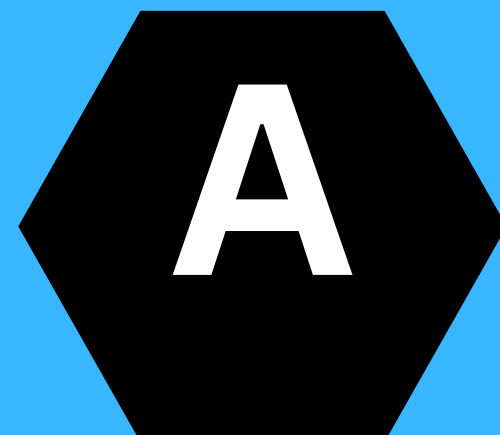
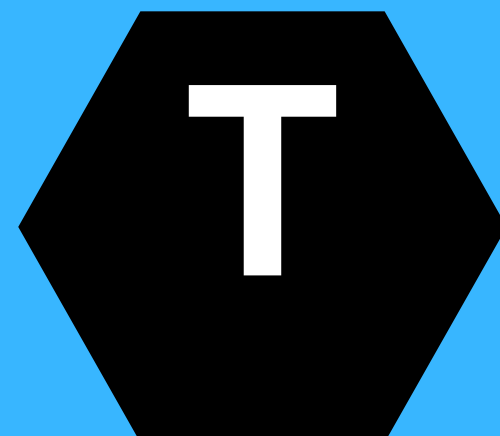




