

PROJECT ARCHITECTURE



WRITING EVENTS

```
(transaction_simulator)
pierr@DESKTOP-80UJGFO MINGW64 /g/DATAENGINEER REPOSITORIES/PROJECTS/Real Time Trans
tions - Azure/transaction_simulator (main)
$ python write-transactions-stream.py
{'id_registro': '616ea835-4128-49d5-bcf1-d66e86ecaec', 'date': '2024-02-07 18:45:3
', 'client': 'Soledad Sanz', 'transaction_type': 'retiro', 'amount': 9188.59}
{'id_registro': '47e79750-be30-41d5-b280-6149e4c06fa7', 'date': '2024-02-07 18:45:4
', 'client': 'Alisa Perko', 'transaction_type': 'deposito', 'amount': 5369.47}
{'id_registro': 'a2f615eb-54d8-4fbc-9b8e-1f018dd76b9c', 'date': '2024-02-07 18:45:4
', 'client': 'Susanna Sims', 'transaction_type': 'deposito', 'amount': 8200.68}
{'id_registro': 'c728d563-bf3b-4ff2-b231-014e561eb5de', 'date': '2024-02-07 18:45:4
', 'client': 'Jeremiah Henry', 'transaction_type': 'deposito', 'amount': 6853.05}
{'id_registro': '6a2d3121-0e76-45bb-a196-9c03709e3c52', 'date': '2024-02-07 18:45:4
', 'client': 'Carmelo Gallego', 'transaction_type': 'deposito', 'amount': 6449.67}
{'id_registro': 'd22c9898-1566-4822-83b7-cfd5630a483b', 'date': '2024-02-07 18:45:5
', 'client': 'Todd Duncan', 'transaction_type': 'deposito', 'amount': 6481.71}
{'id_registro': '670970e3-fc8c-46b6-b2e0-92ee365d32e4', 'date': '2024-02-07 18:45:5
', 'client': 'Vetle Frivold', 'transaction_type': 'retiro', 'amount': 3130.95}
{'id_registro': 'ec61c3b3-ce34-4706-9152-4d286e994fc6', 'date': '2024-02-07 18:45:5
', 'client': 'Mehmet Sieber', 'transaction_type': 'retiro', 'amount': 2132.46}
{'id_registro': 'fd365c5f-99f4-4437-94c2-9e37aa76893c', 'date': '2024-02-07 18:45:5
', 'client': 'Armando Berry', 'transaction_type': 'retiro', 'amount': 3999.41}
{'id_registro': 'be6e0966-8d91-4e04-ae8-3a14e38cf6', 'date': '2024-02-07 18:45:5
', 'client': 'Hailey Roy', 'transaction_type': 'deposito', 'amount': 5064.25}
{'id_registro': 'b5943257-90c6-43ae-8c5f-af1636ab58e0', 'date': '2024-02-07 18:46:0
', 'client': 'Miguel Ángel Riojas', 'transaction_type': 'retiro', 'amount': 5156.18}
{'id_registro': '055b7c8c-2f9d-4954-834a-f46d106214a9', 'date': '2024-02-07 18:46:0
', 'client': 'Angela Bailey', 'transaction_type': 'deposito', 'amount': 4442.12}
{'id_registro': '3da9f3c8-8238-4ea5-b937-969caaa234be', 'date': '2024-02-07 18:46:0
', 'client': 'Rossano da Cruz', 'transaction_type': 'retiro', 'amount': 24.56}
{'id_registro': '9926f029-8d6f-42e5-91bd-5dd615f73300', 'date': '2024-02-07 18:46:0
', 'client': 'Asklipiya Tatarenko', 'transaction_type': 'retiro', 'amount': 5302.31}
```

