P-4: Work with the database

Global Inbound and Outbound Travel

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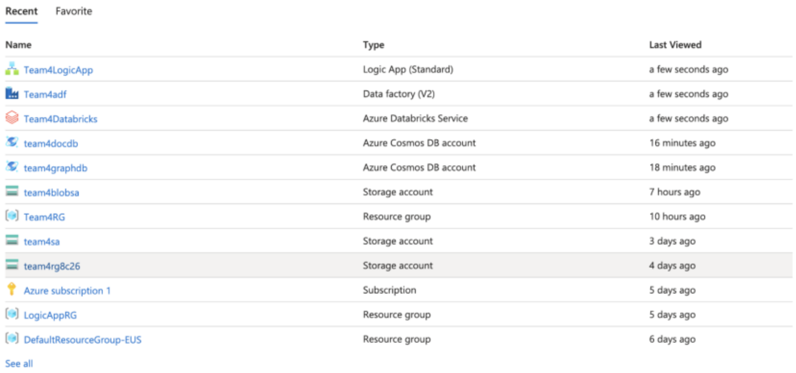
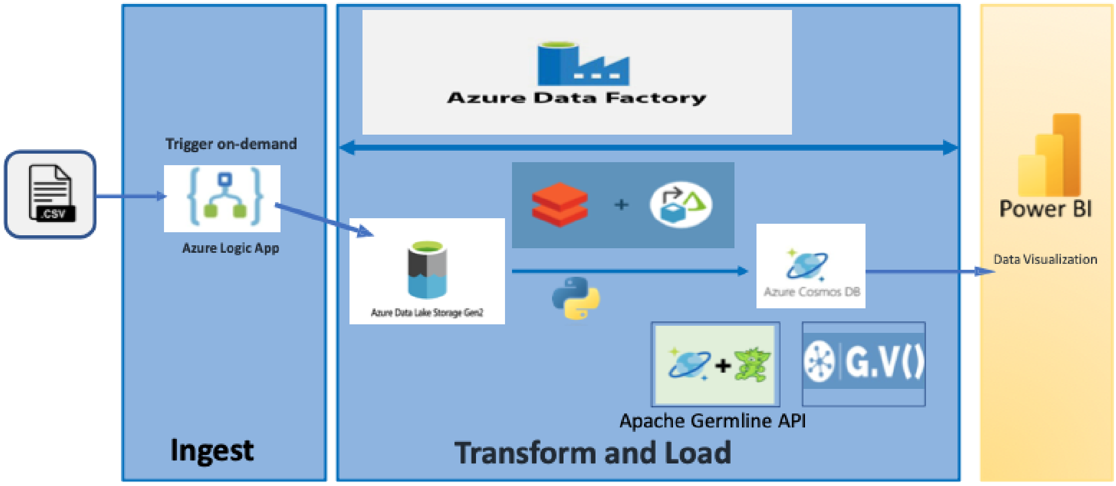
Introduction

To implement the project, we have followed our architecture diagram. We have used many services available on Azure cloud platform which are listed below.

1. Azure Logic Apps
2. Azure Databaricks
3. Azure Blob Storage
4. Azure Data Factory
5. Azure Cosmos DB



Name	Type	Last Viewed
Team4LogicApp	Logic App (Standard)	a few seconds ago
Team4adf	Data factory (V2)	a few seconds ago
Team4Databricks	Azure Databricks Service	a few seconds ago
team4docdb	Azure Cosmos DB account	16 minutes ago
team4graphdb	Azure Cosmos DB account	18 minutes ago
team4blobsa	Storage account	7 hours ago
Team4RG	Resource group	10 hours ago
team4sa	Storage account	3 days ago
team4rg8c26	Storage account	4 days ago
Azure subscription 1	Subscription	5 days ago
LogicAppRG	Resource group	5 days ago
DefaultResourceGroup-EUS	Resource group	6 days ago



