

# Azure Data Factory

## Lab: Trigger a pipeline using storage event trigger

### Pre-requisites:

- Azure Pass subscription
- Azure Data Lake Storage Gen2 storage account
- Azure SQL Database

### Lab Objective:

#### After completing this lab, you will be able to:

- Create the trigger in Azure Data Factory.
- Create use the triggers in the pipeline

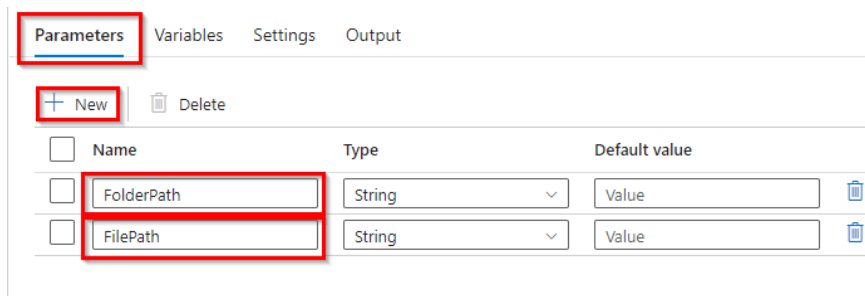
## Exercise 1: Create a trigger to execute the pipeline based on storage event.

The main task for this exercise are as follows:

- Create a copy activity to copy data.
- Create a storage event trigger to run the pipeline.

### Task 1: Create a copy activity to copy data

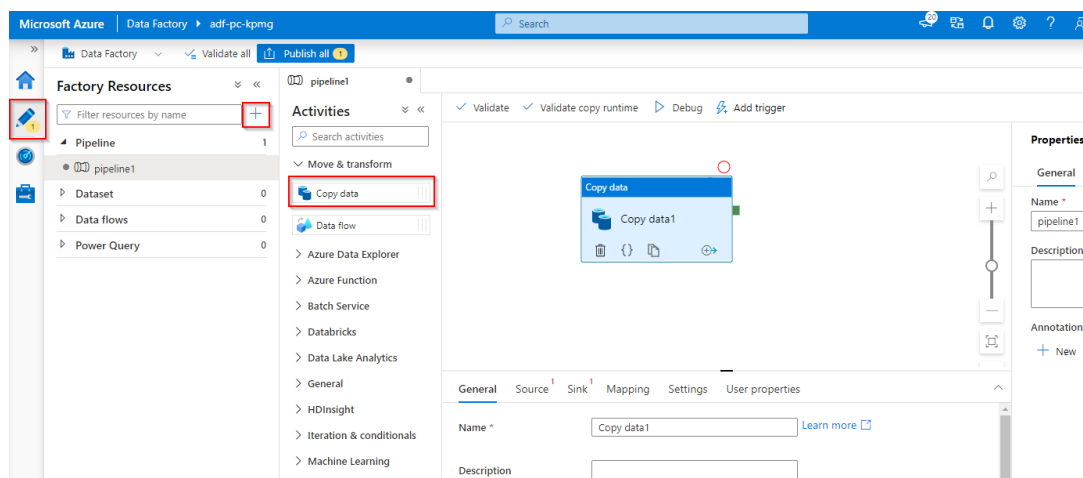
1. Open data factory adfxx.
2. **Open the authoring canvas** in ADF homepage, click on the **pencil icon** on the left sidebar and select the **+ pipeline button** to open the authoring canvas and create a pipeline.
3. Create two pipeline parameters FolderPath and FilePath.



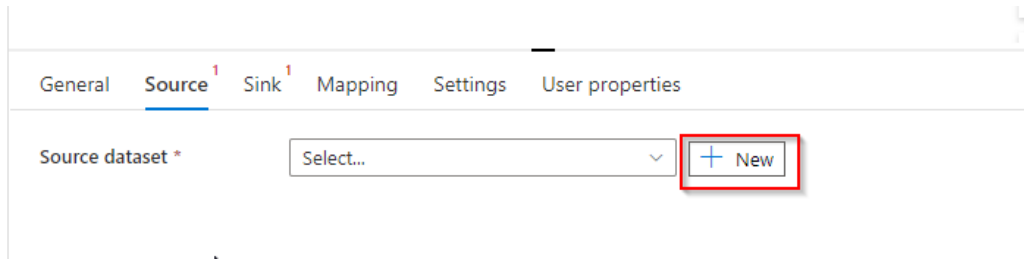
The screenshot shows the 'Parameters' tab in the ADF authoring canvas. A red box highlights the 'Parameters' tab. Another red box highlights the '+ New' button. Below, a table lists the parameters:

<input type="checkbox"/>	Name	Type	Default value	
<input type="checkbox"/>	FolderPath	String	Value	
<input type="checkbox"/>	FilePath	String	Value	

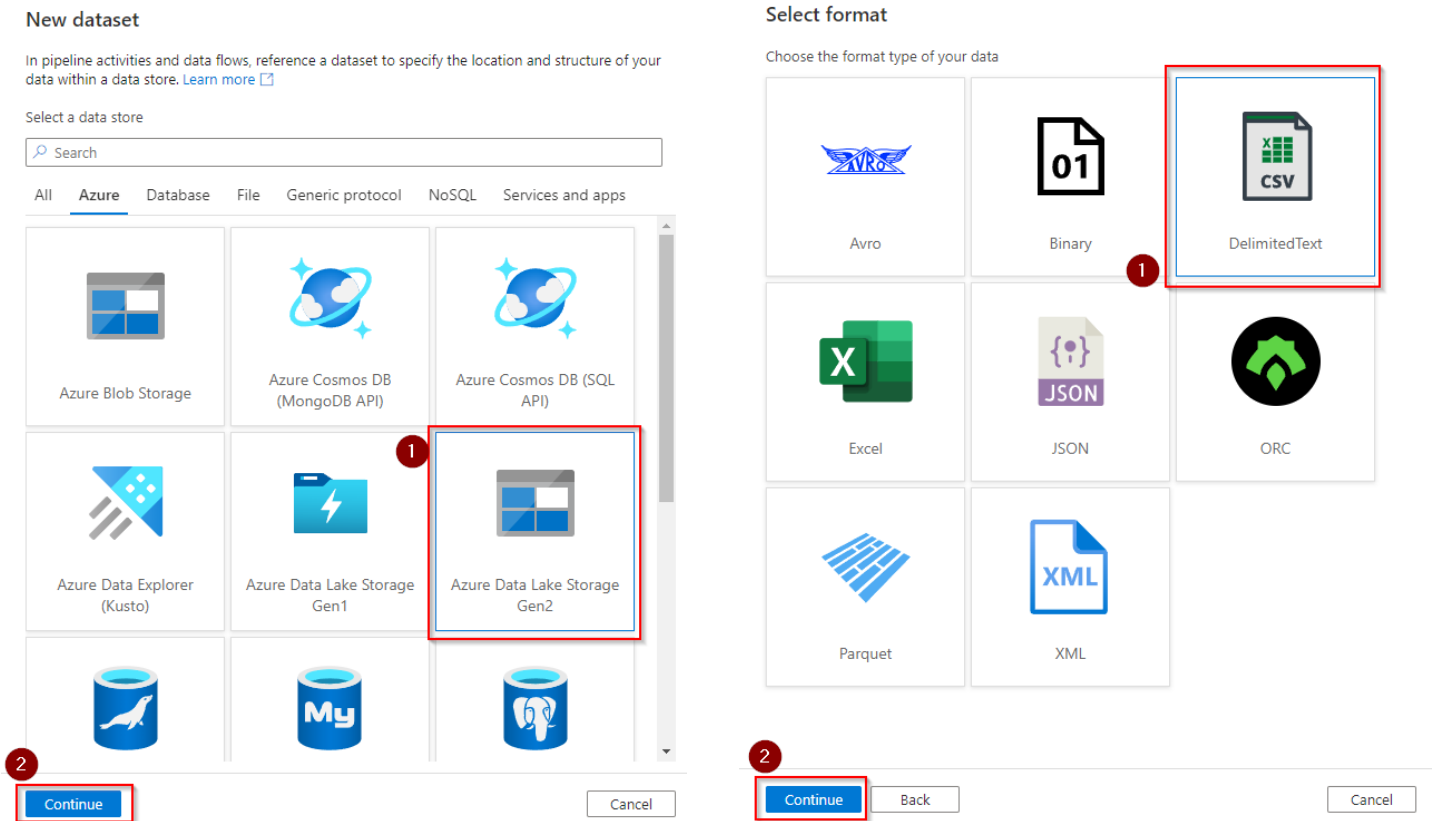
4. **Add a copy activity** In the Activities pane, open the **Move and Transform** accordion and drag the **Copy data** activity onto the pipeline canvas.



