

## REDSHIFT SETUP:

Redshift cluster created for the project:

The screenshot shows the 'General information' section of the Redshift cluster configuration. Key details include:

| Cluster identifier                   | Status                            | Node type       | Endpoint                                       |
|--------------------------------------|-----------------------------------|-----------------|--|
| redshift-cluster-1                   | Available                         | dc2.large       | redshift-cluster-1.cvx9aglqcyi6.us-east-1.r... |
| Cluster namespace                    | Date created                      | Number of nodes | JDBC URL                                       |
| 75a6c289-bff8-4922-a8b9-f9a78ddba87b | August 23, 2021, 12:09(UTC+05:30) | 2               | jdbc:redshift://redshift-cluster-1.cvx9aglq... |
|                                      | Storage used                      | AQUA            | ODBC URL                                       |
|                                      | 0.06% (0.19 of 320 GB used)       | Not available   | Driver={Amazon Redshift (x64)}; Server=r...    |

Below the general information, there are tabs for 'Cluster performance' (selected), 'Query monitoring', 'Schedules', 'Maintenance', and 'Properties'. A 'Recommendations (0)' section is also present.

Queries used for creating the Dimension and Fact tables on the Redshift cluster

```
create schema etl_schema;
```

```
create table etl_schema.dimen_location
(
    location varchar(50),
    streetname varchar(255),
    street_number int,
    zipcode int,
    lat DECIMAL(10,3),
    lon DECIMAL(10,3),
    location_id bigint,
    PRIMARY KEY(location_id)
);
```

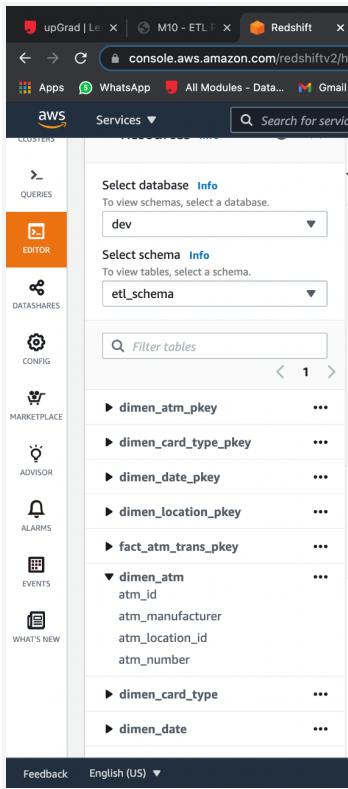
Filter tables

1

- dimen\_atm\_pkey ...
- dimen\_card\_type\_pkey ...
- dimen\_date\_pkey ...
- dimen\_location\_pkey ...
- fact\_atm\_trans\_pkey ...
- dimen\_atm ...
- dimen\_card\_type ...
- dimen\_date ...
- ▼ dimen\_location
  - location
  - streetname
  - street\_number
  - zipcode
  - lat
  - lon
  - location\_id
- fact\_atm\_trans ...

Feedback English (US) ▾

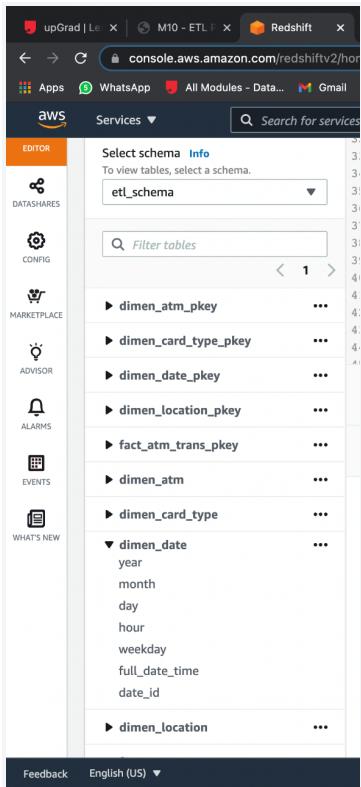
```
create table etl_schema.dimen_atm
(
    atm_id int not null DISTKEY SORTKEY,
    atm_manufacturer varchar(50),
    atm_location_id bigint,
    atm_number varchar(20),
    PRIMARY KEY(atm_id),
    FOREIGN KEY(atm_location_id) references dimen_location(location_id)
);
```



