

BlobEventTrigger doesn't trigger the pipeline

Last updated by | Ranjith Katukojwala | Jan 19, 2022 at 2:08 PM PST

Contents

- [Issue](#)
- [Note : Make sure that the customer is using Block blob sto...](#)
- [Investigation](#)
- [Resolution:](#)

Issue

Customer has created a blob in the storage which should cause BlobEventTrigger to trigger the pipeline, however, customer noticed the pipeline didn't trigger.

Note : Make sure that the customer is using Block blob storage type as this is not supported for Append Blob storage type.

Investigation

1. Verify the Trigger JSON and validate the event associated with the Trigger. You should see the entry as below:

```
"events": [  
  "Microsoft.Storage.BlobCreated"  
]
```

2. Query the **AdfTraceEvent** table to identify the cause of the event trigger execution:

```
let starttime = datetime(2020-09-20);  
let endtime = datetime(2020-09-24);  
cluster('adfcus.kusto.windows.net').database('AzureDataFactory').AdfTraceEvent  
| union cluster('adfneu.kusto.windows.net').database('AzureDataFactory').AdfTraceEvent  
| where env_time > starttime and env_time < endtime  
| where * contains "<Trigger Name>"  
| where * contains "Subject=/blobServices/default/containers"  
| extend Eventinfo = extract("\\[([^\[\]]*)\\]",1,Message)  
| extend EventType = extract("EventType=(.*)",1,Eventinfo)  
| project env_time, env_cloud_name, env_cloud_role, env_cloud_deploymentUnit, TraceCorrelationId,Message,
```

env_time	env_cloud_name	env_cloud_role	env_cloud_deploymentUnit	TraceCorrelationId	Message	RequestTrackingId	EventType
2020-09-09 13:55:38.1489276	PMWestEurope	PipelineManager.EventsWebRole	adfpipelineanaper	4fd923d2-f6b1-4ec2-800e-5ba27ed7a563	Processing event for triggerName: trg-import-drivers-of-00s, triggerType: BlobEventsTrigger, resourceName: a2b45fe3-f2f2-0614-1bea-715c7b708dd, EventInfo=[d=c1c34eb0-d9ea-40fd-b769-a21e2659d173, Topic=/subscriptions/.../resourceGroups/.../providers/microsoft.storage/storageaccounts/.../blobServices/default/containers/.../blobs/, EventType=Microsoft.EventGrid.SubscriptionValidationEvent] SystemProperties=[SubscriptionId=..., ResourceGroup=jaf-prd-we-..., TenantId=..., DataFactoryName=..., DataFactoryId=..., DataFactoryVersion=2018-06-01]	13523f67-498a-4a3b-989b-80e67030507b	Microsoft.EventGrid.SubscriptionValidationEvent
2020-09-10 13:49:21.2827409	PMWestEurope	PipelineManager.EventsWebRole	adfpipelineanaper	74a9868c-df08-4857-841c-8033a972fde0	Processing event for triggerName: trg-import-drivers-of-00s, triggerType: BlobEventsTrigger, resourceName: a2b45fe3-f2f2-0614-1bea-715c7b708dd, EventInfo=[d=33b2d27b-ee3f-48af-b04a-e32ee9564630, Topic=/subscriptions/.../resourceGroups/.../providers/microsoft.storage/storageaccounts/.../blobServices/default/containers/.../blobs/, EventType=Microsoft.EventGrid.SubscriptionDeletedEvent] SystemProperties=[SubscriptionId=..., ResourceGroup=jaf-prd-we-..., TenantId=..., DataFactoryName=..., DataFactoryId=..., DataFactoryVersion=2018-06-01]	b4ff3be-9128-49a1-8117-d70c6b0a5ea4	Microsoft.EventGrid.SubscriptionDeletedEvent
2020-09-10 13:49:29.7461985	PMWestEurope	PipelineManager.EventsWebRole	adfpipelineanaper	fbf56b51-9ab2-410e-9187-110bb80de8ab0	Processing event for triggerName: trg-import-drivers-of-00s, triggerType: BlobEventsTrigger, resourceName: a2b45fe3-f2f2-0614-1bea-715c7b708dd, EventInfo=[d=a0b3282e-1367-4410-829e-..., Topic=/subscriptions/.../resourceGroups/.../providers/microsoft.storage/storageaccounts/.../blobServices/default/containers/drivers-of-00s/blobs/, EventType=Microsoft.EventGrid.SubscriptionValidationEvent] SystemProperties=[SubscriptionId=c71b9568-..., ResourceGroup=jaf-prd-we-..., TenantId=..., DataFactoryName=..., DataFactoryId=..., DataFactoryVersion=2018-06-01]	7c41399b-eb3a-4fea-83f6-79630fe7c39f	Microsoft.EventGrid.SubscriptionValidationEvent

