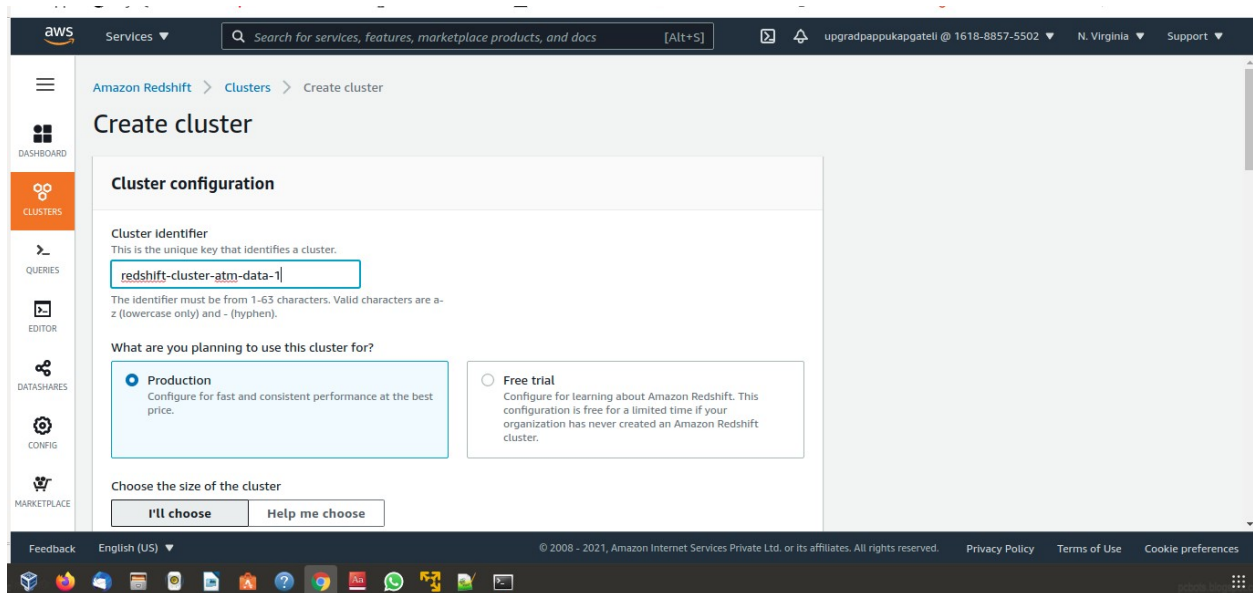


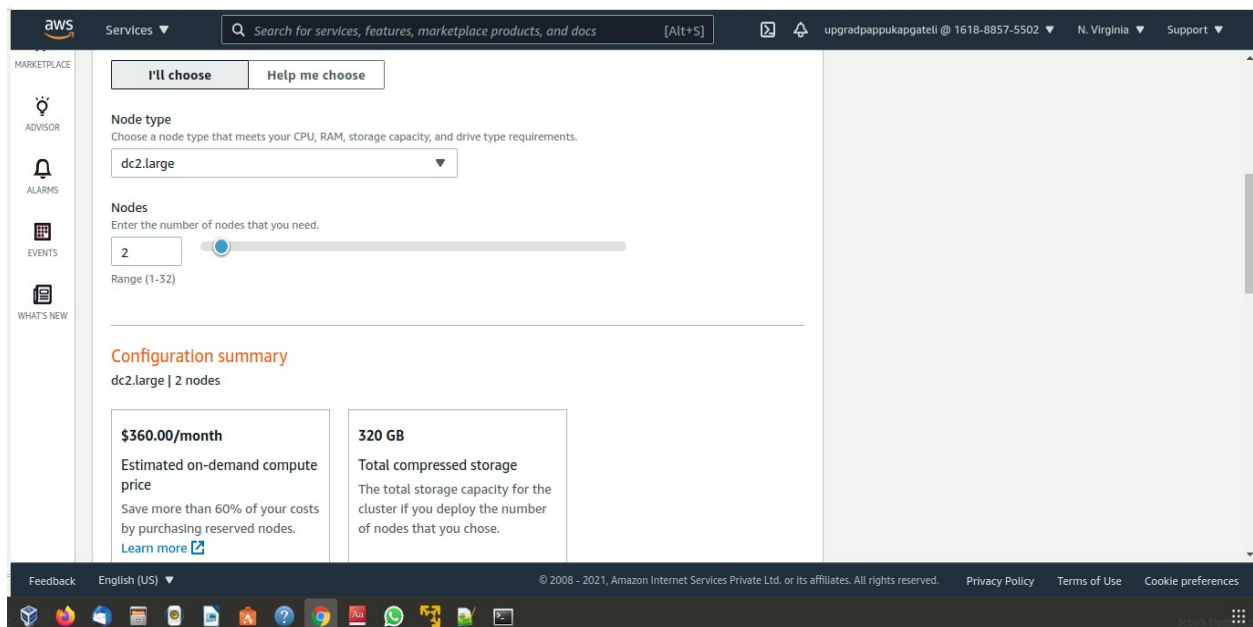
Creation of a RedShift Cluster

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

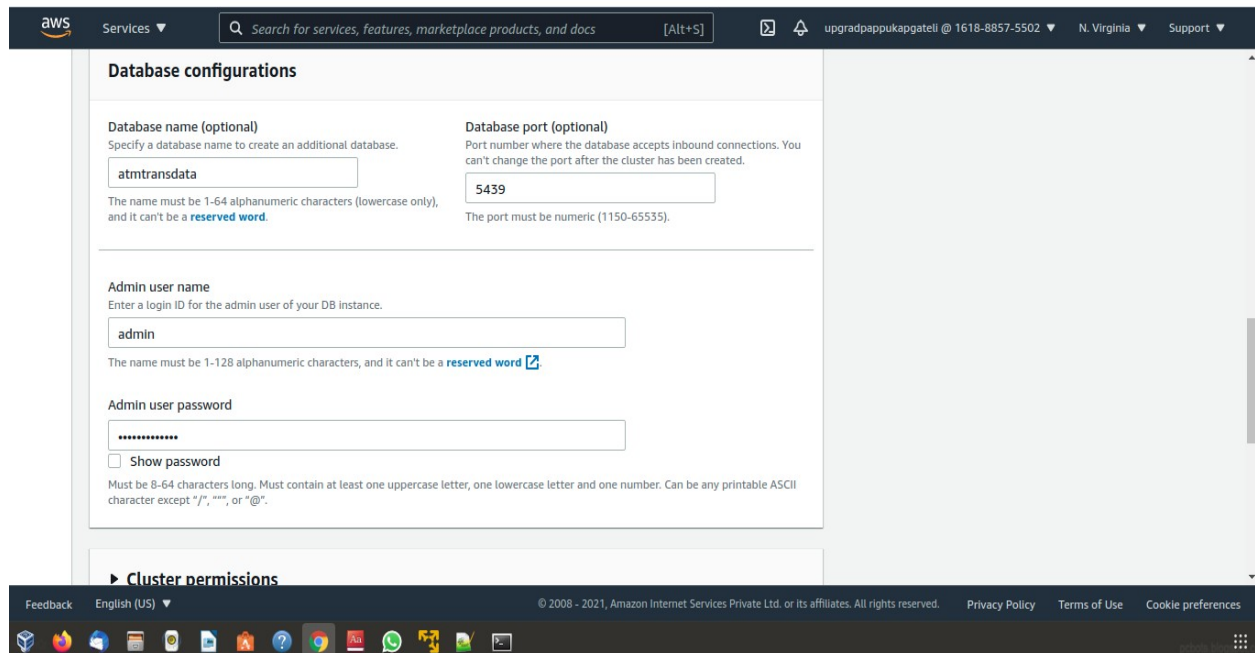
Screenshot 1



Screenshot 2



Screenshot 3



Database configurations

Database name (optional)
Specify a database name to create an additional database.
atmtransdata
The name must be 1-64 alphanumeric characters (lowercase only), and it can't be a [reserved word](#).