## 5. Create a new Dataset



## 6. Select Azure Data Lake Storage Gen 2 and click continue and the select Delimited Text and continue



7. In set properties enter name ADLSGen2Source, Select Existing Linked service for the Storage account otherwise create a new.

### Set properties

Name  
ADLSGen2Source 1

Linked service \*  
Select... 2

Filter...

Select...

+ New

ADLSGen2 3

8. Do not select the folder path or any file.

Set properties

Name  
ADLSGen2Source 1

Linked service \*  
ADLSGen2

File path  
File system / Directory / File

First row as header ☐

Do notSelect any file

Import schema  
☐ From connection/store ☐ From sample file ☒ None

> Advanced

2

OK Back Cancel

9. Open ADLSGen2Source and create two dataset parameters, FolderPath and FilePath


The screenshot displays the configuration interface for the ADLSGen2Source dataset. The 'Source' tab is active, showing the 'Source dataset' dropdown set to 'ADLSGen2Source'. The 'File path type' is set to 'File path in dataset'. The 'Filter by last modified' section includes input fields for 'Start time (UTC)' and 'End time (UTC)'. The 'Recursively' checkbox is checked, and the 'Enable partition discovery' checkbox is unchecked. Below the configuration, a preview of the dataset is shown as a 'DelimitedText ADLSGen2Source' file icon.

The 'Parameters' tab is also shown, displaying a table of parameters:

Name	Type	Default value
FolderPath	String	Value
FilePath	String	Value

10. Under connection set the file path using add dynamic content as mention in the image below:

pipeline4 ADLSGen2Source

 DelimitedText  
ADLSGen2Source

**1**

**Connection** Schema Parameters

Linked service \* ADLSGen2 [Test connection](#) [Edit](#) [New](#) [Learn more](#)


File path \* File system / Directory / File [Browse](#)

**2** [Add dynamic content \[Alt+Shift+D\]](#)

Compression type None

Column delimiter Comma (,)

Set the file path as show below:

 DelimitedText  
ADLSGen2Source

**Connection** Schema Parameters

Linked service \* ADLSGen2 [Test connection](#) [Edit](#) [New](#) [Learn more](#)

File path \* **1** @dataset().FolderPath / Directory / **2** @dataset().FilePath

Compression type None

Column delimiter Comma (,)

11. Select the copy activity, under source setting add dynamic content for Dataset properties using pipeline parameters.

1. Copy data activity icon

2. Source tab

Source dataset \* ADLSGen2Source

Dataset properties

Name	Value	Type
3. FolderPath	@pipeline().parameters.FolderPath	string
4. FilePath	@pipeline().parameters.FilePath	string

File path type: ☒ File path in dataset ☐ Wildcard file path ☐ List of files

12. Create another dataset for sink of type ADLSGen2 and create the parameter FileName

pipeline4 ADLSGen2Source ADLSGen2

DelimitedText  
ADLSGen2

2. Parameters tab

3. New parameter

Name	Type	Default value
FileName	String	Value

13. Under connection setting of sink dataset browse the file path **to data->output** and for the filename select **add dynamic content** and select the Filename @dataset parameter

pipeline4 • ADLSGen2Source ADLSGen2

DelimitedText  
ADLSGen2

CSV

Connection Schema Parameters

Linked service \* ADLSGen2 Test connection Edit + New Learn more

File path \* data / output @dataset().FileName Browse

Compression type None

Column delimiter ① Comma (,)

14. In the sink of copy activity add the sink data set and pass the pipeline parameter value to dataset parameter filename.