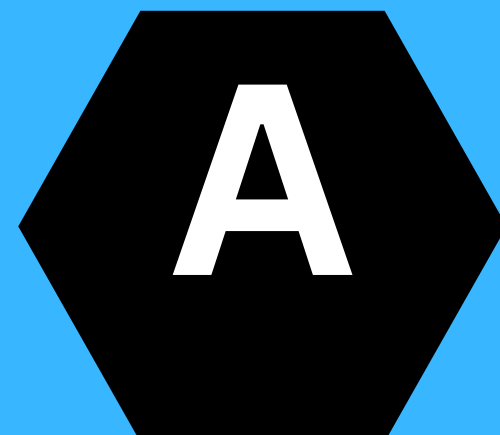
Saturdays



Sofia



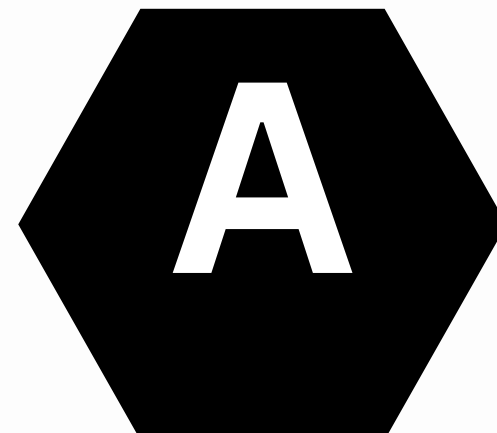
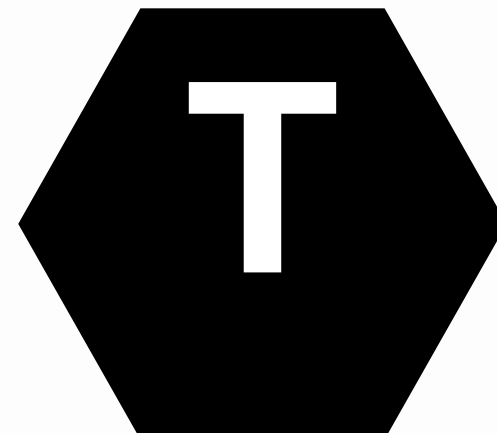
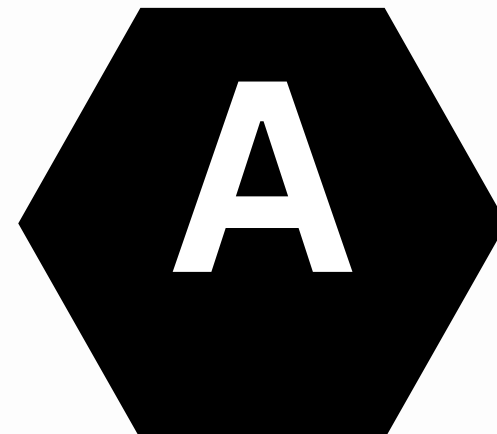
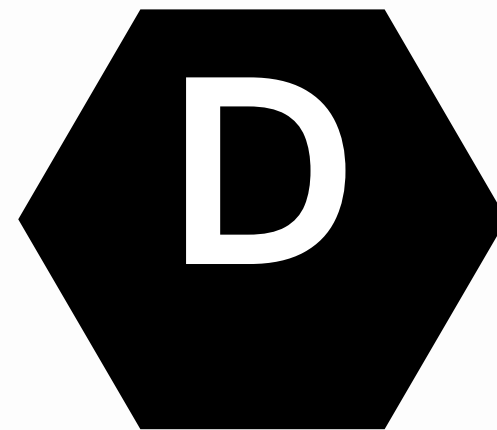
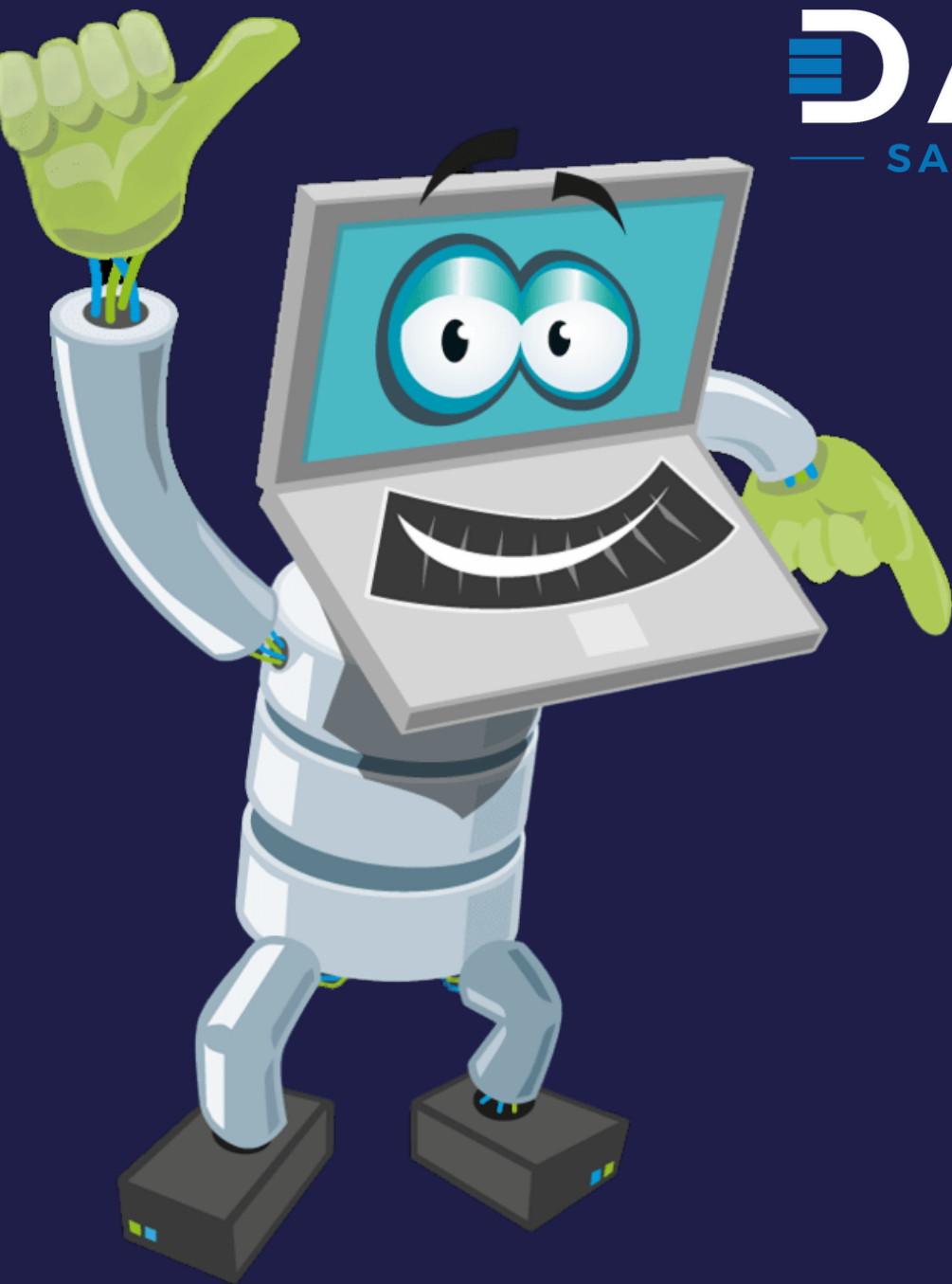
Bulgaria



