

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

Massimo Bonanni



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

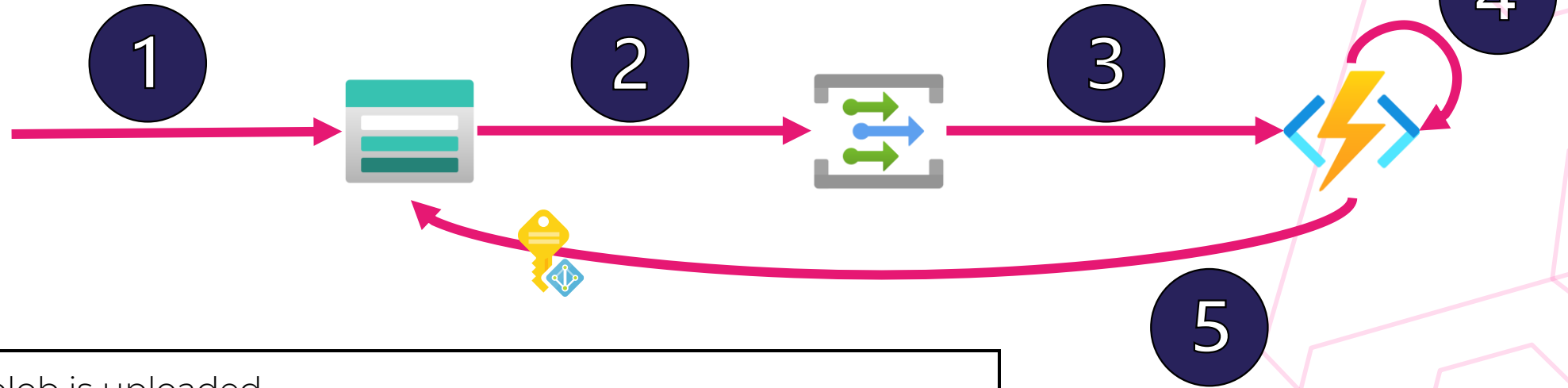
**I need your help to
optimize the effort
during my daily job!!**





**I need to
implement a
process to
automatically add
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 trigger, the Azure Functions add index tag to the blob

Scenario 1: Blobs Tagging



Costs → Serverless

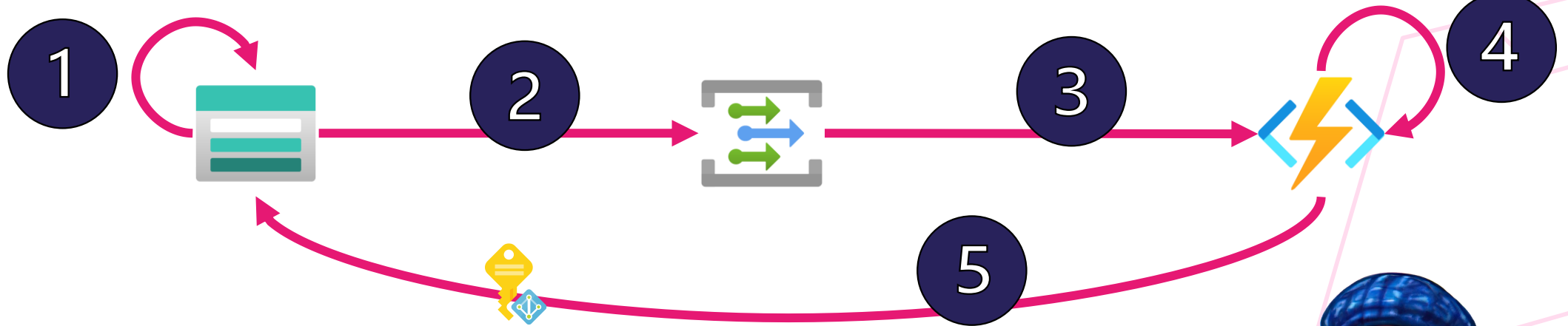
Management → 1 Topic
1 Subscription
1 Function App
Managed Id.

Development → Azure Function

**I need to
implement a
process to delete
blobs with 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 more complex
than the other scenario)



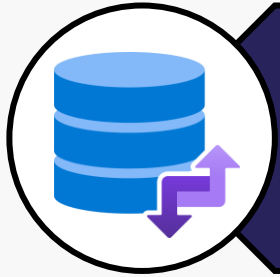
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DEMO

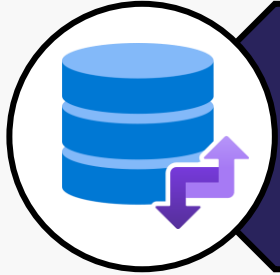
Storage + Azure Functions



What is Azure 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.