If we notice, in the above screenshot, it seems like at the mentioned timeframe, there are 2 events occurred. These 2 events are not related to blob creation. The 'SubscriptionDeleted' event is from first stopping the Event Trigger, and the 'SubscriptionValidationEvent' is from successfully starting the new Event Grid subscription for the Event Trigger.


NOTE: If you don't see any output which says Microsoft.Storage.BlobCreated, which means ADF didn't receive the event for Blob creation.

If Customer still having questions, please follow below check list and steps:

1. Verify with customer that the files are being uploaded into the correct container?
2. Check that the file is not empty if ignore empty blob events set to true?

If above both conditions are not the issue, the problem might be on the client side (how the file is getting written to ADLS Gen2 account).

For ADLS Gen2, customer must write to that account in a specific way. The file creation process in an Azure Data Lake Gen 2 Storage Account, starts with the customer opening a file for creation. At this point the file is empty in the Storage Account, but the service will send an event to Azure Data Factory anyway. The payload for this event will have the values for the `api` and `contentLength` properties set to `CreateFile` and `0` respectively. Then, the customer may proceed to append to the file as many times as needed. None of these appends will raise an event until a signal is passed to the service. The last append, needs to signal that the file should be closed for writing with the `close=true` uri parameter. This will send a second event to Azure Data Factory with the values `FlushWithClose` and final size of the file in bytes for the `api` and `contentLength` properties respectively.

Storage has documented this in their api, please see this link for reference: <https://docs.microsoft.com/en-us/rest/api/storageservices/datalakestoragegen2/path/update> 

So customer should ensure that the application is writing to ADLS Gen2 in the expected manner. If they are manually uploading via Storage Explorer and seeing the trigger fire that's because that client is writing correctly. So if a client does not send the 'close=true' signal with the last append, no events will be raised.