2024

Big thanks

DATA
— SATURDAYS —



Unleashing the power of Azure Storage Actions: a Serverless data management platform

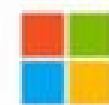


– Massimo Bonanni



Saturdays Sofia 2024

05 | October | 2024



Microsoft

-----Gold sponsor



awara IT

INSPIR



Baringa



**Hi, I'm Gino, your
data maintainer!**

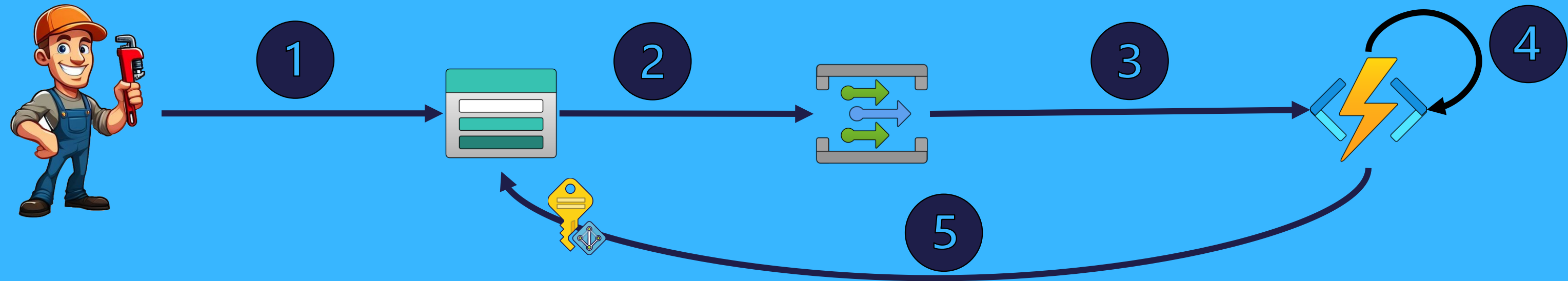
**Today I will tell you
how I minimized my
effort during my
daily job!!**



**I need to implement
a process that
automatically adds
tags to a blob based
on the name prefix**



Scenario 1: Blobs Tagging



1 The blob is uploaded

2 The Storage Account throws the **BlobCreated** event

3 Event Grid rotates the event to an Azure Function

4 The Azure Function check the name of the blob

5 If the name of the blob starts with a specific string, the Azure Functions add index tag to the blob

Scenario 1: Blobs Tagging



Costs → Serverless

Management → 1 Topic

1 Subscription

1 Function App

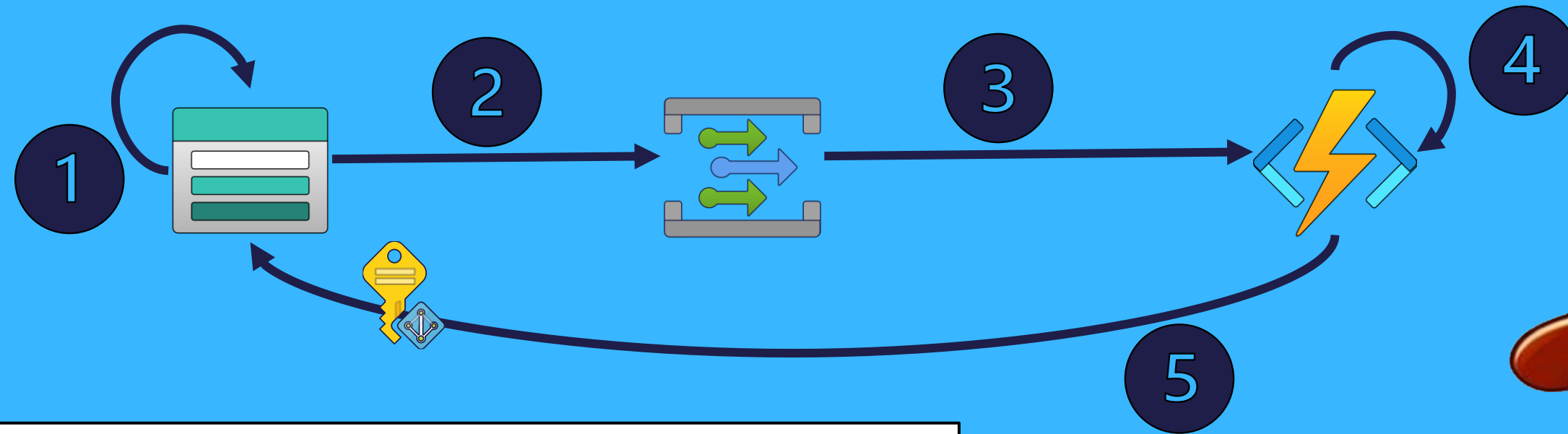
Managed Id.