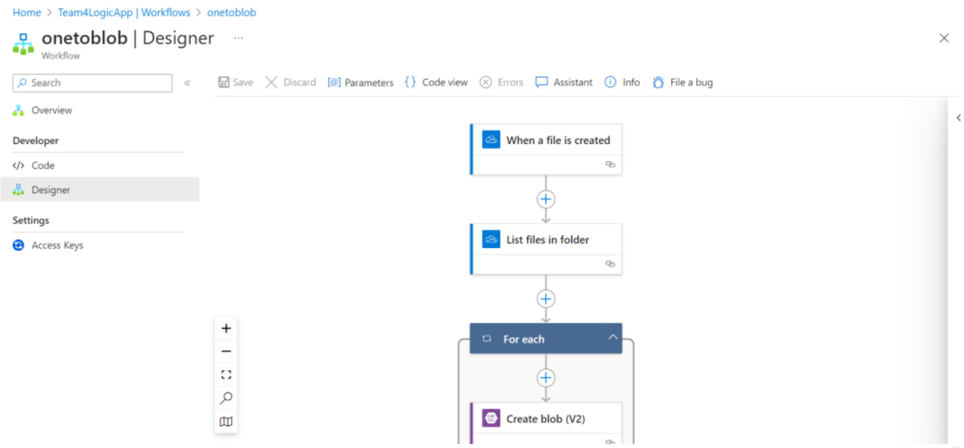
Data Refresh

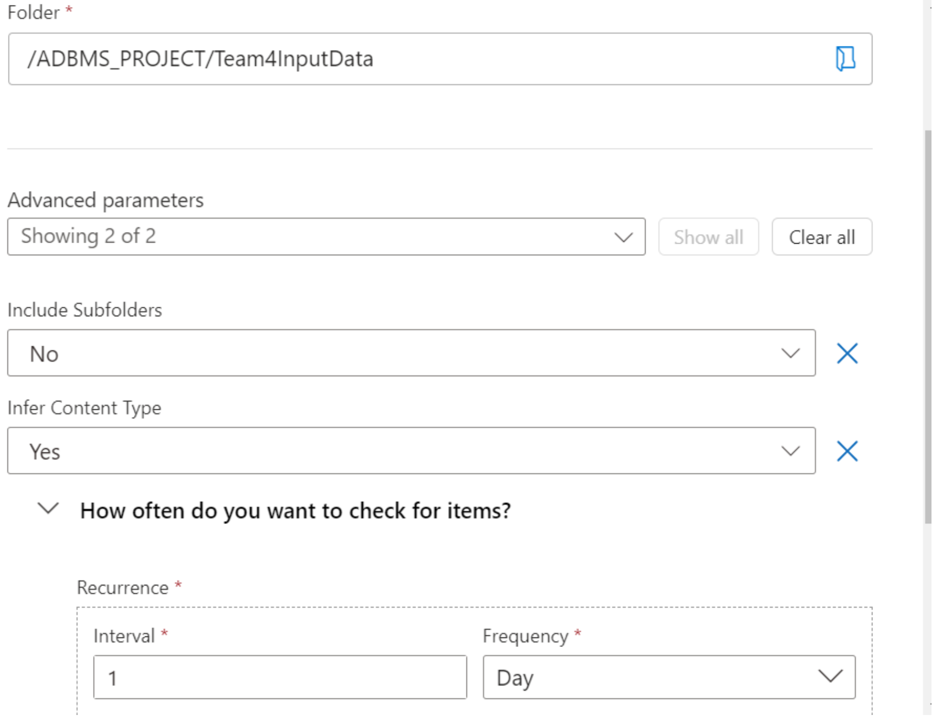
For the P4 submission, we have implemented the data refresh through Azure Data Factory and logic apps.

Implementation

For loading new file through Logic App workflow -onetoblob

1.The Logic app will run when a new file is uploaded. It is scheduled to check every day.




Folder *

/ADBMS_PROJECT/Team4InputData

Advanced parameters

Showing 2 of 2

Include Subfolders

No

Infer Content Type

Yes

How often do you want to check for items?

