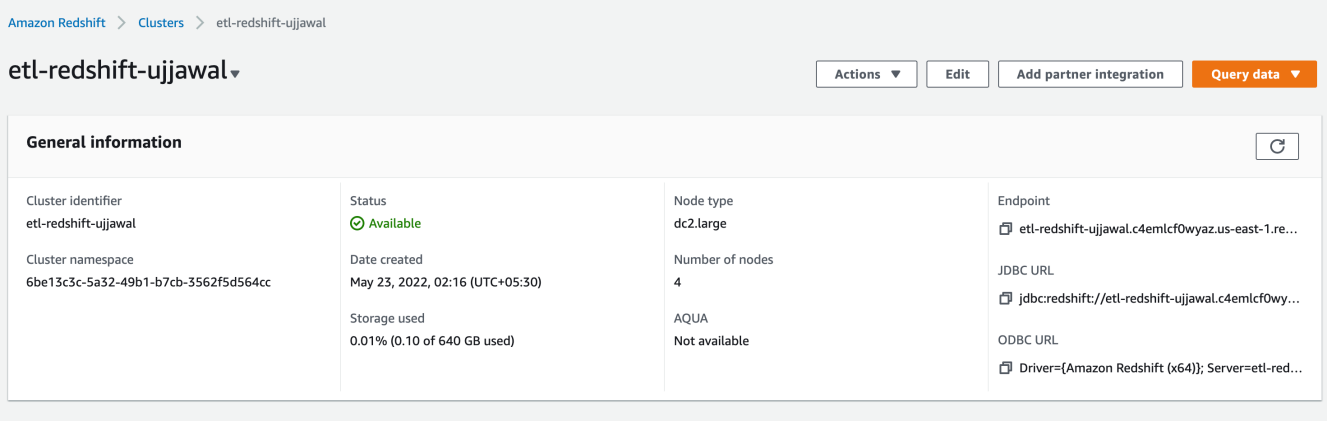
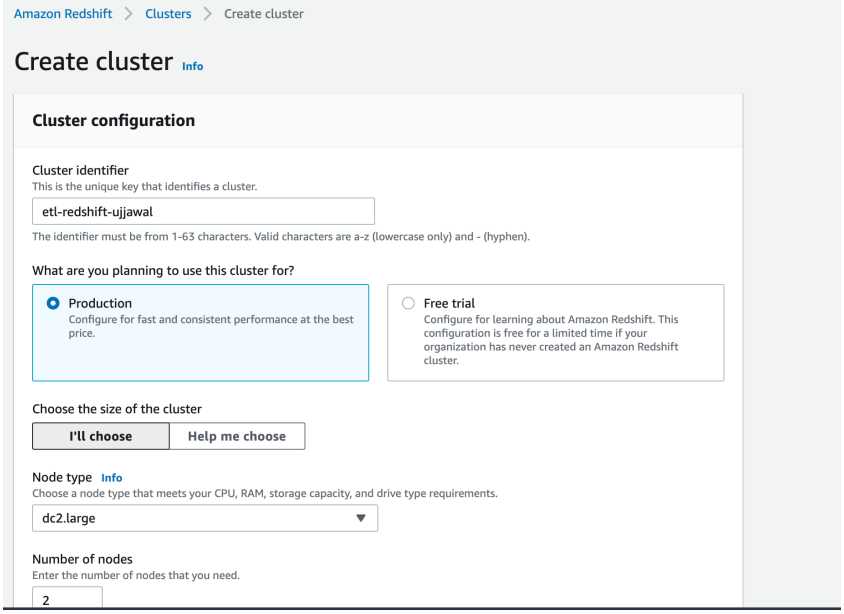
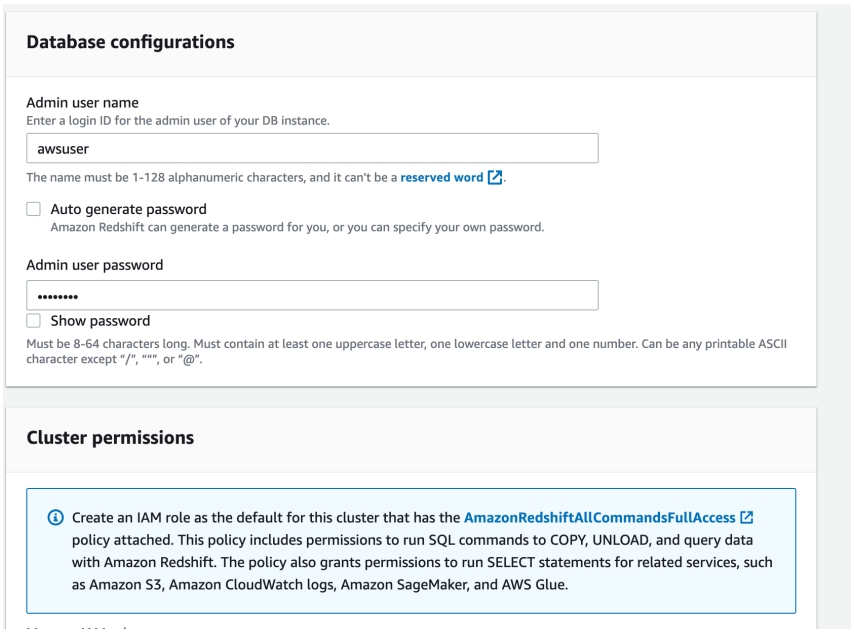
Creation of a Redshift Cluster

