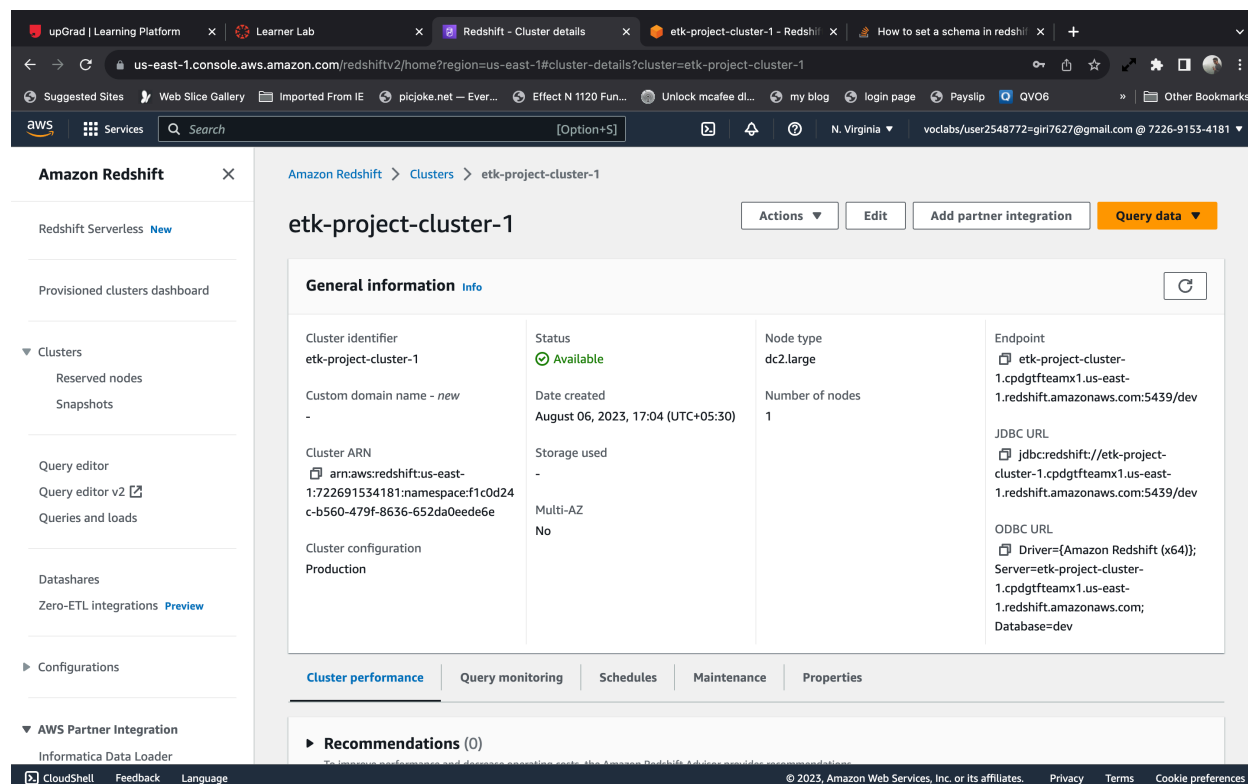


Creation of a Redshift Cluster

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



The screenshot displays the Amazon Redshift console interface. The left sidebar shows the navigation menu with options like 'Redshift Serverless', 'Provisioned clusters dashboard', 'Clusters', 'Query editor', 'Datashares', 'Zero-ETL integrations', 'Configurations', and 'AWS Partner Integration'. The main content area shows the details for the cluster 'etk-project-cluster-1'.

etk-project-cluster-1

Actions Edit Add partner integration Query data

General information

Cluster identifier etk-project-cluster-1	Status Available	Node type dc2.large	Endpoint etk-project-cluster-1.cpdgteamx1.us-east-1.redshift.amazonaws.com:5439/dev
Custom domain name - new -	Date created August 06, 2023, 17:04 (UTC+05:30)	Number of nodes 1	JDBC URL jdbc:redshift://etk-project-cluster-1.cpdgteamx1.us-east-1.redshift.amazonaws.com:5439/dev
Cluster ARN arn:aws:redshift:us-east-1:722691534181:namespace:f1c0d24c-b560-479f-8636-652da0eede6e	Storage used -	Multi-AZ No	ODBC URL Driver={Amazon Redshift (x64)}; Server=etk-project-cluster-1.cpdgteamx1.us-east-1.redshift.amazonaws.com; Database=dev
Cluster configuration Production			

