

Azure Data Factory Project: Implementing Retry Logic for Data Retrieval Failures

- 1. Create Azure SQL Database (Source)
 - Created a new SQL Database named RetryDemoDB
 - Created a new SQL Server (retrydemosqlserverXYZ)
 - Set admin login and password
 - Added sample table Employees with 2 sample rows

```
CREATE TABLE Employees (  
  ID INT PRIMARY KEY,  
  Name VARCHAR(50),  
  Position VARCHAR(50)  
);
```

```
INSERT INTO Employees VALUES (1, 'Alice', 'Engineer'), (2, 'Bob', 'Manager');
```

	A	B	C	D	E	F
1	ID	Name	Position			
2	1	Alice	Engineer			
3	2	Bob	Manager			
4						
5						
6						
7						
8						
9						
10						
11						
12						

2. Create Azure Storage Account (Sink)

- Created a Storage Account named retrystorageXYZ
- Created a blob container named output-data

3. Create Linked Services in ADF

(a) SQL Database Linked Service:

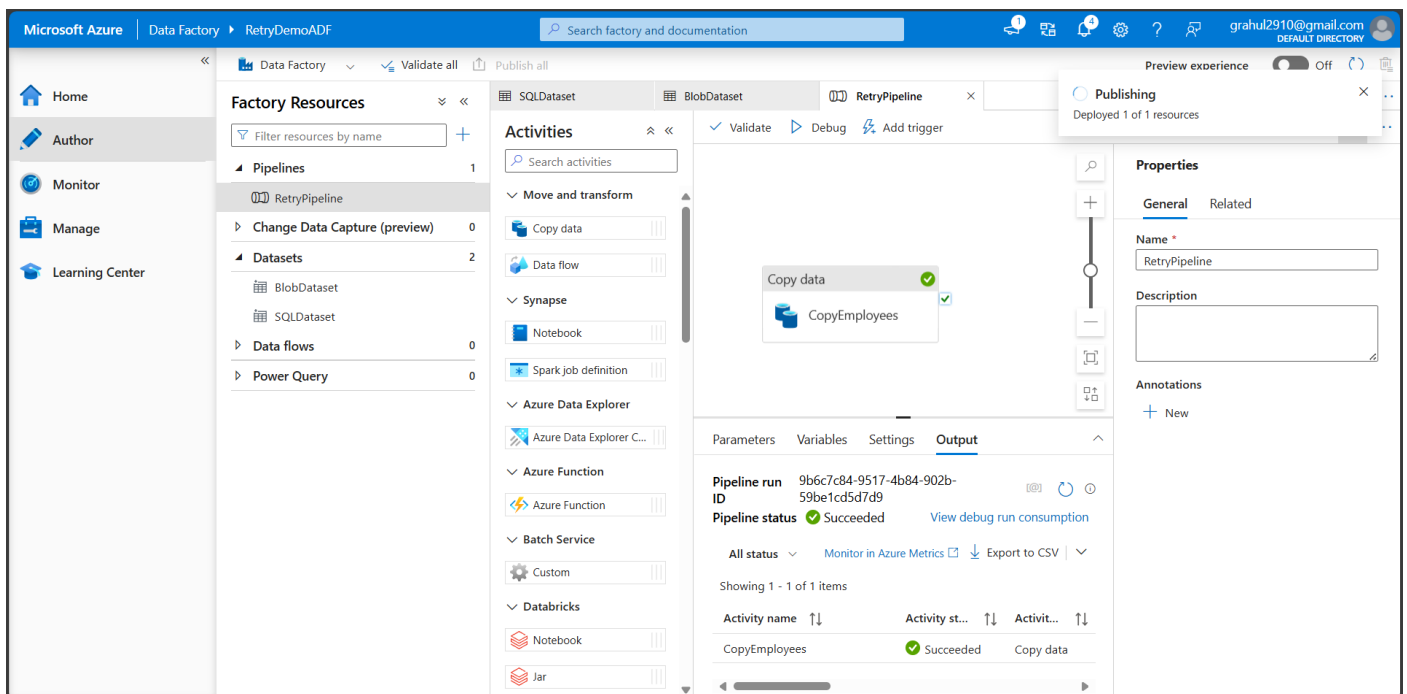
- Type: Azure SQL Database
- Used SQL authentication
- Tested connection successfully

(b) Blob Storage Linked Service:

- Type: Azure Blob Storage
- Authentication: Account Key
- Tested connection successfully

4. Create Pipeline

- Created pipeline named RetryPipeline
- Added Copy Data activity named CopyEmployees
- Set:
 - Source dataset: SQL Dataset
 - Sink dataset: Blob Dataset




5. Configure Retry Logic (Fault Tolerance)

- Selected Copy Data activity → Right Properties Panel
- In Fault Tolerance section:
 - Retry count: 3
 - Retry interval: 10 seconds
- Enabled logging (optional) and selected Blob linked service