Development → Azure Function



**I need to
implement a
process that
deletes blobs that
have a specific tag**

Scenario 2: Blobs Deleting



1 The blob inventory is generated

2 The Storage Account throws the **BlobInventoryPolicyCompleted** event

3 Event Grid rotates the event to an Azure Function

4 The Azure Function analyzes the inventory files

5 The Function deletes blobs with specific tag



Scenario 2: Blobs Deleting

Costs → Serverless

Management → 1 Topic
1 Subscription
1 Function App
Managed Id.

Development → Azure Function
(code is more complex than
the other scenario)



DEMO

Storage + Azure Functions



What are Storage Actions?



Azure Storage Actions is a serverless framework that you can use to perform common data operations on millions of objects across multiple storage accounts.



Azure Storage Actions enables you to create storage tasks that can perform operations on blobs in Azure Storage accounts based on a set of conditions that you define.



Storage tasks can process millions of objects in a storage account without provisioning additional compute capacity and without requiring you to write code.

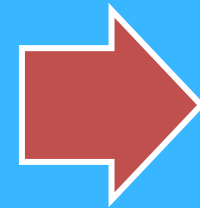


Anatomy of a storage task



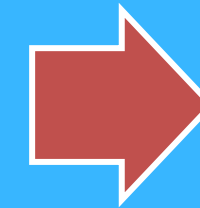
Conditions

- A *condition* is a collection of one or more *clauses*.
- Each clause contains a property, a value, and an operator.
- When the storage task runs, it uses the operator to compare a property with a value to determine whether a clause is met by the target object.



Operations

- An operation is the action a storage task performs on each object that meets the defined set of conditions
- Deleting a blob is an example of an operation.



Assignments

- An assignment identifies a storage account and a subset of objects to target in that account.
- It also specifies when the task runs and where execution reports are stored.