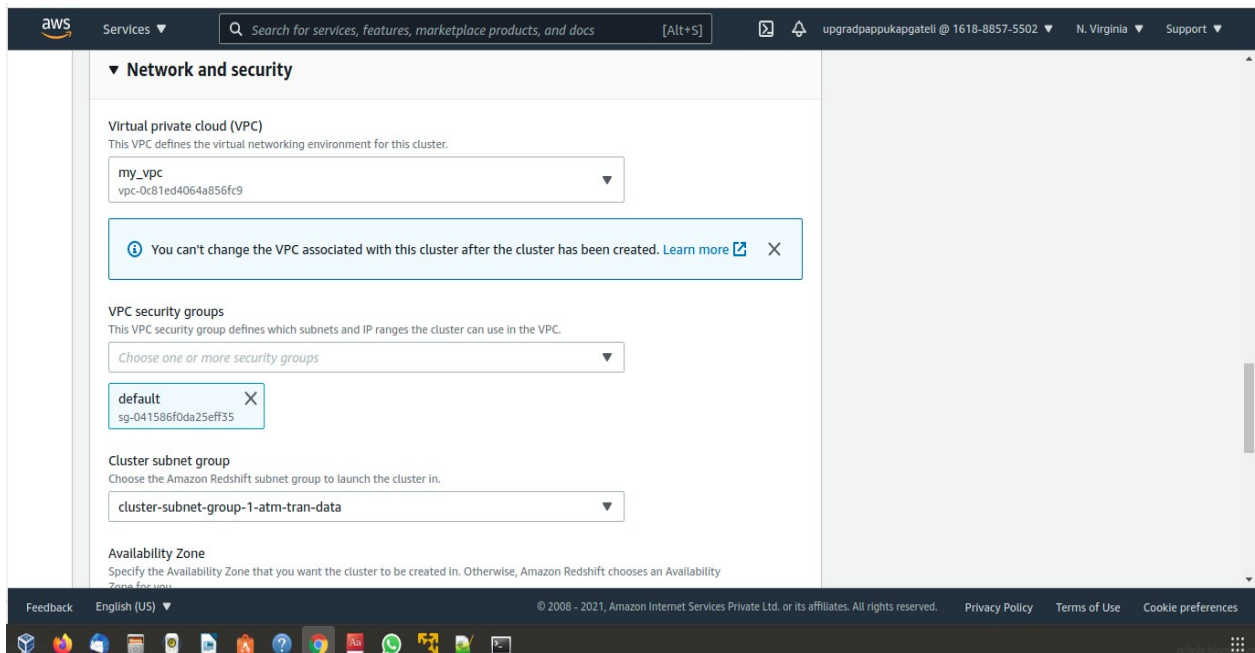
Database port (optional)
Port number where the database accepts inbound connections. You can't change the port after the cluster has been created.
5439
The port must be numeric (1150-65535).

Admin user name
Enter a login ID for the admin user of your DB instance.
admin
The name must be 1-128 alphanumeric characters, and it can't be a [reserved word](#).

Admin user password
Show password
Must be 8-64 characters long. Must contain at least one uppercase letter, one lowercase letter and one number. Can be any printable ASCII character except `'/'`, `"/`, `"/`, or `"/`.

Cluster permissions

Screenshot 4



Network and security

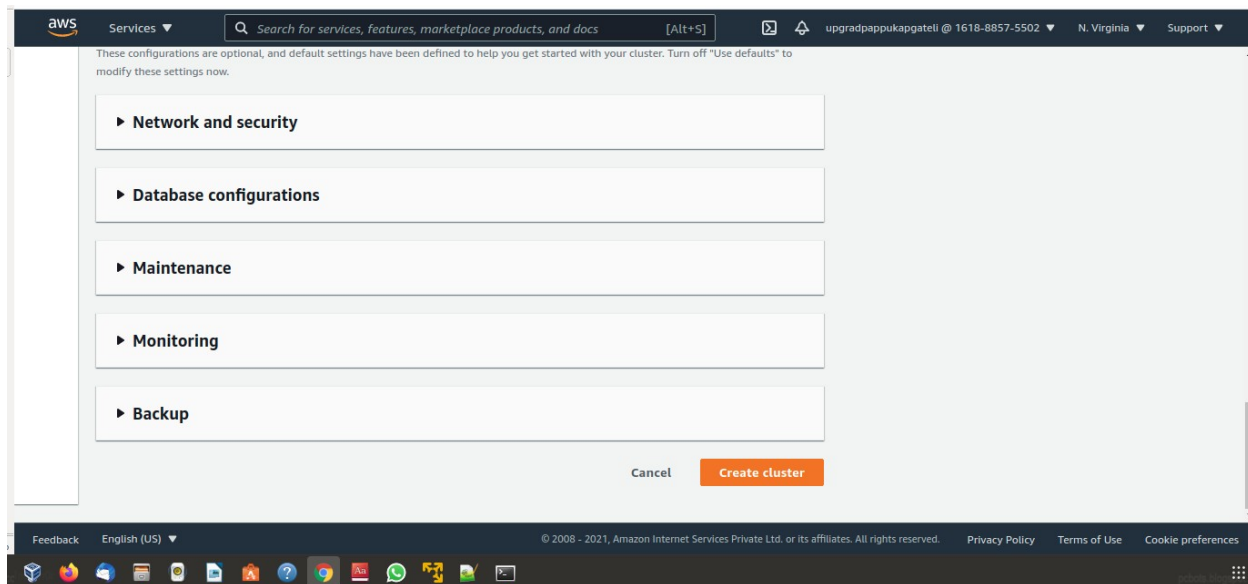
Virtual private cloud (VPC)
This VPC defines the virtual networking environment for this cluster.
my_vpc
vpc-0c81ed4064a856fc9