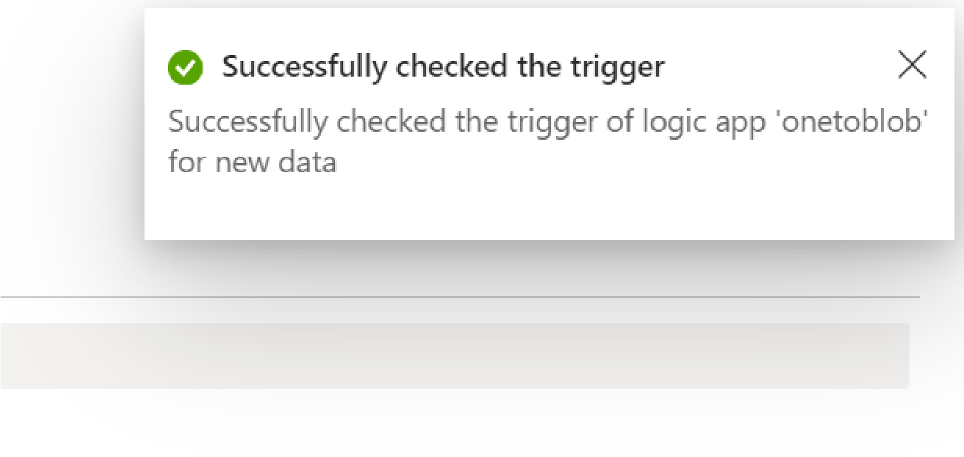
Recurrence *

Interval *

1

Frequency *

Day

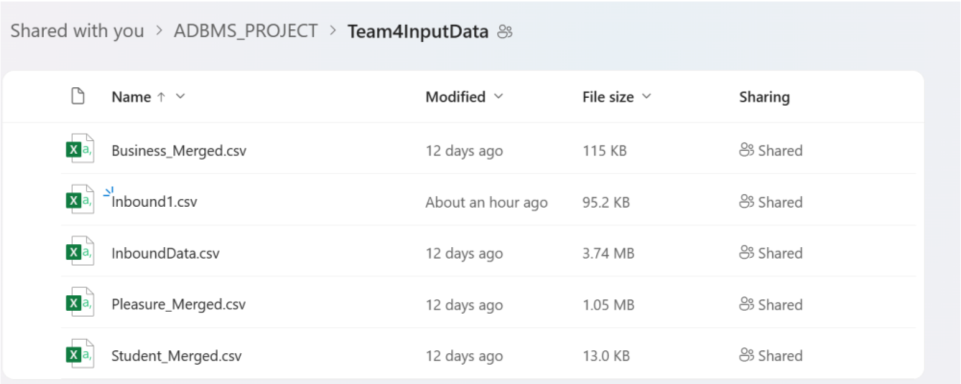


Successfully checked the trigger

Successfully checked the trigger of logic app 'onetoblob' for new data

ghts

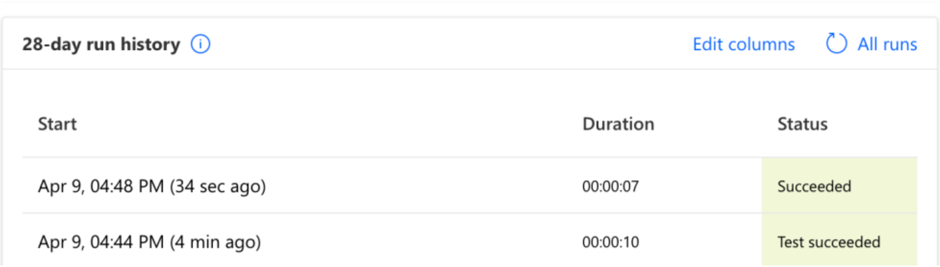
2.New file added on one drive



Shared with you > ADBMS_PROJECT > Team4InputData

Name ↑	Modified	File size	Sharing
Business_Merged.csv	12 days ago	115 KB	Shared
Inbound1.csv	About an hour ago	95.2 KB	Shared
InboundData.csv	12 days ago	3.74 MB	Shared
Pleasure_Merged.csv	12 days ago	1.05 MB	Shared
Student_Merged.csv	12 days ago	13.0 KB	Shared

