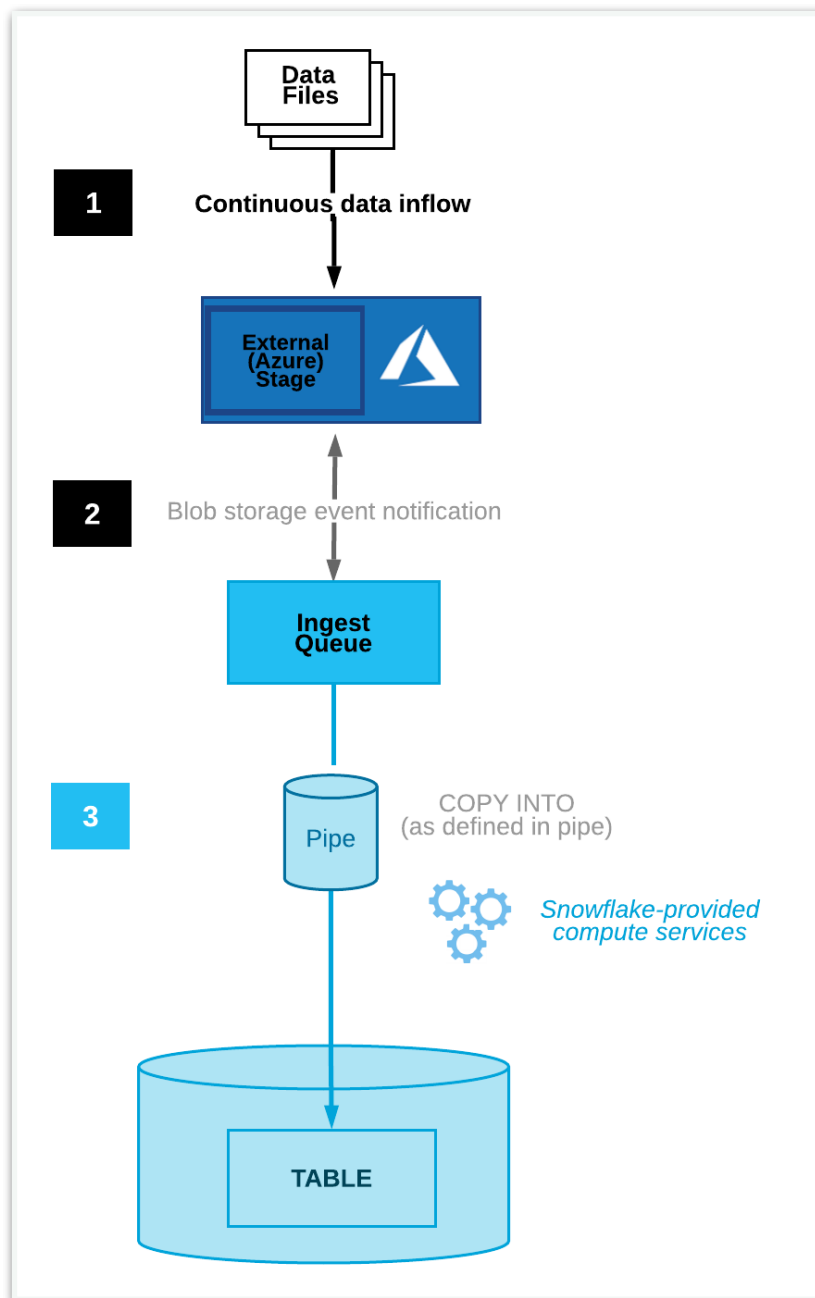# Automating Snowpipe for Microsoft Azure Blob Storage

Snowflake supports the following types of blob storage accounts:

1. Blob storage

2. Data Lake Storage Gen2

3. General-purpose v2

How to create External Stage and Load Data Into snowflake Table without snow pipe?