Cluster performance Query monitoring Schedules Maintenance Properties

Recommendations (0)

us-east-1.console.aws.amazon.com/redshiftv2/home?region=us-east-1#cluster-details?cluster=etk-project-cluster-1&tab=properties

Amazon Redshift

Database configurations

Database name	Parameter group	Encryption	Audit logging
dev	Defines database parameter and query queues for all the databases. default.redshift-1.0	Disabled AWS KMS key ID -	Disabled

Port: 5439

Admin user name: awsuser

SSH ingestion setting (cluster public key): ssh-rsa
AAAAB3NzaC1yc2EAAAADAQABAAQCBggg33GzWHI6I81+aKJWb/TEzFKpEd8cK7Hz/55FPHsRZRe sQL7OJuP7yVduFRUJf1++FT5itSH HJO6uxuvu6xr46o0ew0FzPI2j95/e Fe+1mwc3ul7w+/dWy8HNRpwwy 7dVE4vhQthVjnKYORBUiKLFIMME 23F23UHY3D6vGTv3VvXkygEVz3 IfOFYr6rFJbmkGR9d6FPdCTBOD ATSLiUBisxHwont6vsMggC3zNLLn 1/mbgtkoZQiuiodSGPvFL/SYYsB9 pJZLFN4XfB5STG6XyeznX1dp0KyI O+2Ms1w1FRqQmrekO4CgD/+HJ A+qm7VNBUIjHOaWEKSHzGZ Amazon-Redshift

Network and security settings

us-east-1.console.aws.amazon.com/redshiftv2/home?region=us-east-1#cluster-details?cluster=etk-project-cluster-1&tab=properties

Amazon Redshift

Associated IAM roles (1)

Create, associate, or remove an IAM role. You can associate up to 50 IAM roles. You can also choose an IAM role and set it as the default for this cluster.

Set default Manage IAM roles

Search for associated IAM role by name, status, or role type

<input type="checkbox"/>	IAM roles	Status	Role type
<input type="checkbox"/>	myRedshiftRole	in-sync	--

Granted accounts (0)

VPCs in other accounts that are allowed to access this cluster. [Learn more](#)

Find accounts or VPCs

Account ID	VPC	Endpoints created
No granted accounts		

You haven't granted access to this cluster.

Grant access

Integrations (0)

Choose an AWS Partner to edit the integration on the partner's website. [Learn more](#)

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 if not exists atm_data;

create table if not exists atm_data.DIM_LOCATION(
    location_id INT,
    location VARCHAR(50),
    streetname VARCHAR(255),
    street_number INT,
    zipcode INT,
    lat DECIMAL(10,3),
    lon DECIMAL(10,3),
    PRIMARY KEY (location_id));

create table if not exists atm_data.DIM_DATE(
    date_id INT,
    full_date_time TIMESTAMP WITH TIME ZONE,
    year INT,
    month VARCHAR(20),
    day INT,
    hour INT,
    weekday VARCHAR(20),
    PRIMARY KEY (date_id)
);

create table if not exists atm_data.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 DIM_LOCATION(location_id)
);

create table if not exists atm_data.DIM_CARD_TYPE(
    card_type_id INT,
    card_type VARCHAR(30),
    PRIMARY KEY (card_type_id)
);
```

```
create table if not exists atm_data.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 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 DIM_LOCATION(location_id),
    FOREIGN KEY (atm_id) REFERENCES DIM_ATM(atm_id),
    FOREIGN KEY (date_id) REFERENCES DIM_DATE(date_id),
    FOREIGN KEY (card_type_id) REFERENCES 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

```
copy atm_data.DIM_LOCATION
from 's3://girish-722691534181/atm_data/warehouse/dim_location/part'
iam_role 'arn:aws:iam::722691534181:role/myRedshiftRole'
delimiter ',' region 'us-east-1'
CSV;
```