Copy data

Copy data1

General Source Sink Mapping Settings User properties

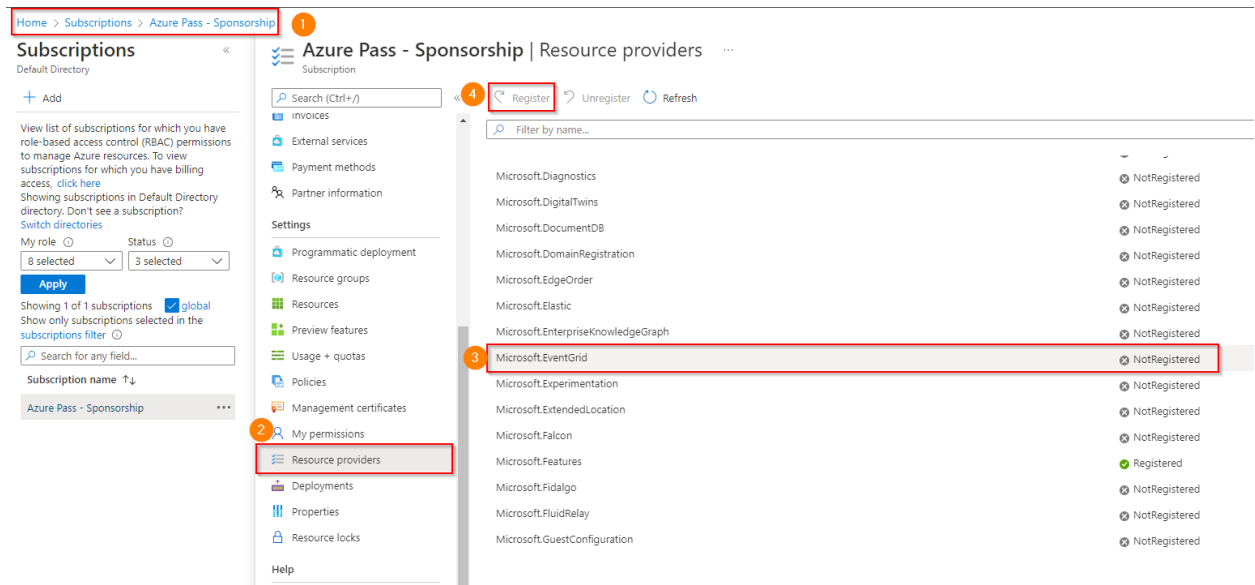
Sink dataset \* ADLSGen2 Open + New Learn more

Dataset properties ①

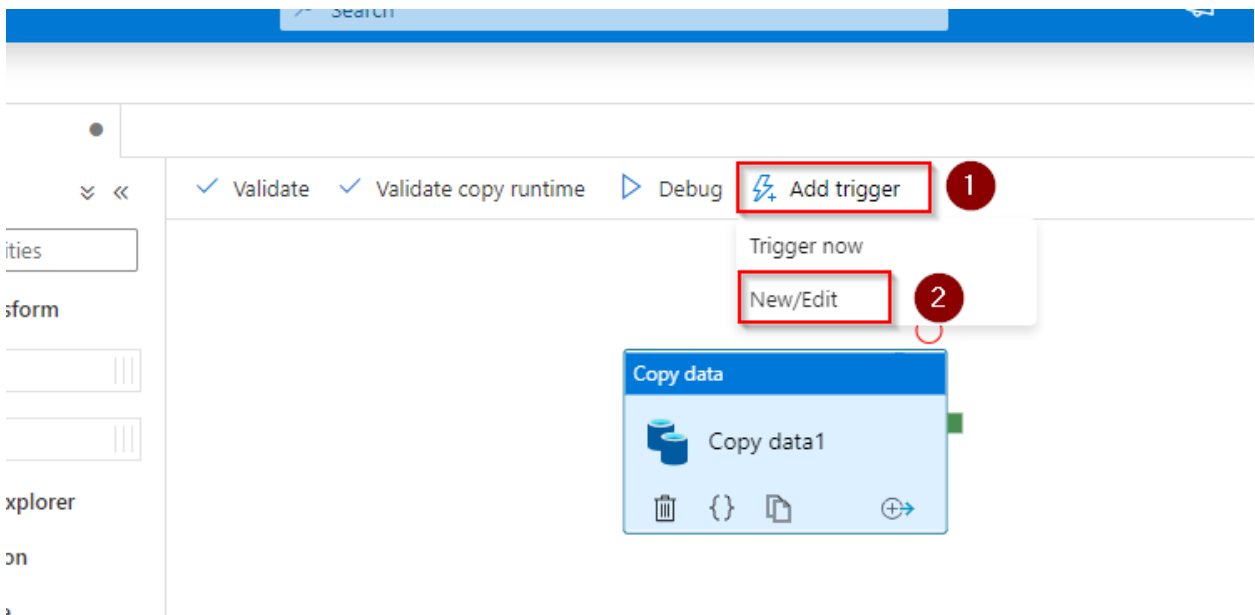
Name	Value	Type
FileName	@pipeline().parameters.FilePath	string



15. In Azure portal, enable the Microsoft.EventGrid Resource Provider from Azure Pass subscription as shown below.




16. Add trigger to the pipeline:




17. Configure the Trigger as show below:

## Add triggers

Choose trigger... 

