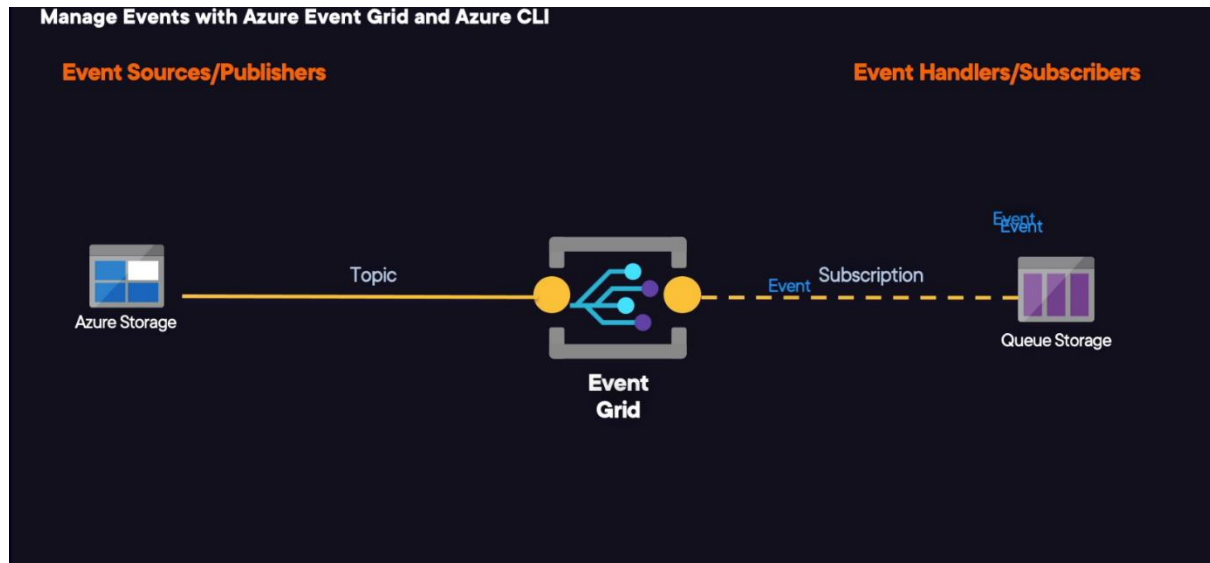


## Project - Manage Events with Azure Event Grid and Azure CLI

### Description

App where users can upload images, which go through an approval process. When an image arrives in a Blob storage container, you want that “new blob” event to be placed in an Azure storage queue for further processing. You are performing a quick proof-of-concept before proposing Event Grid as a solution for this portion of the app.



Create a System Topic Using Azure CLI

Using the Azure portal:

Navigate to the storage account already deployed into the lab environment. The correct storage account has a name that starts with pslab, followed by a few random characters. Do not use the storage account you created as backing for Cloud Storage.

Create a subscription on the system topic you created in the previous objective, with the following properties:

Events should get pushed to your destination whenever a blob is created or deleted.

The destination (or endpoint) is the storage queue that you just confirmed or created in the pslab... storage account.

Leave any other properties not mentioned as their defaults.

## Test the Topic and Subscription Data Flow

Upload a blob to a container in the storage account associated with the system topic created in the prior objective.

Confirm that a PutBlob message has arrived in the Azure Storage queue associated with the subscription created in the prior objective.

### Create a System Topic Using Azure CLI

1. From the command prompt, install the Event Grid extension:
2. `az extension add -n eventgrid`
3. Create a variable for the storageid. Change <STORAGE\_NAME> to the name of the storage account, found up in the **Resources** list in the Azure portal. (It will begin with **pslab**.) Replace <RG\_NAME> with the name of the resource group, found at the top of the **Resource group** overview page:
4. `storageid=$(az storage account show \`
5. `--name <STORAGE_NAME> \`
6. `--resource-group <RG_NAME> \`
7. `--query id \`
8. `--output tsv)`

```
Requesting a Cloud Shell.Succeeded.
Connecting terminal...

Welcome to Azure Cloud Shell

Type "az" to use Azure CLI
Type "help" to learn about Cloud Shell

cloud [ ~ ]$ az extension add -n eventgrid
The installed extension 'eventgrid' is in preview.
cloud [ ~ ]$ storageid=$(az storage account show \
--name az204eventproject \
--resource-group 777-0406608a-manage-events-with-azure-event-grid-a \
--query id \
--output tsv)
cloud [ ~ ]$
```

9. Create the topic. Remember to replace <RG\_NAME> with the same resource group name you copied before. Replace <LOCATION> with the location of the storage account, found in the Azure portal **Resources** list above. Ensure it remains wrapped in double quotes:
10. `az eventgrid system-topic create \`