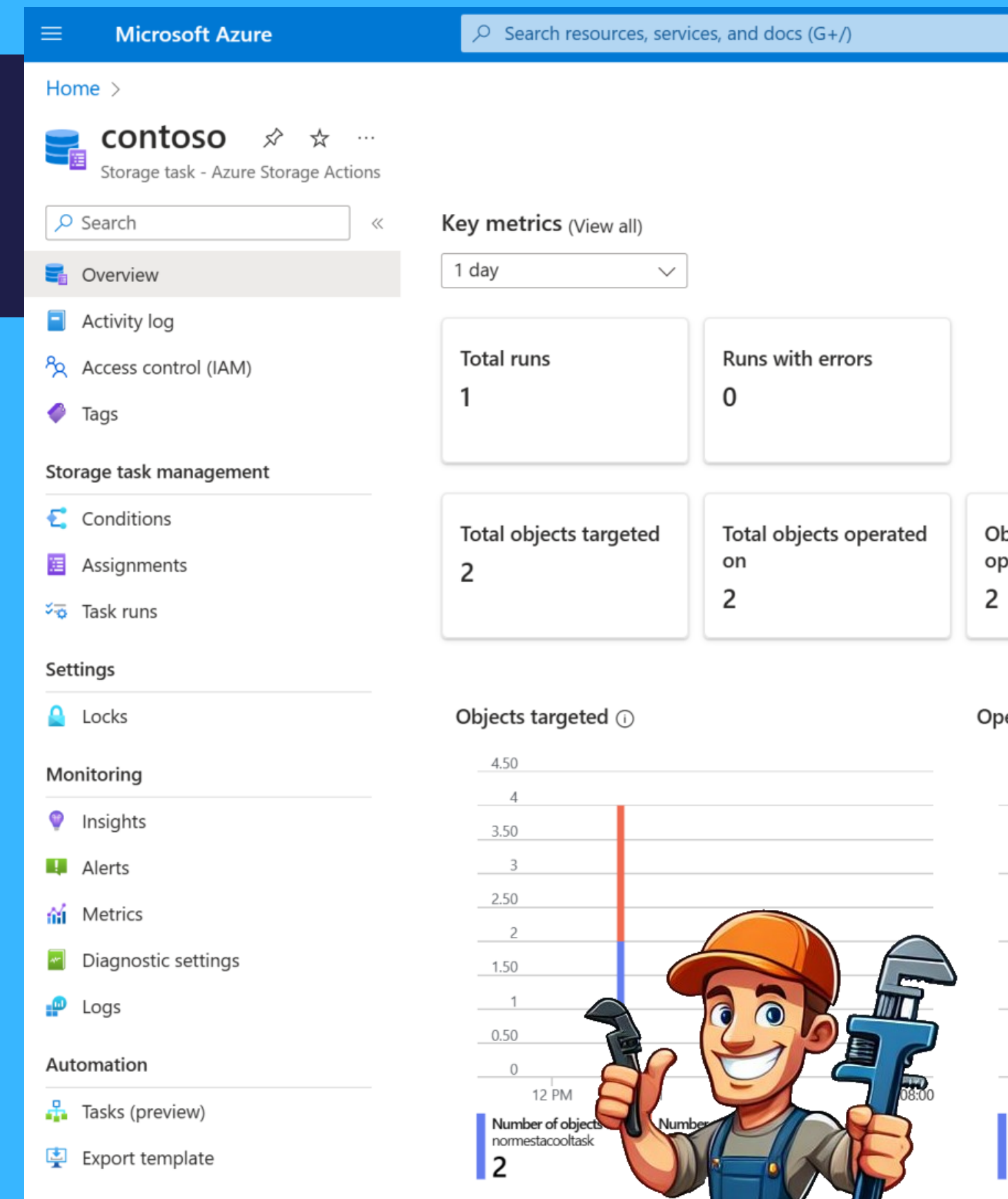
Monitoring

The following metrics appear in the Overview page of each storage task.

- Total number of runs
- Total number of runs that resulted in an error
- Total number of objects targeted by task runs
- Total number of objects operated on
- Total number of objects where an operation succeeded
- Total number of objects where an operation failed