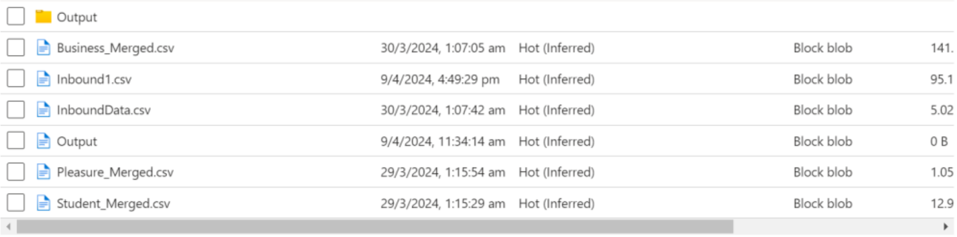
3.Trigger is fired when a new file is added. The screenshot shows that the new file upload is succeeded



28-day run history

Start	Duration	Status
Apr 9, 04:48 PM (34 sec ago)	00:00:07	Succeeded
Apr 9, 04:44 PM (4 min ago)	00:00:10	Test succeeded

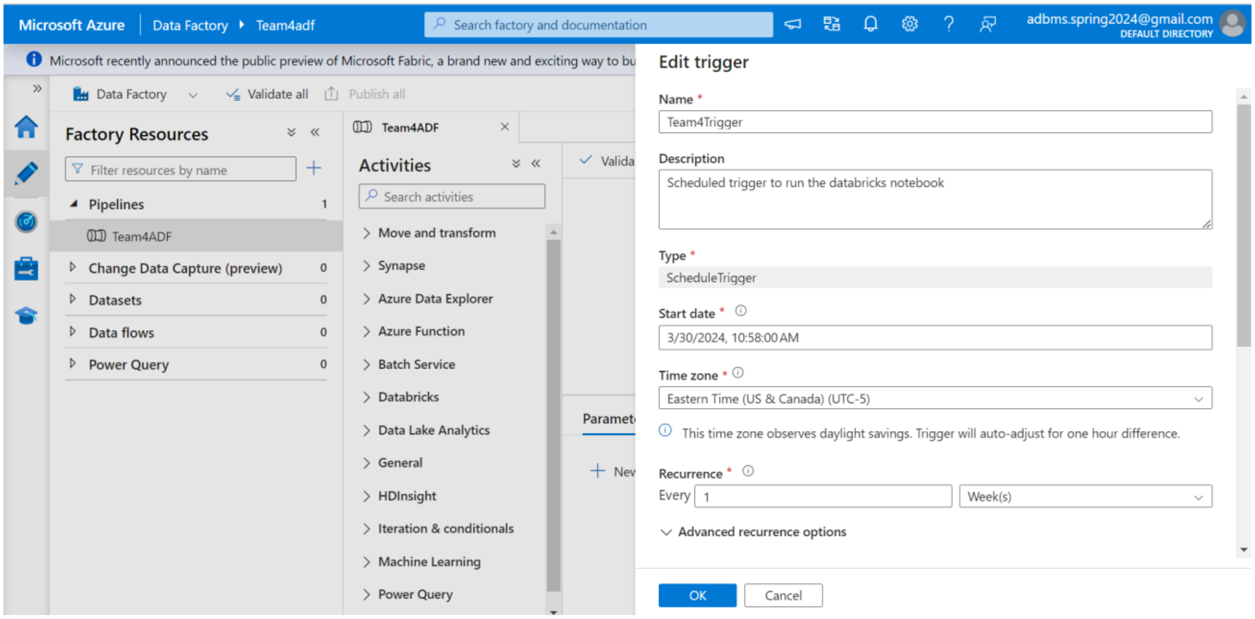
4. After the successful trigger we can verify that the file gets uploaded to blob.



□	Output				
□	Business_Merged.csv	30/3/2024, 1:07:05 am	Hot (Inferred)	Block blob	141.
□	Inbound1.csv	9/4/2024, 4:49:29 pm	Hot (Inferred)	Block blob	95.1
□	InboundData.csv	30/3/2024, 1:07:42 am	Hot (Inferred)	Block blob	5.02
□	Output	9/4/2024, 11:34:14 am	Hot (Inferred)	Block blob	0 B
□	Pleasure_Merged.csv	29/3/2024, 1:15:54 am	Hot (Inferred)	Block blob	1.05
□	Student_Merged.csv	29/3/2024, 1:15:29 am	Hot (Inferred)	Block blob	12.9

For the refresh through the ADF, we have followed the below mentioned steps.