VPC security groups
This VPC security group defines which subnets and IP ranges the cluster can use in the VPC.
Choose one or more security groups
default
sg-041586f0da25eff35

Cluster subnet group
Choose the Amazon Redshift subnet group to launch the cluster in.
cluster-subnet-group-1-atm-tran-data

Availability Zone
Specify the Availability Zone that you want the cluster to be created in. Otherwise, Amazon Redshift chooses an Availability Zone for you.

Screenshot 5



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:

Schema

```
-- 1 Creating a schema  
create schema IF NOT EXISTS atm_schema;
```

Dimension Tables:

-- 1 DIM_LOCATION table

```
create table IF NOT EXISTS atm_schema.dim_location(  
    location_id int,  
    location varchar(50),  
    streetname varchar(255),  
    street_number int,  
    zipcode int,  
    lat DOUBLE PRECISION,  
    lon DOUBLE PRECISION,  
  
    PRIMARY KEY (location_id)  
)
```

-- 2 DIM_DATE table

```
create table IF NOT EXISTS atm_schema.dim_date (  
    date_id int,  
    full_date_time timestamp,  
    year int,  
    month varchar(20),  
    day int ,  
    hour int,  
    weekday varchar(20),  
  
    PRIMARY KEY (date_id)  
)
```

-- 3 DIM_ATM table

```
create table IF NOT EXISTS atm_schema.dim_atm (  
  atm_id int,  
  atm_number varchar(20),  
  atm_manufacturer varchar(50),  
  atm_location_id int,  
  
  primary key (atm_id),  
  foreign key (atm_location_id) REFERENCES atm_schema.dim_location(location_id)  
)
```

-- 4 DIM_CARD_TYPE table

```
create table IF NOT EXISTS atm_schema.dim_card_type(  
  card_type_id int,  
  card_type varchar(50),  
  
  primary key (card_type_id)  
)
```

Fact Table

-- 5 FACT_ATM_TRANS table

```
create table IF NOT EXISTS atm_schema.fact_atm_trans (  
  trans_id BIGINT,  
  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(255),  
  message_text VARCHAR(255),  
  rain_3h DOUBLE PRECISION,  
  clouds_all decimal(10,0),  
  weather_id INT,  
  weather_main VARCHAR(50),  
  weather_description VARCHAR(255),  
  
  PRIMARY KEY (trans_id),  
  FOREIGN KEY (weather_loc_id ) REFERENCES atm_schema.DIM_LOCATION (location_id),
```

```
FOREIGN KEY (atm_id) REFERENCES atm_schema.DIM_ATM (atm_id),  
FOREIGN KEY (date_id) REFERENCES atm_schema.DIM_DATE (date_id),  
FOREIGN KEY (card_type_id) REFERENCES atm_schema.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

-- 1 Dimention Location Table

```
copy atm_schema.dim_location from  
's3://atmtransactiondata/dim_location/'  
iam_role 'arn:aws:iam::161888575502:role/redshift_atm_s3_full_access'  
delimiter ',' region 'us-east-1';
```

-- 2 Dimention Atm Table

```
copy atm_schema.dim_atm from  
's3://atmtransactiondata/dim_atm/'  
iam_role 'arn:aws:iam::161888575502:role/redshift_atm_s3_full_access'  
delimiter ',' region 'us-east-1';
```

-- 3 Dimention Date Table

```
copy atm_schema.dim_date from  
's3://atmtransactiondata/dim_date/'  
iam_role 'arn:aws:iam::161888575502:role/redshift_atm_s3_full_access'  
delimiter ','  
timeformat 'auto'  
region 'us-east-1';
```

-- 4 Dimention Card Type Table

```
copy atm_schema.dim_card_type from  
's3://atmtransactiondata/dim_card_type/'  
iam_role 'arn:aws:iam::161888575502:role/redshift_atm_s3_full_access'  
delimiter ',' region 'us-east-1';
```

-- 5 Fact Atm transaction Table

```
copy atm_schema.fact_atm_trans from  
's3://atmtransactiondata/fact_atm_trans/'  
iam_role 'arn:aws:iam::161888575502:role/redshift_atm_s3_full_access'  
delimiter ','  
removequotes  
emptyasnull  
blanksasnull  
maxerror 5  
region 'us-east-1';
```