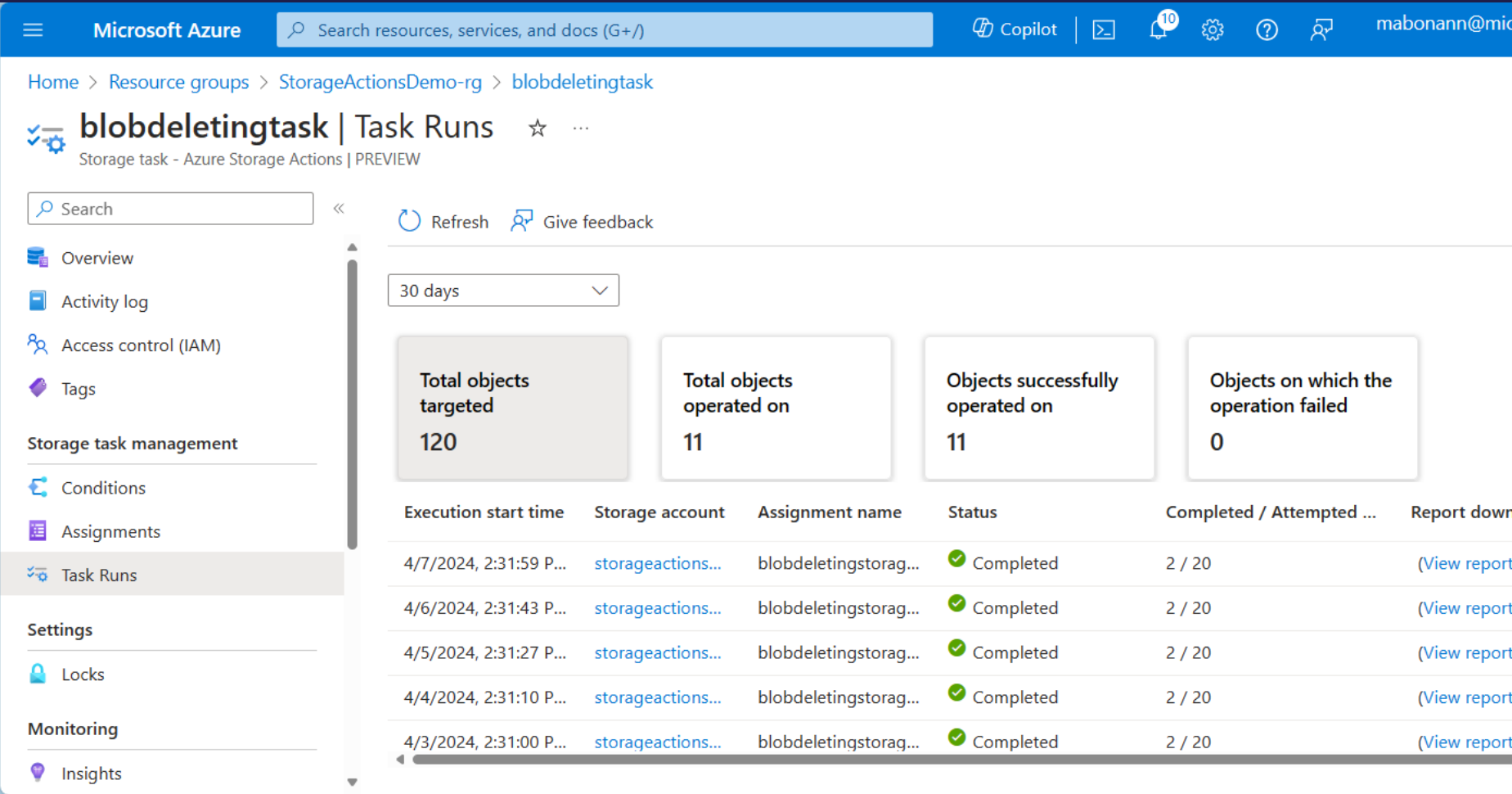
Azure Storage Actions don't support resource logs.

Azure Storage Actions support the activity log only.



Execution Report

For each completed run, you can open a report that lists each object that met the conditions of the task and the outcome of the operation against that object.