1. Created ADF trigger to run the databricks notebook to load latest data in document db and cosmosdb



Edit trigger

Name *
Team4Trigger

Description
Scheduled trigger to run the databricks notebook

Type *
ScheduleTrigger

Start date *
3/30/2024, 10:58:00 AM

Time zone *
Eastern Time (US & Canada) (UTC-5)

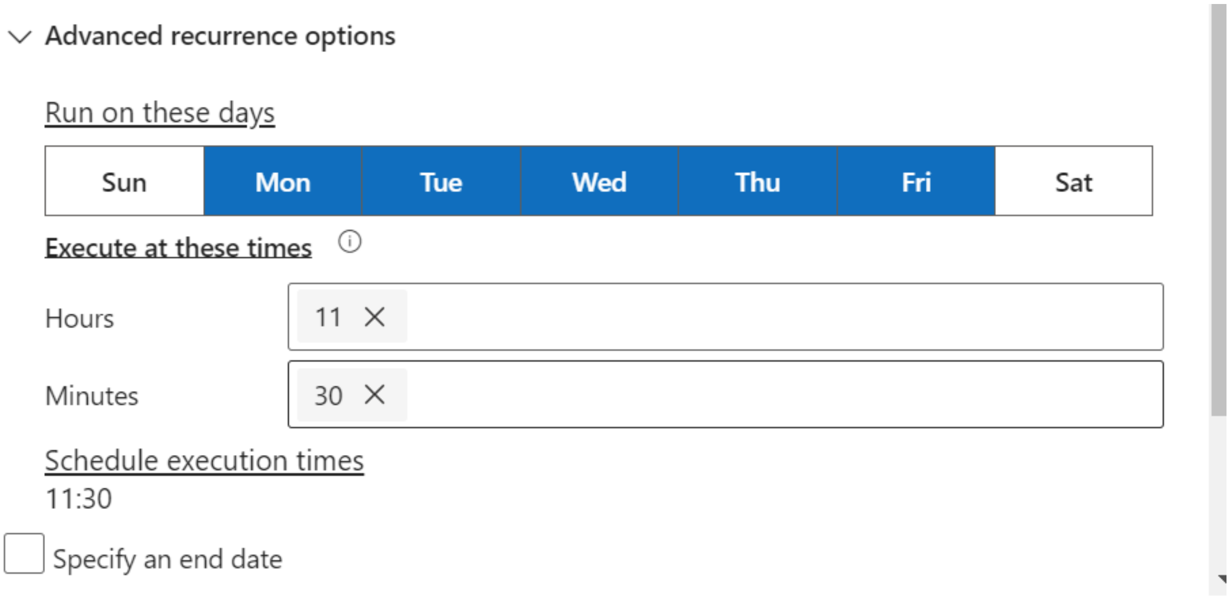
This time zone observes daylight savings. Trigger will auto-adjust for one hour difference.

Recurrence *
Every 1 Week(s)