Timeout ⓘ	<input type="text" value="0.12:00:00"/>
Retry ⓘ	<input type="text" value="3"/>
Retry interval (sec) ⓘ	<input type="text" value="30"/>
Secure output ⓘ	<input type="checkbox"/>
Secure input ⓘ	<input type="checkbox"/>


6. Debug and Publish

- Clicked Debug to run the pipeline and verify successful execution
- Clicked Publish All to save all objects in the data factory

Details  Refresh


[Learn more on copy performance details from here.](#)

Activity run id: 35b86741-e50f-40b9-a184-e580c5ef5273



Azure SQL Database
Region: Central India

Succeeded →



Azure Blob Storage
Region: Central India

Data read: ⓘ54 bytes

Rows read: 2

Peak connections: ⓘ1

Data written: ⓘ59 bytes

Files written: ⓘ1

Rows written: ⓘ2

Peak connections: ⓘ1

Copy duration00:00:10

Throughput: ⓘ27 bytes/s

▼ Azure SQL Database → Azure Blob Storage

Start time7/11/2025, 10:24:00 AM

Used DIUs ⓘ4

Used parallel copies ⓘ1

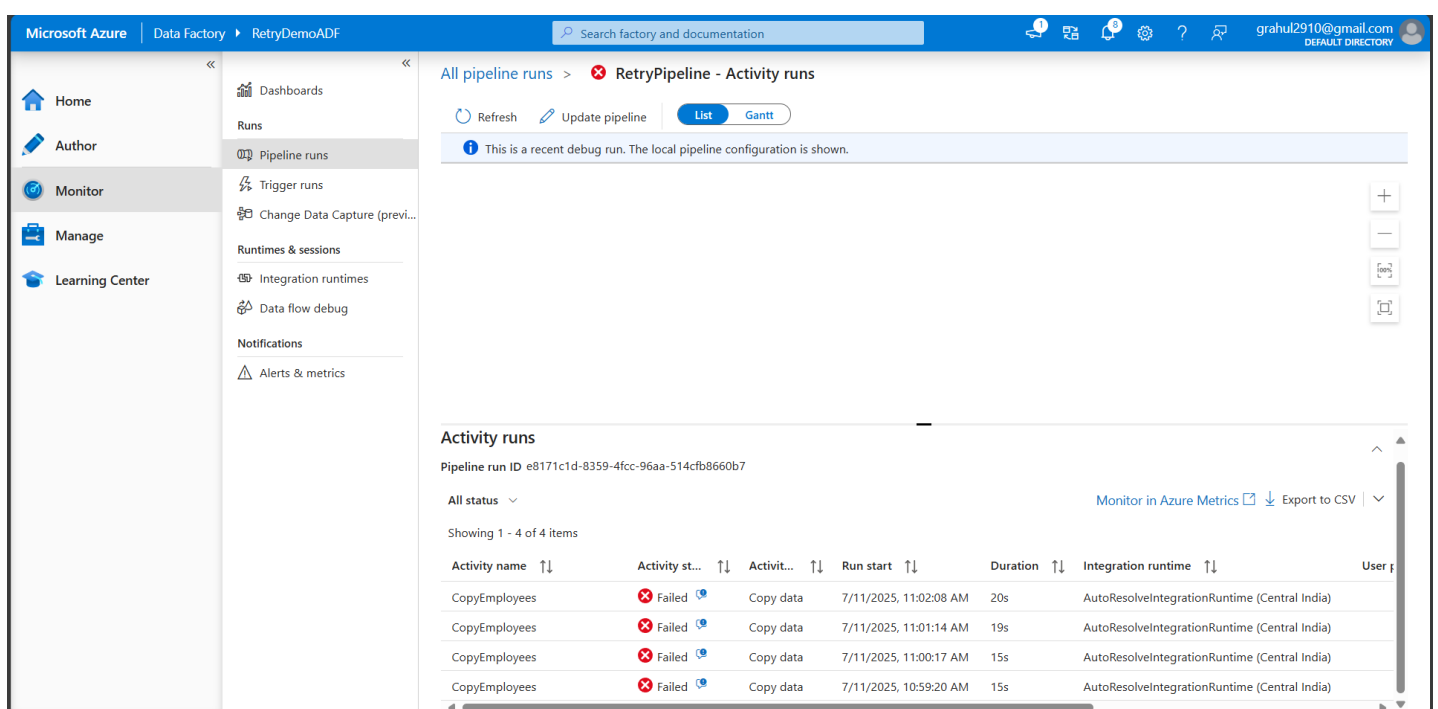
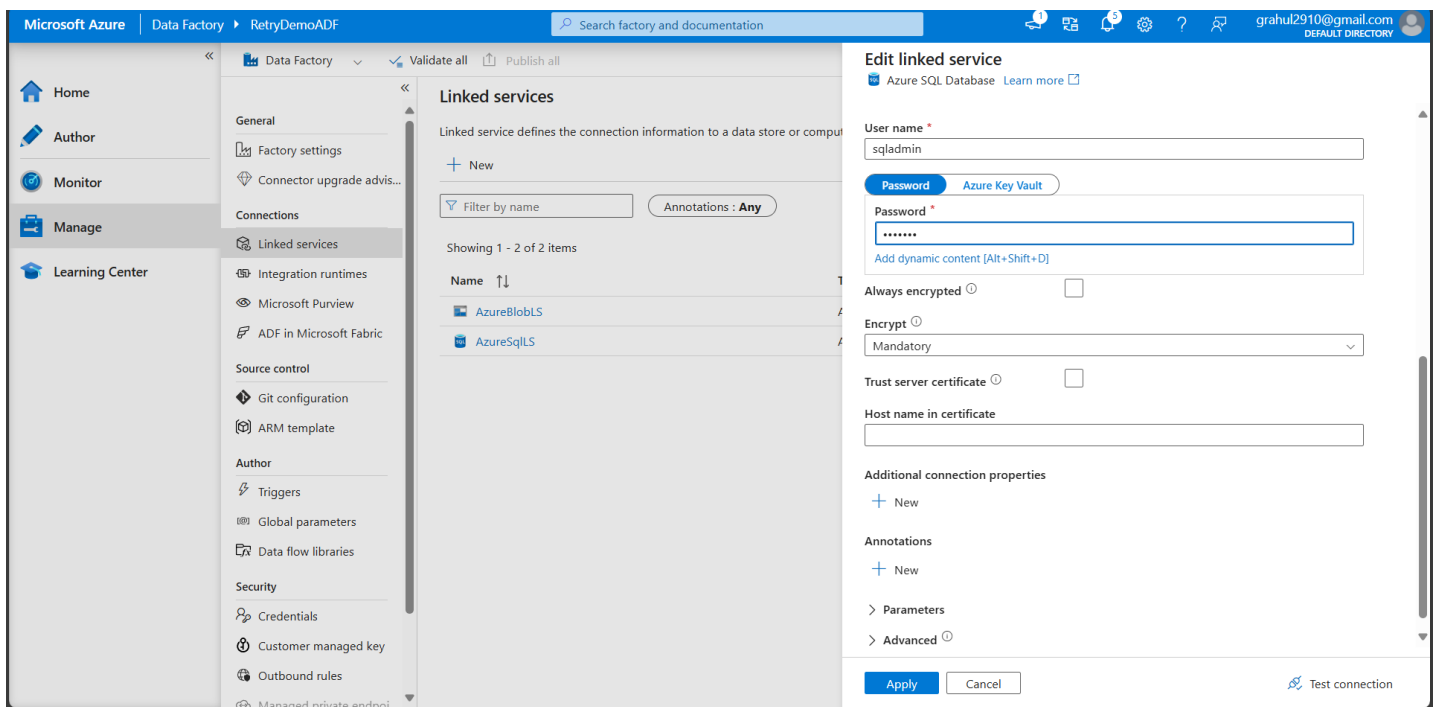
▼ Duration00:00:10