1) creating External Stage
2) Creating FileFormat

```
--******************************************************************************
--  create azure blob storage external stage
--******************************************************************************

CREATE OR REPLACE STAGE azure_blob_stage
URL = 'azure://storageaccount.blob.core.windows.net/container/folder/'
CREDENTIALS = (AZURE_SAS_TOKEN ='z32bt4FIFQ5NTkY%3D&sdd=1');


list @azure_blob_stage;

--******************************************************************************
--  Create CSV File Format
--******************************************************************************


 create or replace file format my_csv_format
 type = csv
 field_delimiter = '|'
 skip_header = 1
 null_if = ('NULL', 'null')
 empty_field_as_null = true
 compression = none;


--******************************************************************************
--  -- copy into table using external stage
--******************************************************************************

copy into dept from @azure_blob_stage file_format = my_csv_format;


-- verify target table.
select * from dept;
```

How to create External Stage and Load Data Into snowflake Table with snow pipe?

1) STORAGE INTEGRATION
2) NOTIFICATION INTEGRATION
3) Creating External Stage
4) Creating File Format

```
--****************************************************************************
--  Create External Storage Integration
--****************************************************************************


CREATE OR REPLACE STORAGE INTEGRATION AZURE_INT
  TYPE = EXTERNAL_STAGE
  STORAGE_PROVIDER = 'AZURE'
  ENABLED = TRUE
  AZURE_TENANT_ID = '89556edd--43c1'
  storage_allowed_locations = ('*');


desc integration AZURE_INT;

  DESC STORAGE INTEGRATION AZURE_INT;
```
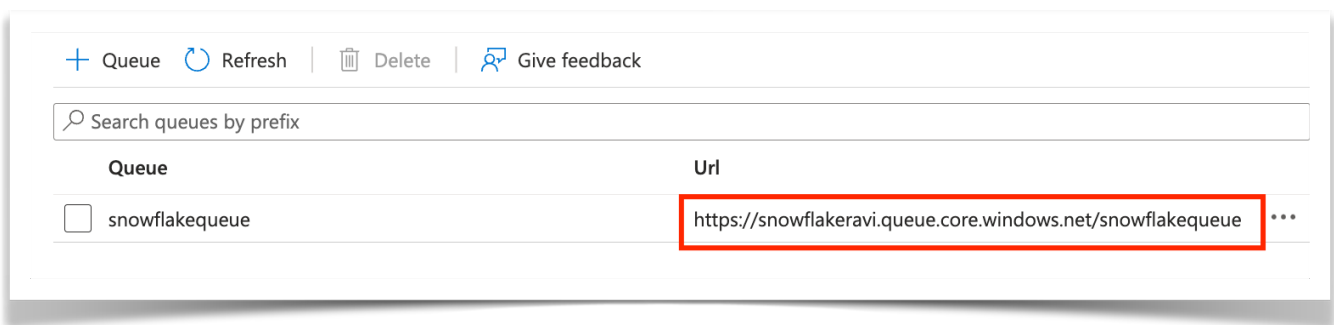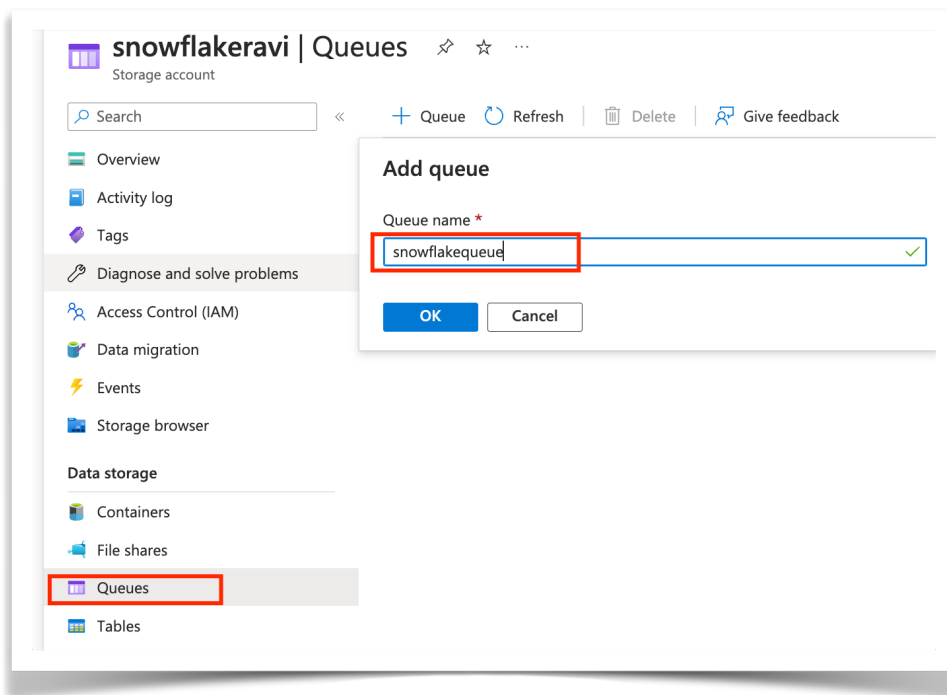
property	property_type	property_value	property_default
ENABLED	Boolean	true	false
STORAGE_PROVIDER	String	AZURE	
STORAGE_ALLOWED_LOCATIONS	List	*	[]
STORAGE_BLOCKED_LOCATIONS	List		[]
AZURE_TENANT_ID	String	███████████████████	
AZURE_CONSENT_URL	String	https://login.microsoftonline.com/f██████████████████████████████████████	
AZURE_MULTI_TENANT_APP_NAME	String	ngumqcsnowflakepacint_███████	
COMMENT	String		