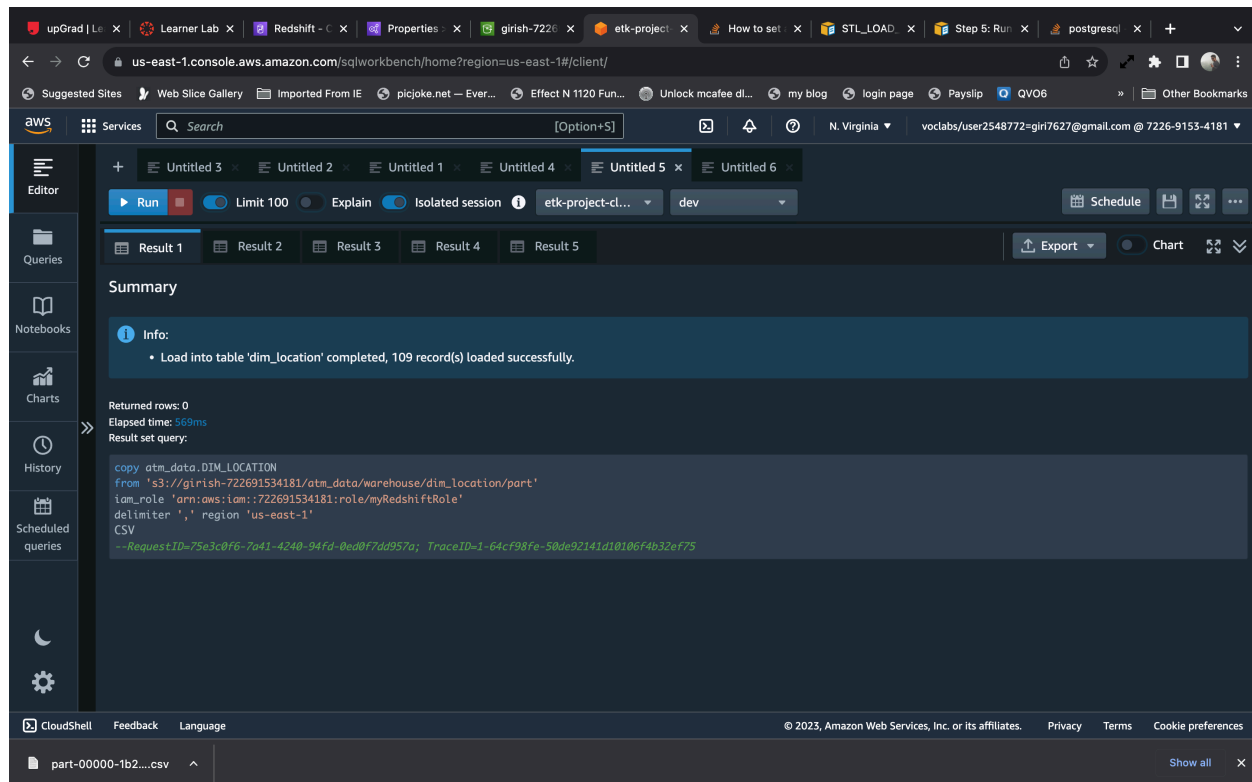
```
copy atm_data.DIM_ATM
from 's3://girish-722691534181/atm_data/warehouse/dim_atm/part'
iam_role 'arn:aws:iam::722691534181:role/myRedshiftRole'
delimiter ',' region 'us-east-1'
CSV;
```

```
copy atm_data.DIM_DATE
from 's3://girish-722691534181/atm_data/warehouse/dim_date/part'
iam_role 'arn:aws:iam::722691534181:role/myRedshiftRole'
delimiter ',' region 'us-east-1'
TIMEFORMAT AS 'auto'
CSV;
```

```
copy atm_data.DIM_CARD_TYPE
from 's3://girish-722691534181/atm_data/warehouse/dim_card_type/part'
iam_role 'arn:aws:iam::722691534181:role/myRedshiftRole'
delimiter ',' region 'us-east-1'
CSV;
```

```
copy atm_data.FACT_ATM_TRANS
from 's3://girish-722691534181/atm_data/warehouse/fact_atm_trans/part'
iam_role 'arn:aws:iam::722691534181:role/myRedshiftRole'
delimiter ',' region 'us-east-1'
CSV;
```

Screenshots:



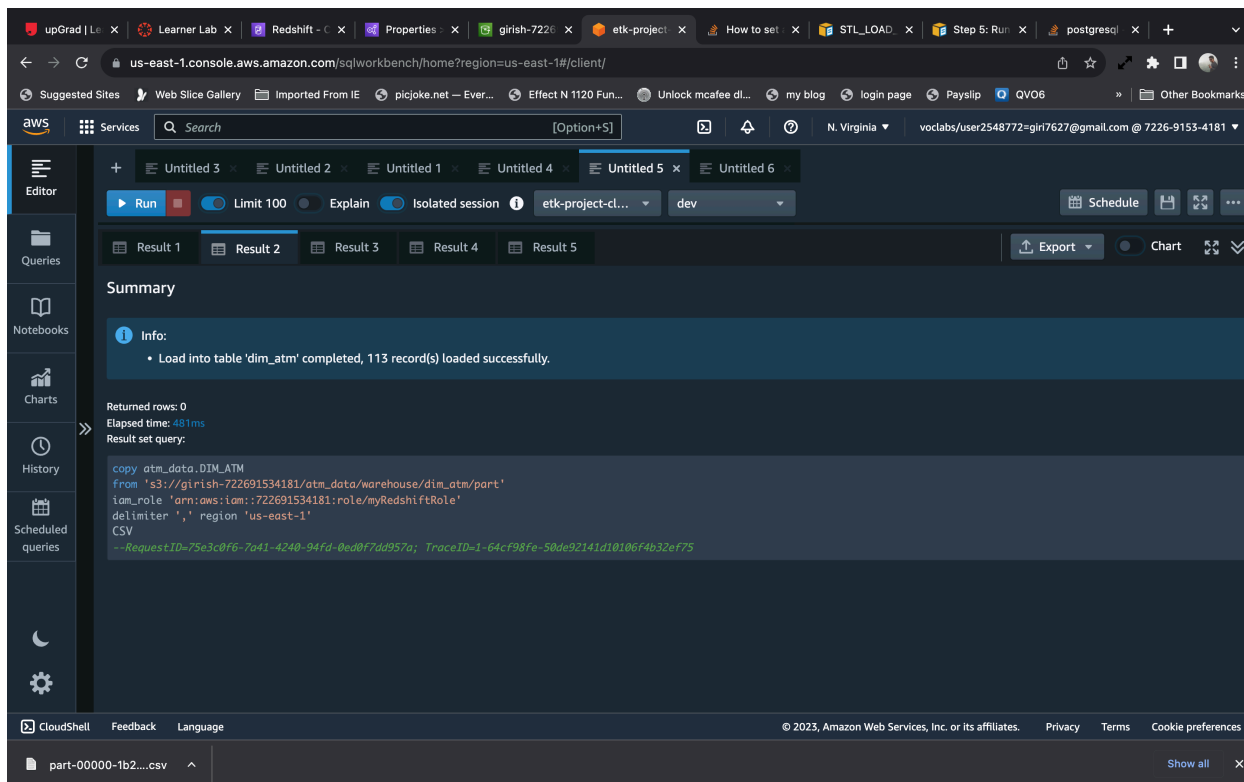
The screenshot displays the AWS Redshift console interface. The browser address bar shows the URL: `us-east-1.console.aws.amazon.com/sqlworkbench/home?region=us-east-1#/client/`. The console shows a list of queries, with the first query selected. The query text is:

```
copy atm_data.DIM_LOCATION
from 's3://girish-722691534181/atm_data/warehouse/dim_location/part'
iam_role 'arn:aws:iam::722691534181:role/myRedshiftRole'
delimiter ',' region 'us-east-1'
CSV
```

The console indicates that the query was executed successfully, returning 0 rows and taking 569ms. The summary section shows:

- Info: Load into table 'dim_location' completed, 109 record(s) loaded successfully.

The console also displays the request ID and trace ID for the query execution.



The screenshot shows the AWS Redshift console interface. The top navigation bar includes the AWS logo, a search bar, and various service icons. The left sidebar contains navigation options like Editor, Queries, Notebooks, Charts, History, and Scheduled queries. The main content area displays the results of a query execution. The query was executed successfully, loading 113 records into the 'dim_atm' table. The summary section shows the query details, including the source S3 bucket, IAM role, and the query itself. The query is a COPY statement that loads data from an S3 bucket into the 'dim_atm' table. The execution time was 481ms.

