

Automating Azure Data Factory Pipeline to Run on the Last Saturday of Each Month

1. Storage Setup

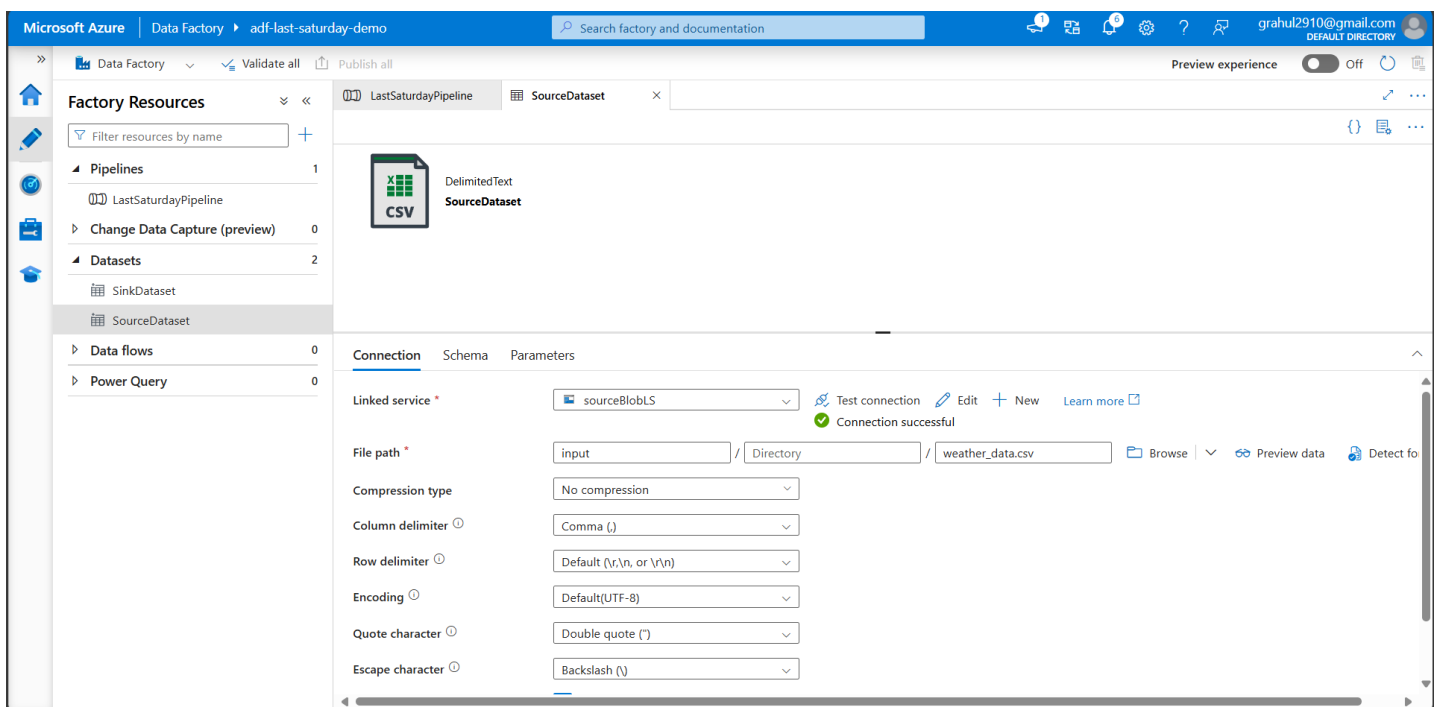
- Created two Azure Storage Accounts: one for source and one for sink.
- Created containers (input and output) in the respective accounts.

2. Linked Services

- Configured two linked services in ADF:
 - sourceBlobLS pointing to the source storage account.
 - sinkBlobLS pointing to the sink storage account.

3. Datasets

- Created SourceDataset to point to the uploaded CSV file in the input container.
- Created SinkDataset to define the target location in the output container.



4. Pipeline Design

- Designed a pipeline named LastSaturdayPipeline.
- Added an If Condition activity to control execution.
- Inside the True branch, added a Copy Data activity to move data from source to sink.

Conditional Logic for Last Saturday Check

We used the following logic in the If Condition expression:

json

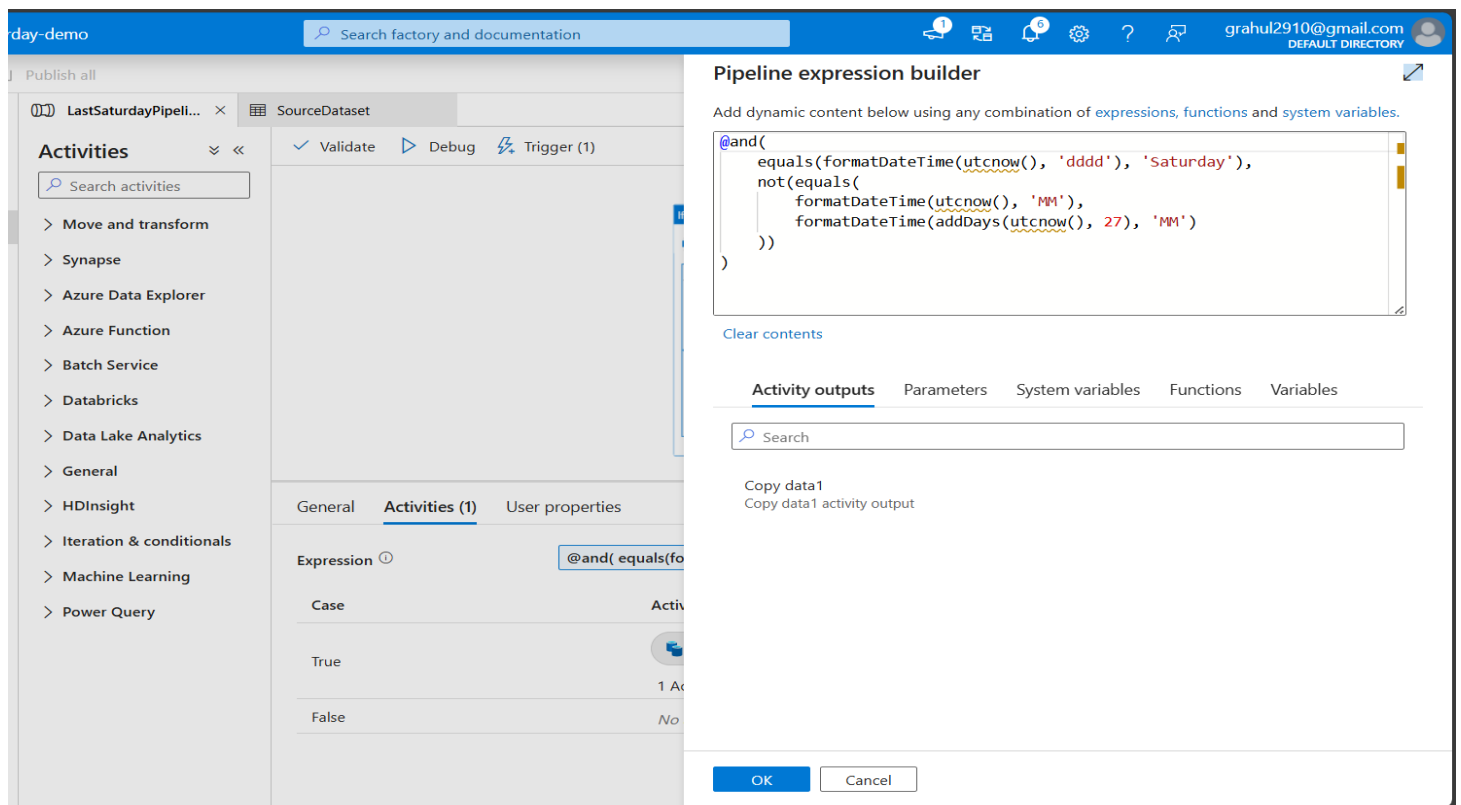
CopyEdit

@and(

 equals(formatDateTime(utcNow(), 'dddd'), 'Saturday'),

 not(equals(formatDateTime(utcNow(), 'MM'), formatDateTime(addDays(utcNow(), 7), 'MM')))

)



Explanation:

- `formatDateTime(utcNow(), 'dddd') = 'Saturday'`: Checks if today is Saturday.
- `formatDateTime(addDays(utcNow(), 7), 'MM') ≠ formatDateTime(utcNow(), 'MM')`: Checks if adding 7 days changes the month.
 - If yes → current Saturday is the last Saturday of the month

Only if both conditions are true, the pipeline proceeds to run the data copy.

Trigger Setup

- Created a Scheduled Trigger set to run every Saturday.

- Linked this trigger to the pipeline.
- The actual execution is internally controlled by the above condition — ensuring it runs only on the last Saturday of each month.

The screenshot shows the 'Edit trigger' configuration for 'LastSaturdayTrigger' in the Microsoft Azure Data Factory portal. The trigger is of type 'ScheduleTrigger'. The start date is set to '7/11/2025, 11:10:00 AM' and the time zone is 'Chennai, Kolkata, Mumbai, New Delhi (UTC+5:30)'. The recurrence is set to 'Every 1 Week(s)'. The advanced recurrence options show the trigger runs on Saturdays at 11:47. The pipeline run ID is 'ef02d47c-0ba2-4d57-969a-05433f2d6ad8'.

Testing

- Tested the condition by replacing utcNow() with hardcoded date strings like '2025-07-12T00:00:00Z' or '2025-07-26T00:00:00Z'.
- Observed the pipeline run output and verified if data was copied to the sink storage

The screenshot shows the 'Activity runs' for the 'LastSaturdayPipeline' in the Microsoft Azure Data Factory portal. The pipeline run ID is 'ef02d47c-0ba2-4d57-969a-05433f2d6ad8'. The activity runs table shows two activities: 'Copy data1' and 'If Condition1', both of which succeeded.

Activity name	Activity st...	Activit...	Run start	Duration	Integration runtime	User prop...	Activity run ID
Copy data1	✓ Succeeded	Copy data	7/12/2025, 12:03:20 PM	12s	AutoResolveIntegrationRuntime (Central India)		a9b19c6e-00ee-4e
If Condition1	✓ Succeeded	If Condition	7/12/2025, 12:03:20 PM	14s			709b6306-4f86-46

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🔍 Search blobs by prefix (case-sensitive)

Only show active blobs

Showing all 1 items

<input type="checkbox"/>	Name	Last modified	Access tier	Blob type	Size	Lease state	
<input type="checkbox"/>	📄 salesdata-copy.csv	12/7/2025, 12:03:30 pm	Hot (Inferred)	Block blob	188 B	Available	⋮

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