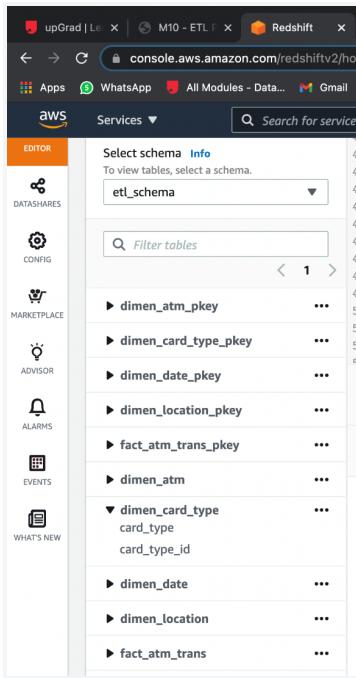
```
create table etl_schema.dimen_date
(
```

```
    year int,
    month varchar(20),
    day int,
    hour int,
    weekday varchar(20),

    full_date_time TIMESTAMP,
    date_id bigint,
    PRIMARY KEY(date_id)
);
```



```
create table etl_schema.dimen_card_type
(
    card_type varchar(30),
    card_type_id bigint,
    PRIMARY KEY(card_type_id)
);
```



```
create table etl_schema.fact_atm_trans
(
    trans_id BIGINT,
    atm_id bigint,
    weather_loc_id bigint,
    date_id bigint,
    card_type_id bigint,
    atm_status varchar(20),
    currency varchar(10),
    service varchar(20),
    transaction_amount int,
    message_code varchar(255),
    message_text varchar(255),
    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 dimen_location(location_id),
```

**FOREIGN KEY(atm\_id) references dimen\_atm(atm\_id),  
FOREIGN KEY(date\_id) references dimen\_date(date\_id),  
FOREIGN KEY(card\_type\_id) references dimen\_card\_type(card\_type\_id)**

);

The screenshot shows a database schema interface. On the left, there's a sidebar with a 'WHAT'S NEW' section and a feedback link. The main area displays a tree view of tables:

- dimen\_card\_type
- dimen\_date
- dimen\_location
- fact\_atm\_trans
  - trans\_id
  - atm\_id
  - weather\_loc\_id
  - date\_id
  - card\_type\_id
  - atm\_status
  - currency
  - service
  - transaction\_amount
  - message\_code
  - message\_text
  - rain\_3h
  - clouds\_all
  - weather\_id
  - weather\_main
  - weather\_description

At the bottom, there are buttons for 'Feedback' and language selection ('English (US)').

## Loading data into a Redshift cluster from Amazon S3 bucket:

```
copy etl_schema.dimen_location from 's3://malus.bucket/dimen_location/'  
credentials  
'aws_iam_role=arn:aws:iam::759712665500:role/redshifts3_fullaccess'  
delimiter '|' region 'us-east-1';
```



```
copy etl_schema.dimen_atm from 's3://malus.bucket/dimen_atm/'  
credentials 'aws_iam_role=arnaws:iam::759712665500:role/redshifts3_fullaccess'  
delimiter '|' region 'us-east-1';
```

|                |   |          |       |   |
|----------------|---|----------|-------|---|
| 40 minutes ago | <input type="checkbox"/> Aug 23rd, 2021 08:06:14 PM | Finished | 3 sec | <a href="#">copy etl_schema.dimen_atm from 's3://malus.bucket/dimen_atm/' credentials " delimiter ' ' region 'u</a> |
|----------------|---|----------|-------|---|

```
copy etl_schema.dimen_date from 's3://malus.bucket/dimen_date/'  
credentials  
'aws_iam_role=arn:aws:iam::759712665500:role/redshifts3_fullaccess'  
delimiter '|' region 'us-east-1';
```

|                |   |          |        |  |
|----------------|---|----------|--------|--|
| 44 minutes ago | <input type="checkbox"/> Aug 23rd, 2021 08:12:22 PM | Finished | 22 sec | <a href="#">copy etl_schema.dimen_date from 's3://malus.bucket/dimen_date/' credentials " delimiter ' ' region</a> |
|----------------|---|----------|--------|--|

```
copy etl_schema.dimen_card_type from 's3://malus.bucket/dimen_card_type/'  
credentials  
'aws_iam_role=arn:aws:iam::759712665500:role/redshifts3_fullaccess'  
delimiter '|' region 'us-east-1';
```

|                |   |          |        |   |
|----------------|---|----------|--------|---|
| 44 minutes ago | <input type="checkbox"/> Aug 23rd, 2021 08:15:22 PM | Finished | 15 sec | <a href="#">copy etl_schema.dimen_card_type from 's3://malus.bucket/dimen_card_type/' credentials " delimiter ' '</a> |
|----------------|---|----------|--------|---|

```
copy etl_schema.fact_atm_trans from 's3://malus.bucket/fact_atm_trans/'  
credentials  
'aws_iam_role=arn:aws:iam::759712665500:role/redshifts3_fullaccess'  
delimiter '|' region 'us-east-1';
```

| Start time  | Status   | Duration | SQL  |
|---|----------|----------|--|
| <input type="checkbox"/> Aug 23rd, 2021 08:24:18 PM<br>35 minutes ago | Finished | 44 sec   | <a href="#">copy etl_schema.fact_atm_trans from 's3://malus.bucket/fact_atm_trans' credentials " delimiter ' '</a> |