

Solution 6: Build the S3 to Redshift Dag

Below is the solution for Exercise 6: Build the S3 to Redshift Dag.

```
import datetime
import logging

from airflow import DAG
from airflow.contrib.hooks.aws_hook import AwsHook
from airflow.hooks.postgres_hook import PostgresHook
from airflow.operators.postgres_operator import PostgresOperator
from airflow.operators.python_operator import PythonOperator

import sql_statements

def load_data_to_redshift(*args, **kwargs):
    aws_hook = AwsHook("aws_credentials")
    credentials = aws_hook.get_credentials()
    redshift_hook = PostgresHook("redshift")
    redshift_hook.run(sql.COPY_ALL_TRIPS_SQL.format(credentials.access_key, credentials.secret_access_key))

dag = DAG(
    'lesson1.exercise6',
    start_date=datetime.datetime.now()
)

create_table = PostgresOperator(
    task_id="create_table",
    dag=dag,
    postgres_conn_id="redshift",
    sql=sql_statements.CREATE_TRIPS_TABLE_SQL
)

copy_task = PythonOperator(
    task_id='load_from_s3_to_redshift',
    dag=dag,
    python_callable=load_data_to_redshift
)

location_traffic_task = PostgresOperator(
    task_id="calculate_location_traffic",
    dag=dag,
    postgres_conn_id="redshift",
    sql=sql_statements.LOCATION_TRAFFIC_SQL
)

create_table >> copy_task
copy_task >> location_traffic_task
```