Creating Queue in storage account.

****

```
--  Create External Queue Integration
--**************************************************************************


  CREATE OR REPLACE NOTIFICATION INTEGRATION azure_data_event
    ENABLED = TRUE
    TYPE = QUEUE
    NOTIFICATION_PROVIDER = AZURE_STORAGE_QUEUE
    AZURE_STORAGE_QUEUE_PRIMARY_URI = 'https://snowflakeravi.queue.core.windows.net/
snowflakequeue'
    AZURE_TENANT_ID = '89556edd-0e4a-43c1';
```

desc notification INTEGRATION azure_data_event;

	property	property_type	property_value	property_default
1	ENABLED	Boolean	true	false
2	AZURE_STORAGE_QUEUE_PRIMARY_URI	String	▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓	
3	AZURE_CONSENT_URL	String	https://login.microsoftonline.com/▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓	
4	AZURE_MULTI_TENANT_APP_NAME	String	pgv3qvsnowflakepacint_1▓▓▓▓▓▓▓▓▓▓▓	
5	COMMENT	String		

```
--*************************************************************************
--  Create CSV File Format
--*************************************************************************


create or replace file format my_csv_format
type = csv
field_delimiter = ','
skip_header = 1
null_if = ('NULL', 'null')
empty_field_as_null = true
compression = none;
```

Create Storage Account -> Container->folder

```sql
--***************************************************************************
--  Create External Storage
--***************************************************************************

create or replace stage my_azure_stage
  url='azure://snowflakeravi.blob.core.windows.net/datalake/landing/'
  file_format = my_csv_format
  STORAGE_INTEGRATION = AZURE_INT;

  list @my_azure_stage;

  --***************************************************************************
--  Create snow pipe for external storage read
--***************************************************************************

  -- create pipeline
  create or replace pipe dept_snowpipe
  auto_ingest=true
  integration='AZURE_DATA_EVENT'
  as
  copy into dept from @my_azure_stage;

--https://snowflakeravi.queue.core.windows.net/queue

--truncate table dept;

select * from dept;


ALTER PIPE  dept_snowpipe refresh;

-- Verify pipe is paused and has pendingFileCount 0
SELECT SYSTEM$PIPE_STATUS('dept_snowpipe');

-- Pause pipe
ALTER PIPE dept_snowpipe SET PIPE_EXECUTION_PAUSED = false
```