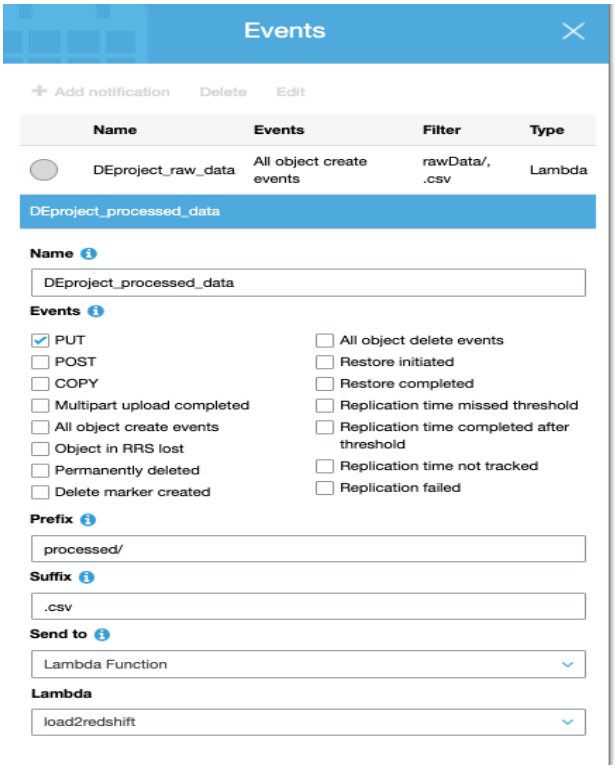
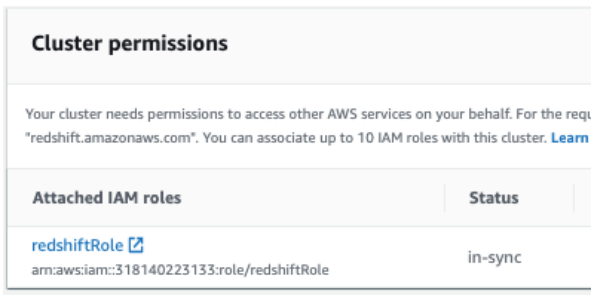
1. AWS lambda psycopg2 package:

   https://github.com/qiaoqiaohejianjian/ETL--Project/tree/master/lambda_redshift

2. AWS redshift and lambda configuration:
   S3: after generating processed data, to trigger lambda function “load2redshift” to load data to Redshift, we set Events in my bucket’s Properties:



   Lambda: a) wrap up code and package, and then upload in
   Function code -> Actions -> Upload a zip file
   b) Set Environment Variables for your redshift database information, such as: database name, host(end point), password etc.
   c) set up lambda function basic info
   d) choose same VPC as your Redshift cluster, and same subnet
   e) In Permissions: attach s3 Read-only and
   AWS Lambda VPC Access Execution Role policies
   Redshift: a) create your cluster and store your database login information:
   user and password in a safe place
   In your cluster -> properties, you can find more detail infomation
   b) cluster permissions: attach a s3 read-only policy to the cluster



c) for the Network and security:
edit Security Group and Network ACLs, make sure related IP address can access you cluster with your database information.
d) create an endpoint for S3 service.

3. Connect your Redshift cluster:
https://towardsdatascience.com/redshift-from-the-command-line-5d6b3233f649
https://forums.aws.amazon.com/thread.jspa?threadID=310081