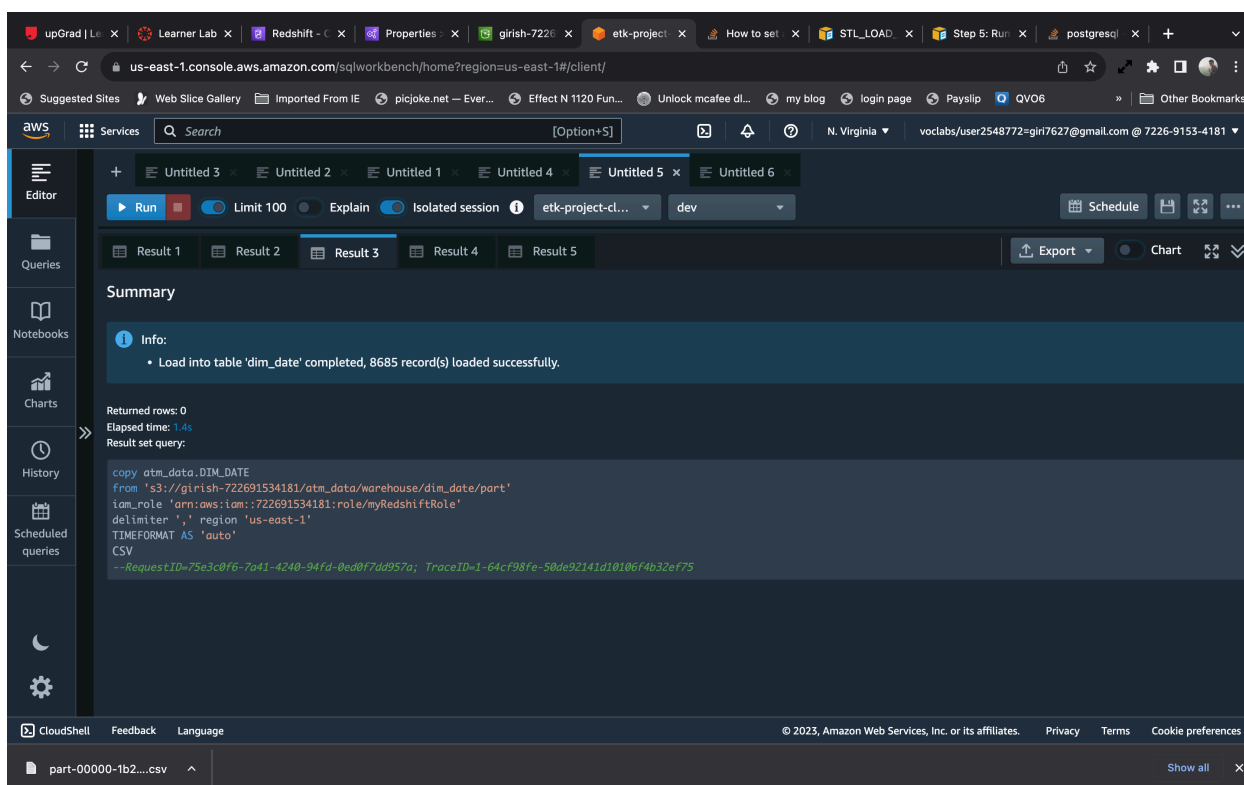
Summary

Info:

- Load into table 'dim_atm' completed, 113 record(s) loaded successfully.

Returned rows: 0
Elapsed time: 481ms
Result set query:

```
copy atm_data.DIM_ATM
from 's3://girish-722691534181/atm_data/warehouse/dim_atm/part'
iam_role 'arn:aws:iam::722691534181:role/myRedshiftRole'
delimiter ',' region 'us-east-1'
CSV
--RequestID=75e3c0f6-7a41-4240-94fd-8ed0f7dd957a; TraceID=1-64cf98fe-50de9214d10106f4b32ef75
```



The screenshot shows the AWS Redshift console interface. The top navigation bar includes the AWS logo, a search bar, and various service icons. The left sidebar contains navigation options like Editor, Queries, Notebooks, Charts, History, and Scheduled queries. The main content area displays the results of a query execution. The query was executed successfully, loading 8685 records into the 'dim_date' table. The summary section shows the query details, including the source S3 bucket, IAM role, and the query itself. The query is a COPY statement that loads data from an S3 bucket into the 'dim_date' table. The execution time was 1.4s.

