# **SnowFlake Integration for Snowpipe Ingestion with Azure**

# **Assumption:**

- 1) User has a Snowflake account hosted on Azure.
- 2) User should have ACCOUNTADMIN role in snowflake.
- 3) Snowflake data base structure is ready

```
CREATE OR REPLACE WAREHOUSE SF_ATL_MEETUP_WH;
CREATE OR REPLACE DATABASE SF_ATL_MEETUP_DB;
CREATE OR REPLACE SCHEMA SF_ATL_MEETUP_SCHEMA;
```

```
USE WAREHOUSE SF_ATL_MEETUP_WH;
USE SCHEMA SF ATL MEETUP DB.SF ATL MEETUP SCHEMA;
```

CREATE OR REPLACE FILE FORMAT SNFL\_SP\_JSON\_FORMAT TYPE = 'json';

### Step 1: Creating the Integration

Create an integration using the CREATE NOTIFICATION INTEGRATION command. An integration is a Snowflake object that references the Azure storage queue you created.

# CREATE NOTIFICATION INTEGRATION <integration\_name>

ENABLED = true

TYPE = QUEUE

NOTIFICATION PROVIDER = AZURE STORAGE QUEUE

AZURE STORAGE QUEUE PRIMARY URI = '<queue URL>'

AZURE TENANT ID = '<directory ID>';

#### Where:

**integration\_name** is the name of the new integration.

**queue\_URL** and **directory\_ID** are the queue URL and tenant ID you recorded in Retrieving the Storage Queue URL and Tenant ID. [Last step in Azure configuration]

#### Step 2: Granting Snowflake Access to the Storage Queue

1) Execute the DESCRIBE INTEGRATION command to retrieve the consent URL:

DESC NOTIFICATION INTEGRATION <integration name>;

#### Where:

**integration\_name** is the name of the integration you created in Creating the Integration.

- 2) Note the URL in the AZURE\_CONSENT\_URL column, which has the following format: https://login.microsoftonline.com/<tenant\_id>/oauth2/authorize?client\_id=<snowflake\_application\_id>
- 3) Navigate to the URL in a web browser. The page displays a Microsoft permissions request page.
  - 4) Click the Accept button to register Snowflake in Active Directory.
  - 5) Log into the Microsoft Azure portal.
- 6) Navigate to Azure Active Directory » Enterprise applications. Verify the Snowflake application is listed.
- 7) Navigate to Queues » storage\_queue\_name, where storage\_queue\_name is the name of the storage queue you created in Creating a Storage Queue.
  - 8) Search for the Snowflake application.
  - 9) Grant the Snowflake app the following permissions:

Role: Storage Queue Data Contributor (Preview)
Assign access to: Azure AD user, group, or service principle
Select: snowflake\_application\_id

The Snowflake application should now be listed under Storage Queue Data Contributor (on the same dialog).

# Step 3: Create a Stage

Where:

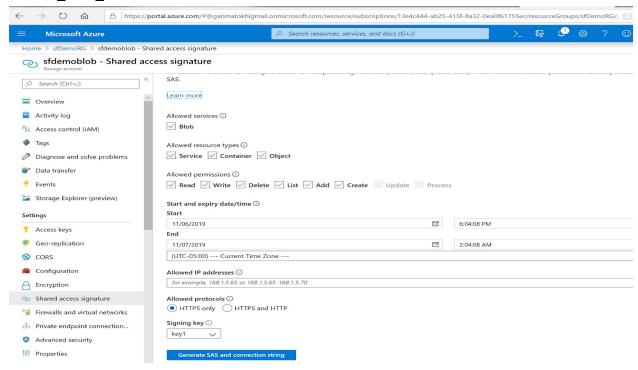
URL:

azure://myaccount.blob.core.windows.net/mycontainer

Myaccount: Name of the storage account in Azure

Mycontainer: Name of the container inside the storage account in Azure.

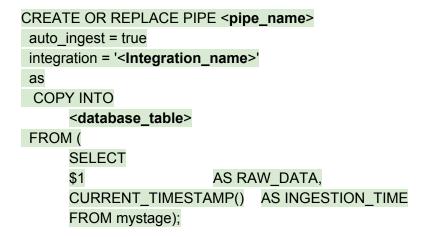
# AZURE\_SAS\_TOKEN:



# Step 4: Create a Pipe with Auto-Ingest Enabled

Create a pipe using the CREATE PIPE command.

The pipe defines the COPY INTO statement used by Snowpipe to load data from the ingestion queue into the target table.



#### Where:

**Integration\_name** is the name of the integration you created in Creating the Integration.