Advanced recurrence options

OK Cancel

2. Scheduled the trigger to run only on weekdays at 11:30 am.



Advanced recurrence options

Run on these days

Sun [✓ Mon] [✓ Tue] [✓ Wed] [✓ Thu] [✓ Fri] Sat

Execute at these times

Hours: 11

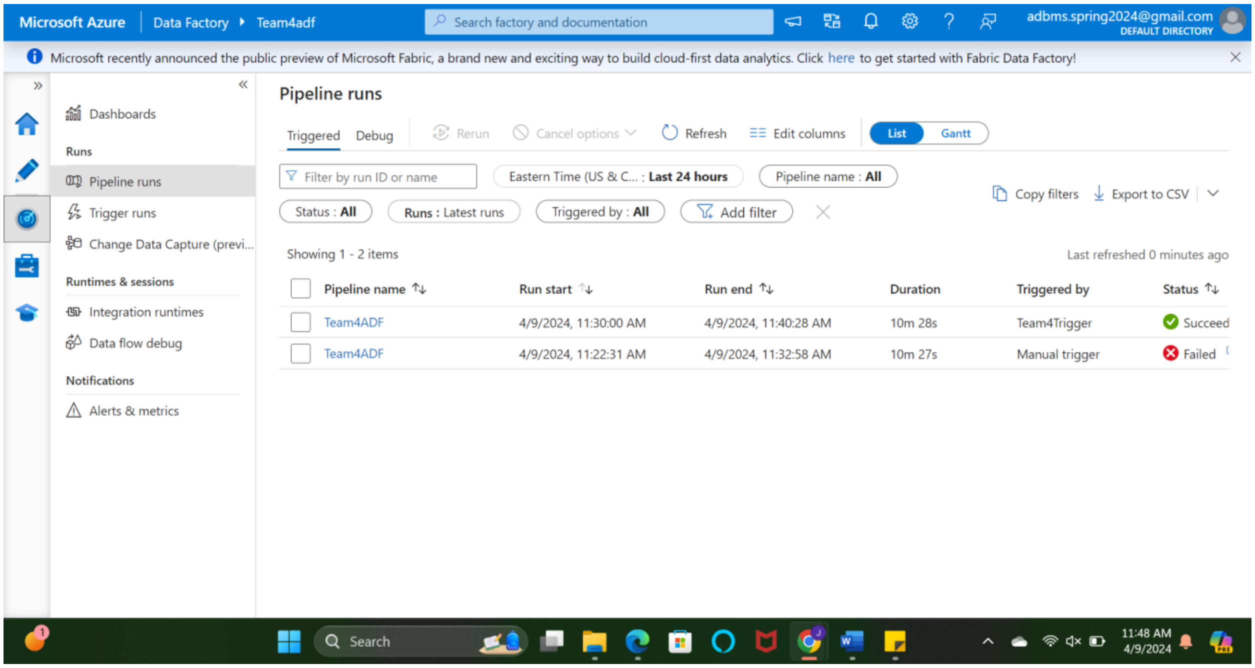
Minutes: 30

Schedule execution times
11:30

□ Specify an end date

3. Once the trigger is created and scheduled as per the requirements, we can check the status of the trigger and monitor. Below is the screenshot of trigger running successfully at 11:30 am on a week day.

The second entry is a manual trigger that can be ignored. The first entry with Triggered by value as "Team4Trigger" is the scheduled trigger.



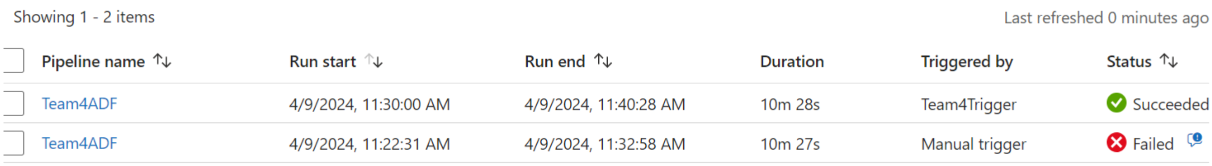
Microsoft recently announced the public preview of Microsoft Fabric, a brand new and exciting way to build cloud-first data analytics. Click here to get started with Fabric Data Factory!

Pipeline runs

Eastern Time (US & C... : Last 24 hours | Pipeline name : All | Status : All | Runs : Latest runs | Triggered by : All

Showing 1 - 2 items — Last refreshed 0 minutes ago

Pipeline name	Run start	Run end	Duration	Triggered by	Status
Team4ADF	4/9/2024, 11:30:00 AM	4/9/2024, 11:40:28 AM	10m 28s	Team4Trigger	✓ Succeed
Team4ADF	4/9/2024, 11:22:31 AM	4/9/2024, 11:32:58 AM	10m 27s	Manual trigger	✕ Failed



Showing 1 - 2 items

Last refreshed 0 minutes ago

□	Pipeline name ↑↓	Run start ↑↓	Run end ↑↓	Duration	Triggered by	Status ↑↓
□	Team4ADF	4/9/2024, 11:30:00 AM	4/9/2024, 11:40:28 AM	10m 28s	Team4Trigger	✓ Succeeded
□	Team4ADF	4/9/2024, 11:22:31 AM	4/9/2024, 11:32:58 AM	10m 27s	Manual trigger	✖ Failed