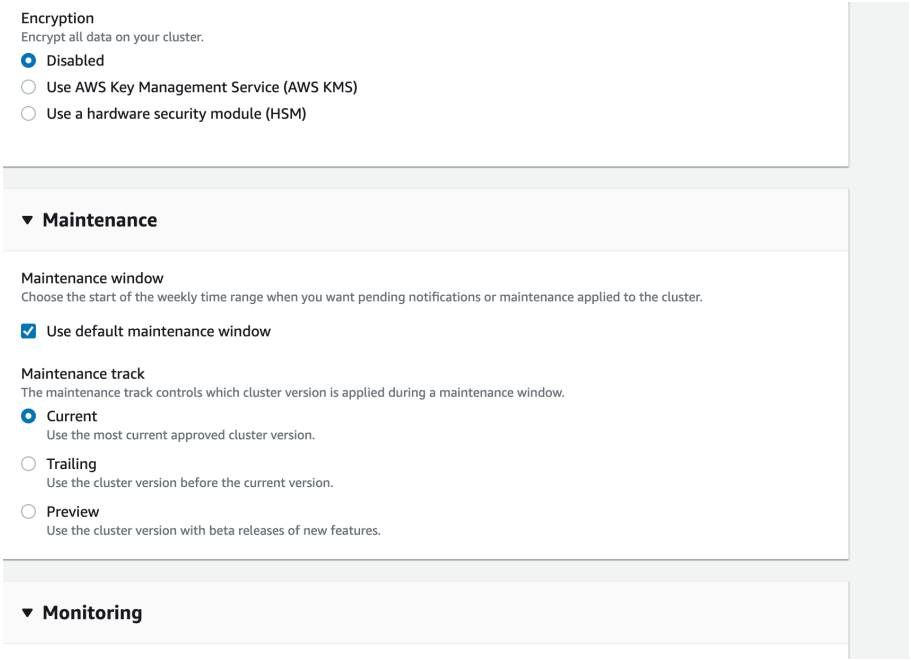
Screenshots of the configuration of the Redshift cluster that you have created:

<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 foreign keys:

```
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

```
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_DATA(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

- **Copying the data to dim_location table**

```
copy atm_data.dim_location from 's3://etlassignmentujjawal/dim_location/part-00000-4f4b02d0-
919a-442e-9134-f459cbdb7909-c000.csv'
iam_role 'arn:aws:iam::464886120274:role/redshift_s3_fullaccess'
delimiter ',' region 'us-east-1'

CSV;
```

- **Copying the data to dim_atm table**

```
copy atm_data.dim_atm from ' s3://etlassignmentujjawal/dim_atm/part-00000-c4425605-e626-
4cd2-adb2-cef68f7cb1b9-c000.csv'
iam_role 'arn:aws:iam::464886120274:role/redshift_s3_fullaccess'
delimiter ',' region 'us-east-1'

CSV;
```

- **Copying the data to dim_date table**

```
copy atm_data.dim_date from ' s3://etlassignmentujjawal/dim_date/part-00000-7a7ef505-bc12-
476c-a0a6-e9e8b544fe44-c000.csv'
iam_role 'arn:aws:iam::464886120274:role/redshift_s3_fullaccess'
delimiter ',' region 'us-east-1'

CSV;
```

- **Copying the data to dim_card_type table**

```
copy atm_data.dim_card_type from ' s3://etlassignmentujjawal/dim_card_type/part-00000-

b9c7eb07-29c6-4445-ba0f-98de14834601-c000.csv'

iam_role 'arn:aws:iam::464886120274:role/redshift_s3_fullaccess' delimiter ',' region 'us-east-1'
CSV;
```

- **Copying the data to fact_atm_trans table**

```
copy atm_data.fact_atm_trans from ' s3://etlassignmentujjawal/fact_atm_trans/part-00000-
978dd709-2ef2-4145-8ab5-9981558a8c60-c000.csv'
iam_role 'arn:aws:iam::464886120274:role/redshift_s3_fullaccess'
delimiter ',' region 'us-east-1'

CSV;
```