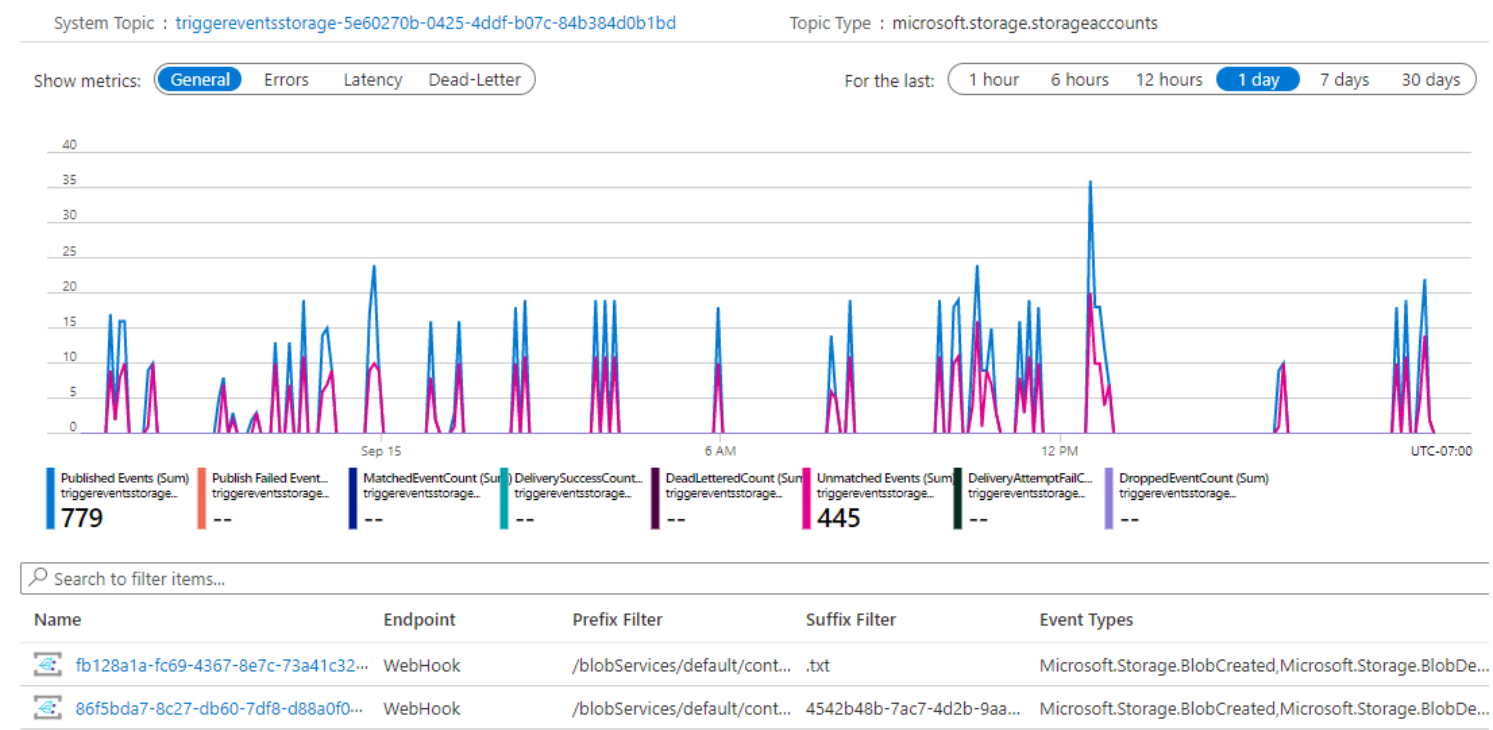
The client should call two APIs per file upload, 'CreateFile' and 'FlushWithClose'.

- If 'ignoreEmptyBlobs' is set to false, then ADF should get two events, one for each API call.
- If the 'ignoreEmptyBlobs' is set to true, we will get only one event when FlushWithClose is called, we ignore the CreateFile event. This is to prevent the trigger from starting pipelines before the file has been fully