Search

 New

## New trigger

Name \*

StorageEventTrigger


1

Description

Type \*

Storage events

2

Account selection method \* 

3


☒ From Azure subscription

☐ Enter manually

Azure subscription 

4

Azure Pass - Sponsorship (c8fd5e96-3329-4700-b2ef-455eb9a984e4)

Storage account name \* 

5

datalakepc1

Container name \* 


data

6

Blob path begins with 

input/

7

Blob path ends with 

.csv

8

Event \* ⓘ

☒ Blob created 9 ☐ Blob deleted

Ignore empty blobs \* ⓘ

☒ Yes ☐ No

Annotations

+ New

Start trigger ⓘ

☒ Start trigger on creation

10 Continue Cancel

Click Continue:

### Data preview

⚠ Make sure you have specific filters. Configuring filters that are too broad can match a large number of files created/deleted and may significantly impact your cost.

#### Event Trigger Filters

Container name: **data**

Starts with: **input/**

Ends with: **.csv**

0 blobs matched in "data" 🔄 Refresh

Blob name

---

0 - 0 of 0 items < Previous 1 Next > Go to

Continue BackCancel

Next initialize the following:


FolderPath: @triggerBody().folderPath

FilePath: @triggerBody().fileName

Then click OK and Publish the pipeline

## Edit trigger

### Trigger Run Parameters

 Parameters that are not provided a value will not be included in the trigger.

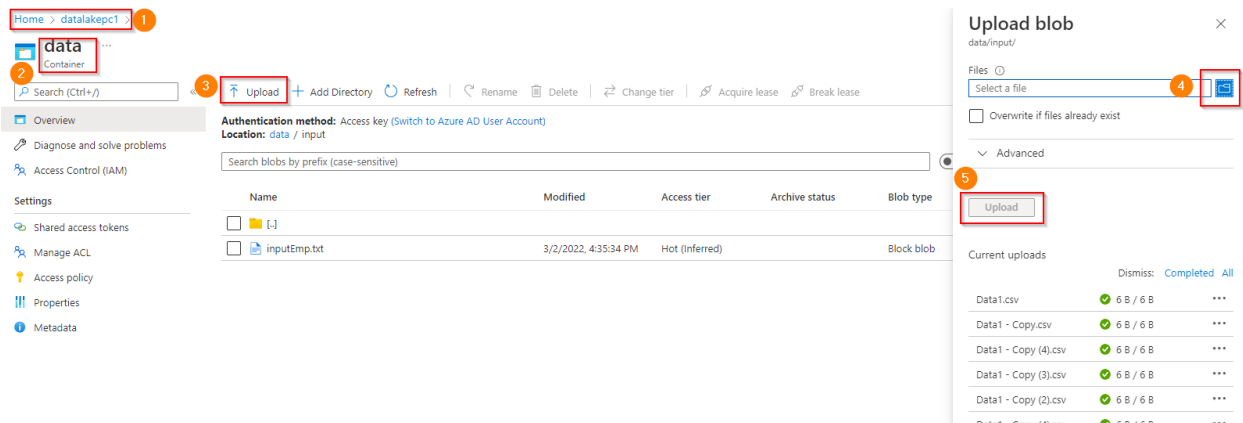
Name	Type	Value
FolderPath	string	@triggerBody().folderPath
FilePath	string	@triggerBody().fileName

Make sure to "Publish" for trigger to be activated after clicking "OK"

OK

Cancel

18. Create some dummy csv file and upload them from storage account, this will trigger the pipeline you can go to monitor hub under pipeline run you can see the pipeline is executing and you can also monitor the trigger run under monitor hub.



The screenshot shows the Azure Storage Explorer interface. On the left, the 'data' container is selected. The main pane shows the 'inputEmp.txt' file. The 'Upload' button is highlighted with a red box and a number 3. The 'Upload blob' dialog is open on the right, showing the 'data/input/' path. The 'Files' section shows a list of files being uploaded, including 'Data1.csv' and 'Data1 - Copy (4).csv'. The 'Upload' button in the dialog is highlighted with a red box and a number 5. The 'Current uploads' section shows a list of uploads with progress bars and status indicators.

Name	Modified	Access tier	Archive status	Blob type
inputEmp.txt	3/2/2022, 4:35:34 PM	Hot (Inferred)		Block blob

Current uploads	Dismiss	Completed	All
Data1.csv	6 B / 6 B	...	
Data1 - Copy.csv	6 B / 6 B	...	
Data1 - Copy (4).csv	6 B / 6 B	...	
Data1 - Copy (3).csv	6 B / 6 B	...	
Data1 - Copy (2).csv	6 B / 6 B	...	
Data1 - Copy (1).csv	6 B / 6 B	...	