11. -g <RG\_NAME> \
12. --name blobssystemtopic1 \
13. --topic-type microsoft.storage.storageaccounts \
14. --location "<LOCATION>" \
15. --source \$storageid

You should receive a response that the topic was created.

```
cloud [ ~ ]$ az eventgrid system-topic create \
-g 777-0406608a-manage-events-with-azure-event-grid-a \
--name blobssystemtopic1 \
--topic-type microsoft.storage.storageaccounts \
--location "southcentralus" \
--source $storageid
Command group 'az eventgrid' is in preview and under development. Reference and support levels: https://aka.ms/CLI_refstatus
The behavior of this command has been altered by the following extension: eventgrid
{
  "id": "/subscriptions/2213e8b1-dbc7-4d54-8aff-b5e315df5e5b/resourceGroups/777-0406608a-manage-events-with-azure-event-grid-a/providers/Microsoft.EventGrid/systemTopics/blobssystemtopic1",
  "location": "southcentralus",
  "metricResourceId": "a16381ed-615b-4771-9f13-8fce2b6f49f2",
  "name": "blobssystemtopic1",
  "provisioningState": "Succeeded",
  "resourceGroup": "777-0406608a-manage-events-with-azure-event-grid-a",
  "source": "/subscriptions/2213e8b1-dbc7-4d54-8aff-b5e315df5e5b/resourceGroups/777-0406608a-manage-events-with-azure-event-grid-a/providers/Microsoft.Storage/storageAccounts/az204eventproject",
  "systemData": null,
  "tags": null,
  "topicType": "microsoft.storage.storageaccounts",
  "type": "Microsoft.EventGrid/systemTopics"
}
cloud [ ~ ]$
```

## Create a Subscription on the System Topic

1. Back in the Azure portal, click the link for the storage account found in the resource list (starts with az204eventproject).
2. On the left navigation, under **Data storage**, click **Queues**. Note if a queue exists.

**Note:** You should already have a pre-provisioned queue. If there is no queue created, click **+ Queue** to create one. Enter any name, and click **OK**.

Home > Resource groups > 777-0406608a-manage-events-with-azure-event-grid-a > az204eventproject

**az204eventproject** | Queues ☆ ☆ ...

Storage account

Search

« + Queue Refresh Delete Give feedback

Search queues by prefix

Queue	Url
<input type="checkbox"/> azeventproject	https://az204eventproject.queue.core.windows.net/azeventproject ...

Overview

Activity log

Tags

Diagnose and solve problems

Access Control (IAM)

Data migration

Events

Storage browser

Storage Mover

**Data storage**

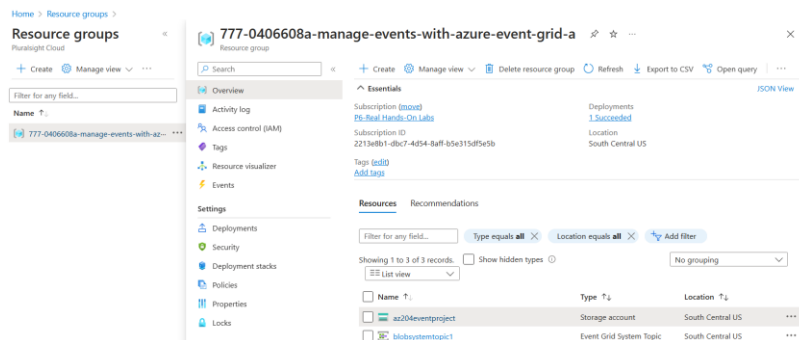
Containers

File shares

**Queues**

Tables

- At the top, click the link in the breadcrumb navigation trail to go back to the resource group.
- Click **Refresh** to get an updated list of resources, which should now also include your **Event Grid System Topic**.



- Click the link for the system topic. Observe at the bottom of the page that there are no event subscriptions.
- Scroll to the top and click **+ Event Subscription**.
- On the **Create Event Subscription** page, configure the following details:
  - Name:** Enter *queuesubscription1*.
  - Filter to Event Types:** Ensure **Blob Created** and **Blob Deleted** are selected.
  - Endpoint Type:** Select **Storage Queues**.
  - Endpoint:** Click the link to **Select an endpoint**. A new pop-up will open.
  - Storage account:** In the pop-up, select the **pslab** storage account. Then, under **Queue**, select the queue that was deployed for you (or the one you just created). Click **Select**.
- Click **Create**. It will take a minute to create. Once created, scroll down and observe that you have one new event subscription.