RECEIVING EVENTS

```
(transaction_simulator)
pierr@DESKTOP-80UJGFO MINGW64 /g/DATAENGINEER REPOSITORIES/PROJECTS/Real T
actions - Azure/transaction_simulator (main)
$ python recv-transactions-stream.py
Received event from partition: 1.
{ body: '{"id_registro": "42bf37e3-3584-4337-ad78-88b5bf2e4b8b", "date": "
7 18:20:56", "client": "Rosa Larsen", "transaction_type": "retiro", "amoun
43}', properties: {}, offset: 0, enqueued_time=datetime.datetime(2024, 2,
, 57, 660000, tzinfo=datetime.timezone.utc) }
Received event from partition: 0.
{ body: '{"id_registro": "1e9a9f05-2fdd-4933-9d5e-3a522b8a4325", "date": "
7 18:20:58", "client": "Jessie Owens", "transaction_type": "deposito", "am
22.24}', properties: {}, offset: 0, enqueued_time=datetime.datetime(2024,
20, 59, 957000, tzinfo=datetime.timezone.utc) }
Received event from partition: 1.
{ body: '{"id_registro": "aaa924e8-5595-4ba9-824a-3d409c334239", "date": "
7 18:21:00", "client": "Beatrice Carpentier", "transaction_type": "deposit
nt": 503.37}', properties: {}, offset: 216, sequence_number: 1, enqueued_t
ime.datetime(2024, 2, 7, 23, 21, 2, 144000, tzinfo=datetime.timezone.utc)
Received event from partition: 0.
{ body: '{"id_registro": "0de12620-1c2d-48fd-a951-34a89cd0a2ad", "date": "
7 18:21:02", "client": "Sophie Jackson", "transaction_type": "retiro", "am
61.46}', properties: {}, offset: 216, sequence_number: 1, enqueued_time=da
tetime(2024, 2, 7, 23, 21, 4, 285000, tzinfo=datetime.timezone.utc) }
Received event from partition: 1.
{ body: '{"id_registro": "c28e2a1d-4177-490d-aa71-3d6834818dca", "date": "
7 18:21:04", "client": "Vincent Hughes", "transaction_type": "deposito", "
814.43}', properties: {}, offset: 440, sequence_number: 2, enqueued_time=d
atetime(2024, 2, 7, 23, 21, 6, 425000, tzinfo=datetime.timezone.utc) }
Received event from partition: 0.
{ body: '{"id_registro": "a576eb4a-e218-4dcc-b4e4-f7ba8c4dd980", "date": "
7 18:21:07", "client": "Priscilla West", "transaction_type": "retiro", "am
69.59}', properties: {}, offset: 432, sequence_number: 2, enqueued_time=da
tetime(2024, 2, 7, 23, 21, 8, 582000, tzinfo=datetime.timezone.utc) }
```

EVENT HUBS - OVERVIEW



Microsoft Azure

Search resources, services, and docs (G+)



DEFAULT DIRECTORY



Home >



evh-entity-realtime (evh-realtimetransactions/evh-entity-realtime)



Event Hubs Instance

Search



+ Consumer group

Delete

Refresh

Give feedback

Overview

Access control (IAM)

Diagnose and solve problems

Settings

Shared access policies

Configuration

Properties

Locks

Entities

Consumer groups

Features

Capture

Generate data (preview)

Process data

Event Hub Contents
1 CONSUMER GROUP

Event Hub status
ACTIVE

Cleanup policy
DELETE

Partition count
2

Show data for the last:

