_s4_fullaccess'
delimiter','region'us-east-1'
CSV;
```

3. copying data from s3 to dim_atm table

```
copy atm_data.dim_atm from 's3://upgrad-etl-project-swapnil/dim_atm/part-00000-9857a98e-1f27-4945-b1a0-01a135d4a2fa-c000.csv'
iam_role'arn:aws:iam::649673686426:role/redshift_s4_fullaccess'
delimiter','region'us-east-1'
CSV;
```

4. copying data from s3 to dim_date table

```
copy atm_data.dim_location from 's3://upgrad-etl-project-swapnil/dim_date/part-00000-b9044941-f5e4-45cd-a9a3-18d4407645b5-c000.csv'
iam_role'arn:aws:iam::649673686426:role/redshift_s4_fullaccess'
delimiter','region'us-east-1'
CSV;
```

5. Copying data from s3 to dim_card type

```
copy atm_data.dim_card from s3://upgrad-etl-project-swapnil/dim_card_type/part-00000-0870eee5-794c-4421-bc76-7580d5a1aaec-c000.csv'
iam_role'arn:aws:iam::649673686426:role/redshift_s4_fullaccess'
delimiter','region'us-east-1'
CSV;
```

6. Copying data from s3 to fact_atm_trans table

```
copy atm_data.dim_location from 's3://upgrad-etl-project-swapnil/dim_location/part-00000-747fb822-b657-
4bd5-8cfb-3ec4717a1070-c000.csv'
iam_role'arn:aws:iam::649673686426:role/redshift_s4_fullaccess'
delimiter','region'us-east-1'
CSV;
```