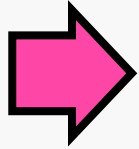


Anatomy of a storage task



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

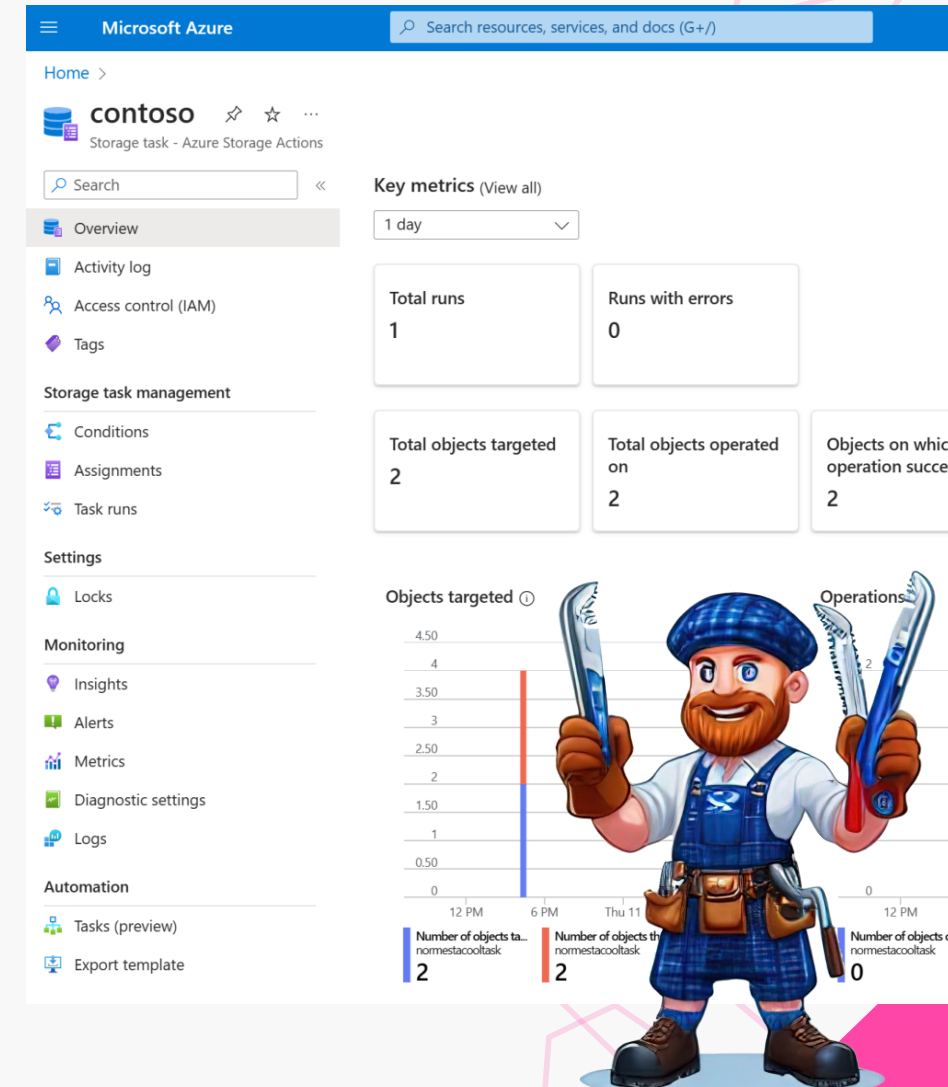


The following metrics appear in the overview page of each storage task.

- 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.



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	

Microsoft Azure

Search resources, services, and docs (G+)

Copilot

Home > Resource groups > StorageActionsDemo-rg > blobdeletingtask

blobdeletingtask | Task Runs

Storage task - Azure Storage Actions | PREVIEW

Search

Refresh Give feedback

Overview

Activity log

Access control (IAM)