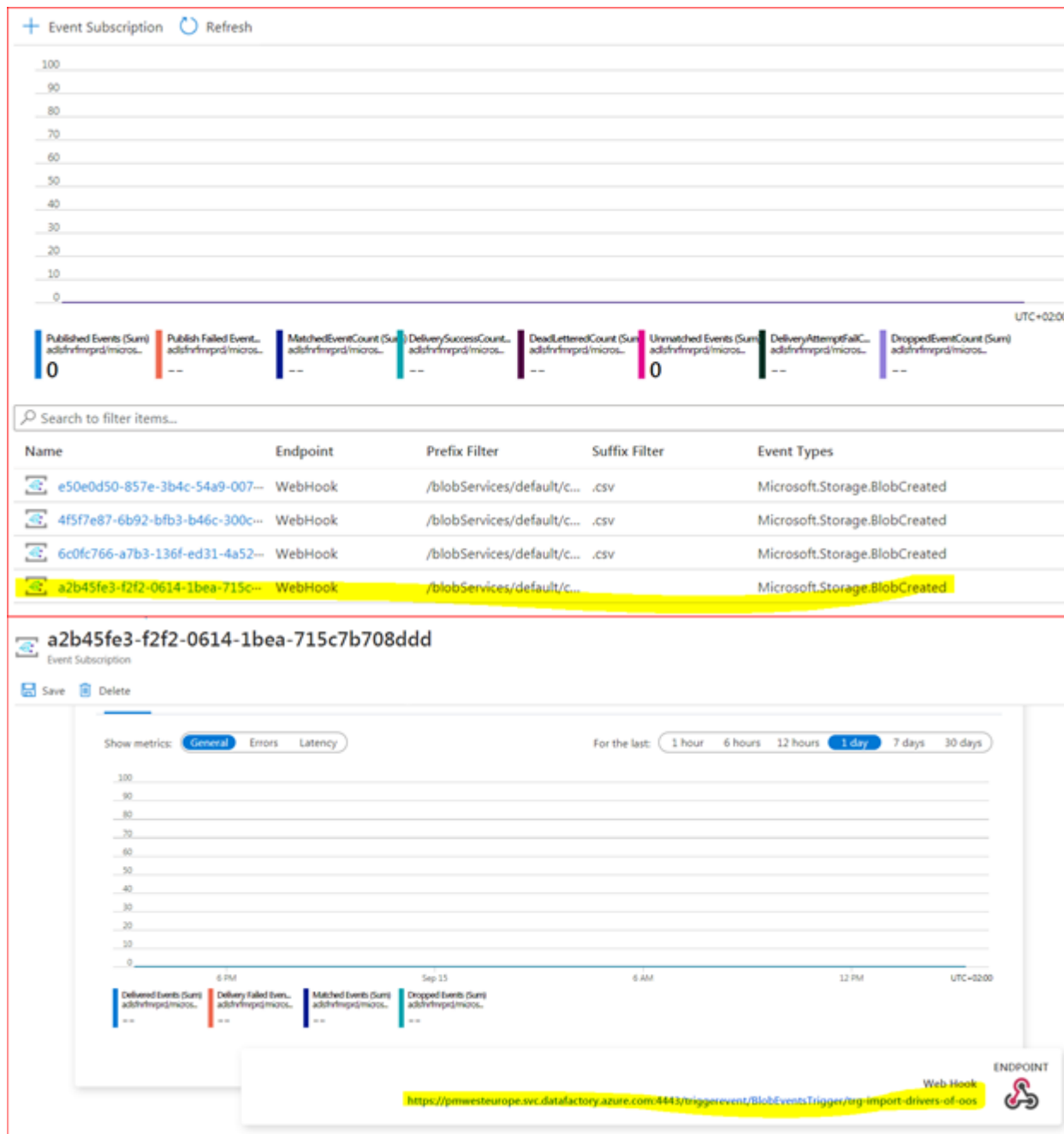
An easy way to check this is to go to that specific ADLS Gen 2 storage account -> click on the Events tab. There you should see all the event grid subscriptions with all the events that have been raised. You can use this to cross check if the events raised meet the trigger criteria you have set up.

Below is the example of what one of a test storage accounts (not the customers!).

Published events (blue) are events that Event Grid would have forwarded to ADF (these are events which we would cause the Event Trigger to trigger pipeline runs) Unmatched events (pink) are events which the storage account raised but did not match the conditions specified like Event Type (and hence Event Grid never forwarded them to ADF)



In this case, customer provided a screenshot and those do not have any Events:



Resolution:

1. Expand the duration to include the time when they created the blob in the container?
2. Have the customer to create another file and check if the even it being raised. (This is preferred, since it will generate new logs and allow ADF team to engage with Event Grid to see why we are not getting events if they are being published (blue)). If the events are unmatched (pink), then there is something wrong with the customers set up. Either the file is being written to the wrong storage location, or it is not matching the filters they have set up in their Event Trigger.

If Events are not getting captured at Storage level, then reach out to Storage team that would help in faster resolution of the case. If the new events are getting captured by meeting the above conditions, raise an ICM to ADFV2 Orchestration team.

Additional Information: [lcm Link](#)

- **Icm References:**
- **Author:** rakatuko, vimals
- **Reviewer:** rakatuko, vimals
- **Keywords:**

How good have you found this content?