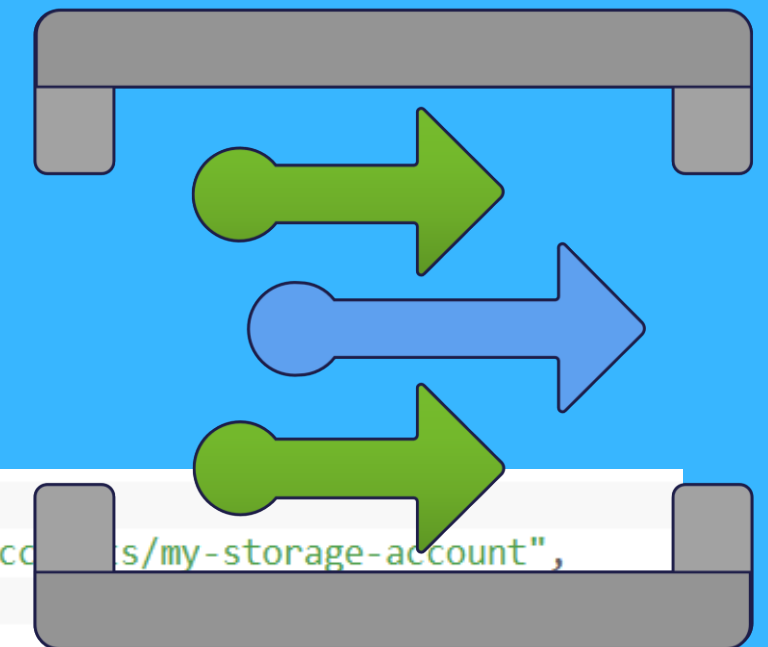
	A	B	C	D	E	F	G	H	I	J
2	Container	Blob	Snapshot	VersionId	Operation	Result	Error description	Error code	Matched condition block	
3	blobdeleting-action	invoice05b5a299-f112-48ce-a18c-15660bf3eb53.txt			DeleteBlob	Success			IF	
4	blobdeleting-action	invoice4ba846ee-8401-4306-8354-877833a98df9.txt				N/A			No conditions were met	
5	blobdeleting-action	invoice51065024-e5ad-47e4-afc6-a625b2c5ddc4.json				N/A			No conditions were met	
6	blobdeleting-action	invoice750debc8-11b8-4016-9872-14207807f505.txt				N/A			No conditions were met	
7	blobdeleting-action	invoice98205875-2b86-4326-a58b-d75b734dd3d3.json				N/A			No conditions were met	
8	blobdeleting-action	invoicebda6a7ff-cc24-4d10-b25e-005579e97d6a.txt				N/A			No conditions were met	
9	blobdeleting-action	invoiced68a235f-b8e2-4330-a99d-2d1d16ae9115.json				N/A			No conditions were met	
10	blobdeleting-action	receipt19f8cf74-a4ac-4d8e-ab70-e60d29d17af0.txt				N/A			No conditions were met	
11	blobdeleting-action	receipt65e0084d-e0f6-43a0-b285-c301308f1c34.txt				N/A			No conditions were met	
12	blobdeleting-action	receipt699b7b36-562f-40bc-84a1-5051164d41cf.json				N/A			No conditions were met	
13	blobdeleting-action	receipt6ffa94c1-4f9d-4642-9bb2-dfb972522f19.txt				N/A			No conditions were met	
14	blobdeleting-action	receipt77006ae3-c015-4e69-ba8f-5398d8d4fe96.json				N/A			No conditions were met	
15	blobdeleting-action	report029614bc-9a83-4aea-94a5-988f0de91db5.txt				N/A			No conditions were met	
16	blobdeleting-action	report1acbc18f-5e79-46cc-8d07-79b887980aff.json				N/A			No conditions were met	
17	blobdeleting-action	report430b368c-149b-4819-8722-defe964d66b5.json				N/A			No conditions were met	
18	blobdeleting-action	report59de033e-6a6c-419f-9cff-892962d25b98.txt				N/A			No conditions were met	
19	blobdeleting-action	report86ae9a69-4f0e-49ee-b9fe-b89e80e6b213.txt				N/A			No conditions were met	

Storage Actions Events



These events are triggered when a storage task is queued and when a storage task run completes:

- **Microsoft.StorageActions.StorageTaskQueued**
- **Microsoft.StorageActions.StorageTaskCompleted**



```
{
  "topic":"/subscriptions/xxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx/resourceGroups/BlobInventory/providers/Microsoft.StorageActions/storageAccounts/my-storage-account",
  "subject":"DataManagement/StorageTasks",
  "eventType":"Microsoft.StorageActions.StorageTaskQueued",
  "id":"8eb4656c-5c4a-4541-91e0-685558acbb1d",
  "data":{
    "queuedDateTime":"2023-08-07T21:35:23Z",
    "taskExecutionId":"testdelete-2023-08-07T21:35:16.9494934Z_2023-08-07T21:35:17.5432186Z"
  },
  "dataVersion":"1.0",
  "metadataVersion":"1",
  "eventTime":"2023-08-07T21:35:23Z"
}
```


DEMO

Storage + Storage Actions



Scenario 1: Blobs Tagging



Costs → Serverless (0 in Preview)

Management → 1 StorageTask
1 Assignment
Managed Id.*

Development → Nothing

- It runs once a day
- It manages also update on blobs

Scenario 2: Blobs Deleting

Costs → Serverless (0 in Preview)

Management → 1 Storage Task
1 Storage Assign.
Managed Id.

Development → Nothing

- It runs once a day



Storage actions limitations



It is in preview...features can be change in the future!!!



During the public preview, you can target only storage accounts that are in the same region as the storage tasks



Storage task assignment execution is autoscaled depending on the transaction request capacity available on the storage account.

Any questions about this?



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@massimobonanni



aka.ms/maxlinkedin

References

 [Azure Storage Actions documentation](#)

 [massimobonanni/AzureStorageActions](#)



Our next !

JS.TALKS ();

- Workshop Day | 22 | Nov | 2024
- Conference Day | 23 | Nov | 2024
- Innovation Forum "John Atanasoff"
- Sofia Tech Park