Tags

Storage task management

Conditions

Assignments

Task Runs

Settings

Locks

Monitoring

Insights

30 days

Total objects targeted120

Total objects operated on11

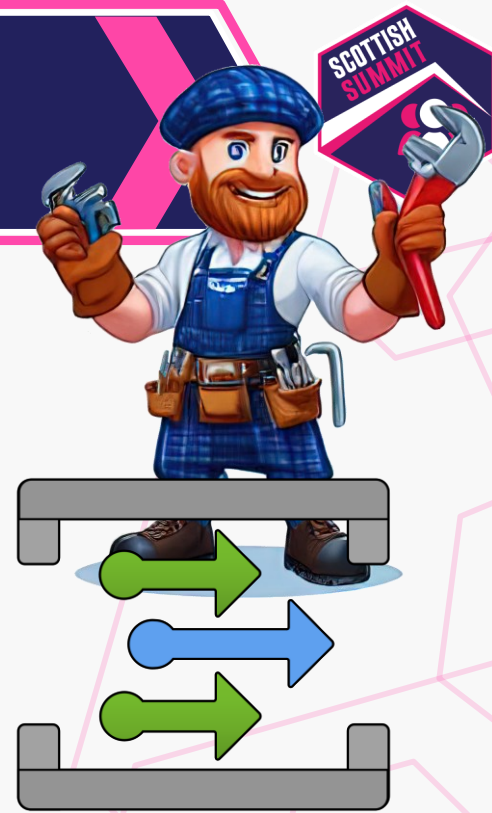
Objects successfully operated on11

Execution start time	Storage account	Assignment name	Status
4/7/2024, 2:31:59 P...	storageactions...	blobdeletingstorag...	Completed
4/6/2024, 2:31:43 P...	storageactions...	blobdeletingstorag...	Completed
4/5/2024, 2:31:27 P...	storageactions...	blobdeletingstorag...	Completed
4/4/2024, 2:31:10 P...	storageactions...	blobdeletingstorag...	Completed
4/3/2024, 2:31:00 P...	storageactions...	blobdeletingstorag...	Completed

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!!!



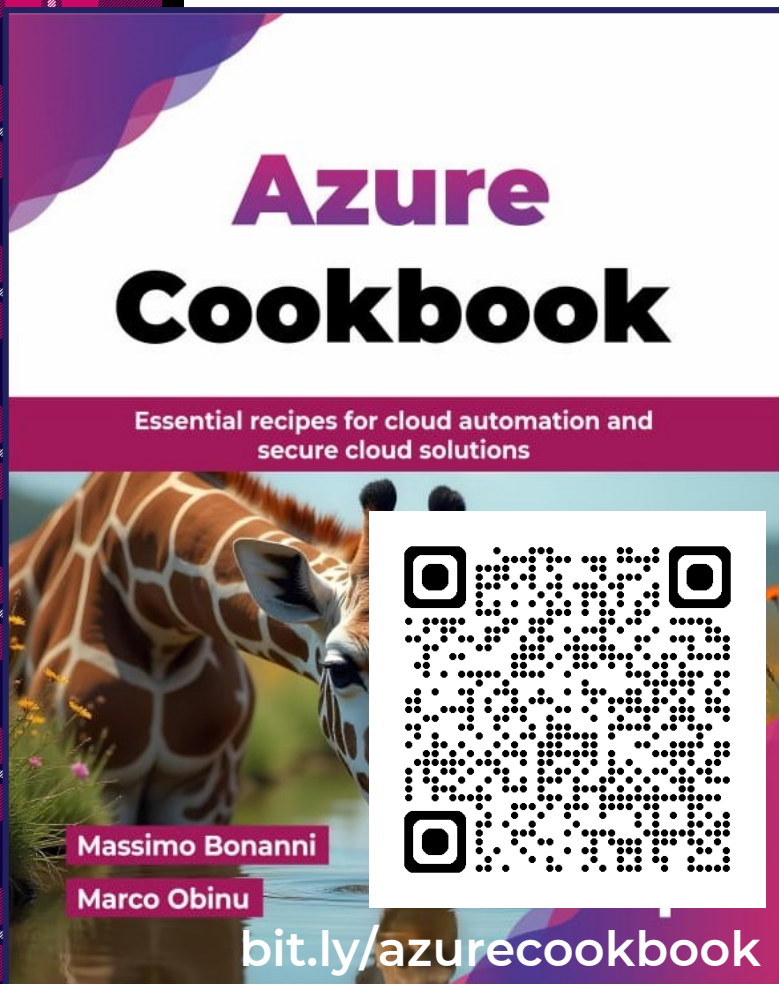
During the public preview, you can target only storage accounts that are in the same region as the storage tasks



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



Any Questions?



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@massimobonanni



Technical
Trainer @
Microsoft



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References



[Azure Storage Actions documentation](#)



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