Details	Working duration	Total duration
Queue ⓘ		00:00:05
Transfer ⓘ	<div>Time to first byte ⓘ00:00:00</div> <div>Reading from source ⓘ00:00:00</div> <div>Writing to sink ⓘ00:00:00</div>	00:00:02

Data consistency verification ⓘNot verified

7. Verify Output

- Navigated to Azure Storage Account
- Change the password of the database to something that is not correct so that we can simulate the condition of a failure which will lead to the retry condition to occur
- Opened container output-data/output/
- Verified that employees.csv was generated with correct data'



Microsoft Azure | Upgrade | Search resources, services, and docs (G+)

Home > Storage accounts > retrystoragecelebal | Containers

output-data

Container

Search

+ Add Directory

Overview

Diagnose and solve problems

Access Control (IAM)

Settings

Shared access tokens

Access policy

Properties

Metadata

Authentication method

Search blobs

Showing all 1 items

Name

[-]

employees.csv

output/employees.csv

Blob

Save | Discard | Download | Refresh | Delete | Change tier | Acquire lease | Break lease | Give feedback

Overview | Versions | Snapshots | Edit | Generate SAS

Properties

URL: https://retrystoragecelebal.blob.core.windows.net/output/employees.csv

LAST MODIFIED: 7/11/2025, 10:24:10 AM

CREATION TIME: 7/11/2025, 10:24:10 AM

VERSION ID: -

TYPE: Block blob

SIZE: 59 B

ACCESS TIER: Hot (Inferred)

ACCESS TIER LAST MODIFIED: N/A

ARCHIVE STATUS: -

REHYDRATE PRIORITY: -

SERVER ENCRYPTED: true

ETAG: 0x8DDC036F97BD50A

VERSION-LEVEL IMMUTABILITY POLICY: Disabled

CACHE-CONTROL:

CONTENT-TYPE: application/octet-stream

CONTENT-MD5:

CONTENT-ENCODING:

CONTENT-LANGUAGE:

CONTENT-DISPOSITION:

Add or remove favorites by pressing Ctrl+Shift+F

Full Video-

<https://drive.google.com/file/d/1riOz1ofHRU4YQoDiJI3gXNSB2jS0NbVf/view?usp=sharing>