Home > Resource groups > 777-0406608a-manage-events-with-azure-event-grid-a > blobsystemtopic1 > Event Subscriptions

## Create Event Subscription

Learn more

Event Subscriptions filter for events verified by the topic resource and sent them to the endpoint resource. [Learn more](#)

Event Subscription Details

Name:

Event schema:

Topic Details

Topic name:

Source resource:

Event types

How many event types get pushed to your destination. [Learn more](#)

Filter to Event Types:

Endpoint Details

How many endpoints to receive your events. [Learn more](#)

Endpoint type:

Endpoint:

Managed identity for delivery

Managed identity type:

[Create](#)

## Test the Topic and Subscription Data Flow

1. From the breadcrumb navigation trail at the top, click the link to navigate back to the resource group.
2. Click the link for the **Storage account** (begins with **pslab**).
3. From the left navigation panel, under **Data storage**, click **Containers**.
4. Click the blob container (i.e., **container1**).
5. At the top, click **Upload**.
6. Add a random, small text file. Then, click **Upload**.
7. One uploaded, click the last link in the breadcrumb navigation trail to go back to the storage UI.
8. From the left navigation, under **Data storage**, click **Queues**.
9. Click the storage queue to open it. You should see a message containing some JSON that can be consumed by the next service in the pipeline. If you don't see this message, click **Refresh**.

Home > Resource groups > 777-0406608a-manage-events-with-azure-event-grid-a > az204eventproject | Queues >

azeventproject

Queue

Search

Refresh + Add message Dequeue message Clear queue Give feedback

Overview

Diagnose and solve problems

Access Control (IAM)

Settings

Access policy

Metadata

Authentication method: Access key (Switch to Microsoft Entra user account)

Search to filter items...

Id	Message text	Insertion
7b1b2976-18b9-4283-941c-64b05fc5167f	{"topic":"/subscriptions/2213e8b1-dbc7-4d54-8aff-b5e315df5e5b/resourceGroups/777-0406608a-manage-events-with-azure-event-grid-a/providers/Microsoft.Storage/storageAccounts/az204eventproject","subject":"/blobServices/default/containers/container1/blobs/UserCreateTemplate.csv","eventType":"Microsoft.Storage.BlobCreated","data":{"api":"PutBlob","clientRequestId":"e1445272-5916-429b-b369-cf934bce1034","requestId":"d5c2a7db-f01e-0009-4f1e-2a40e806ad25","eTag":"0x8DBF83523DF5D9F","contentType":"application/vnd.ms-excel","contentLength":574,"blobType":"BlockBlob","url":"https://az204eventproject.blob.core.windows.net/container1/UserCreateTemplate.csv","sequencer":"00000000000000000000","batchId":"baa2e7d5-9006-00d5-001e-2a12bb000000"},"dataVersion":"","metadataVersion":"1","eventT	08/12/20

Message properties

ID

7b1b2976-18b9-4283-941c-64b05fc5167f

MESSAGE BODY

{"topic":"/subscriptions/2213e8b1-dbc7-4d54-8aff-b5e315df5e5b/resourceGroups/777-0406608a-manage-events-with-azure-event-grid-a/providers/Microsoft.Storage/storageAccounts/az204eventproject","subject":"/blobServices/default/containers/container1/blobs/UserCreateTemplate.csv","eventType":"Microsoft.Storage.BlobCreated","data":{"api":"PutBlob","clientRequestId":"e1445272-5916-429b-b369-cf934bce1034","requestId":"d5c2a7db-f01e-0009-4f1e-2a40e806ad25","eTag":"0x8DBF83523DF5D9F","contentType":"application/vnd.ms-excel","contentLength":574,"blobType":"BlockBlob","url":"https://az204eventproject.blob.core.windows.net/container1/UserCreateTemplate.csv","sequencer":"00000000000000000000","batchId":"baa2e7d5-9006-00d5-001e-2a12bb000000"},"dataVersion":"","metadataVersion":"1","eventT

INSERTION TIME

Fri Dec 08 2023 21:32:12 GMT+0000 (Greenwich Mean Time)

EXPIRATION TIME

Fri Dec 15 2023 21:32:12 GMT+0000 (Greenwich Mean Time)

DEQUEUE COUNT

0

[https://portal.azure.com/#view/Microsoft.Azure.Storage.QueueMenu/blade/-/troubleshoot/storageAccountId/subscriptions/\\_events-with-azure-event-grid-a/providers/Microsoft.Storage/storageAccounts/az204eventproject/queueName/azeventproject](https://portal.azure.com/#view/Microsoft.Azure.Storage.QueueMenu/blade/-/troubleshoot/storageAccountId/subscriptions/_events-with-azure-event-grid-a/providers/Microsoft.Storage/storageAccounts/az204eventproject/queueName/azeventproject)