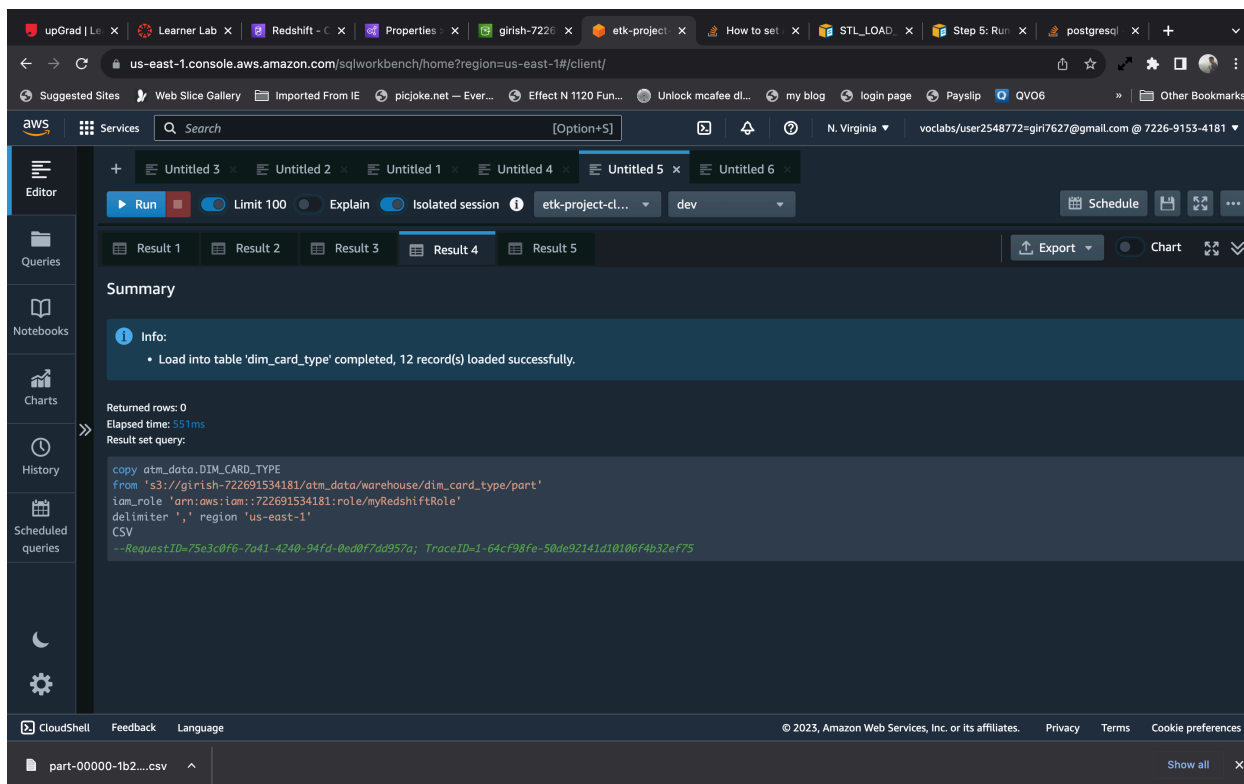
Summary

Info:

- Load into table 'dim_date' completed, 8685 record(s) loaded successfully.

Returned rows: 0
Elapsed time: 1.4s
Result set query:

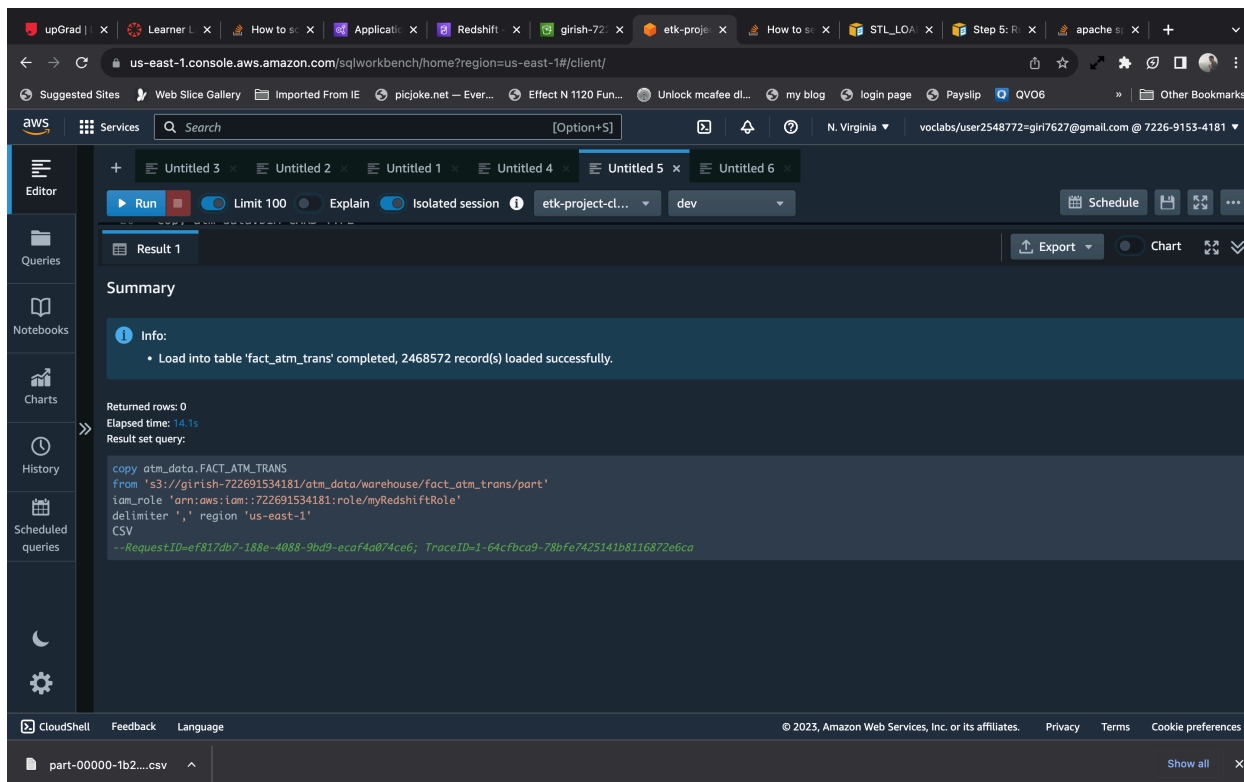
```
copy atm_data.DIM_DATE
from 's3://girish-722691534181/atm_data/warehouse/dim_date/part'
iam_role 'arn:aws:iam::722691534181:role/myRedshiftRole'
delimiter ',' region 'us-east-1'
TIMEFORMAT AS 'auto'
CSV
--RequestID=75e3c0f6-7a41-4240-94fd-8ed0f7dd957a; TraceID=1-64cf98fe-50de9214d10106f4b32ef75
```



The screenshot shows the AWS SQL Workbench interface. The top navigation bar includes the AWS logo, a search bar, and various service icons. The left sidebar contains navigation options like Editor, Queries, Notebooks, Charts, History, and Scheduled queries. The main area displays the 'Summary' of a query execution. The query was successful, loading 12 records into the 'dim_card_type' table. The query text is as follows:

```
copy atm_data.DIM_CARD_TYPE
from 's3://girish-722691534181/atm_data/warehouse/dim_card_type/part'
iam_role 'arn:aws:iam::722691534181:role/myRedshiftRole'
delimiter ',' region 'us-east-1'
CSV
--RequestID=75e3c0f6-7a41-4240-94fd-0ed0f7dd957a; TraceID=1-64cf98fe-50de9214d10106f4b32ef75
```

The bottom status bar shows the file 'part-00000-1b2....csv' and a 'Show all' link.



The screenshot shows the AWS SQL Workbench interface. The top navigation bar includes the AWS logo, a search bar, and various service icons. The left sidebar contains navigation options like Editor, Queries, Notebooks, Charts, History, and Scheduled queries. The main area displays the 'Summary' of a query execution. The query was successful, loading 2468572 records into the 'fact_atm_trans' table. The query text is as follows:

```
copy atm_data.FACT_ATM_TRANS
from 's3://girish-722691534181/atm_data/warehouse/fact_atm_trans/part'
iam_role 'arn:aws:iam::722691534181:role/myRedshiftRole'
delimiter ',' region 'us-east-1'
CSV
--RequestID=ef817db7-188e-4088-9bd9-ecaf4a074ce6; TraceID=1-64cfbca9-78bfe7425141b8116872e6ca
```

The bottom status bar shows the file 'part-00000-1b2....csv' and a 'Show all' link.