1 hour

6 hours

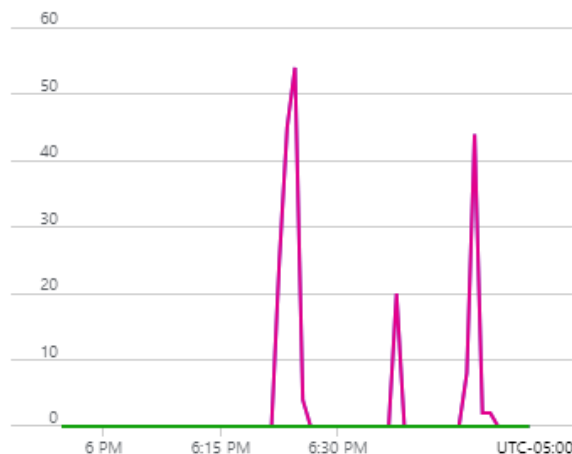
12 hours

1 day

7 days

30 days

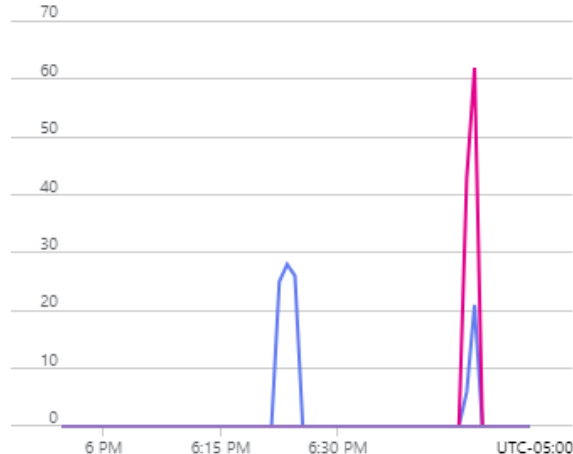
Requests



Incoming Requests (Sum)
evh-realtimetransact...
204

Successful Requests ...
evh-realtimetransact...
204

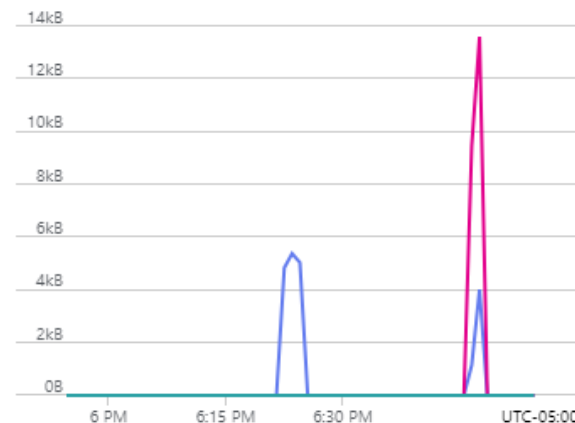
Messages



Incoming Messages (Sum)
evh-realtimetransact...
106

Outgoing Messages (Sum)
evh-realtimetransact...
105

Throughput



Incoming Bytes. (Sum)
evh-realtimetransact...
20.4 kB

Outgoing Bytes. (Sum)
evh-realtimetransact...
23.03 kB

STREAM ANALYTICS - QUERY

Microsoft Azure

Search resources, services, and docs (G+)

DEFAULT DIRECTORY

Home > asa-real-time-transactions

<> asa-real-time-transactions | Query ☆ ...

Stream Analytics job

Search

«

▶ Start job

📄 Open in VS Code

🔧 Diagnostic settings

🔄 Refresh

📖 Query language docs

😊 Share feedback

🎓 Tutorial

✅ Job ready to start

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Job topology

Inputs

Functions

<> Query

Outputs

No-code editor (preview)

Settings

Environment

Storage account settings

Scale

Locale

Inputs (1)

labinput

Outputs (1)

labouputs

Functions (0)

Test query

Save query

Discard changes

```
1 SELECT
2   id,
3   client,
4   transaction_type,
5   amount,
6   date
7 INTO
8   [labouputs]
9 FROM
10  [labinput]
```

Input preview

Test results

Job simulation (preview)

Download results

id	client	transaction_type	amount	date
string	string	string	float	datetime
"b373f328-6150-4cb6-ad...	"Leslie Weaver"	"deposito"	1166.26	"2024-02-07 22:13:39"
"9422d032-ba54-4dc1-8...	"Vlatka Golubović"	"deposito"	2375.38	"2024-02-07 22:13:41"
"163d2ba1-da2a-4809-8...	"Ester Samchuk"	"retiro"	3875.05	"2024-02-07 22:13:44"
"da4e216c-278c-4600-8f...	"Lily Knight"	"deposito"	1186.73	"2024-02-07 22:13:46"

STREAM ANALYTICS - OVERVIEW



Microsoft Azure

Search resources, services, and docs (G+)



DEFAULT DIRECTORY



Home >



asa-real-time-transactions



Stream Analytics job



» ☐ Stop job ☐ Delete → Move ▾ ↻ Refresh 😊 Share feedback

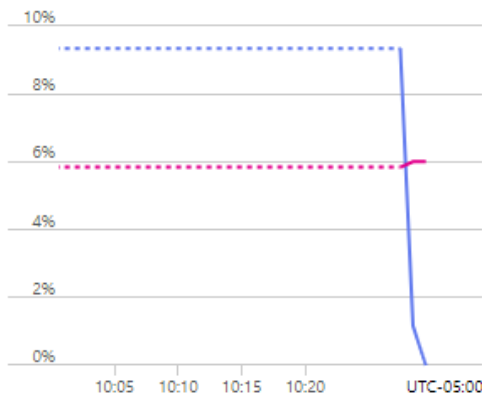
Running



▼ Key metrics [See all metrics](#)

Show data for : Last 30 minutes

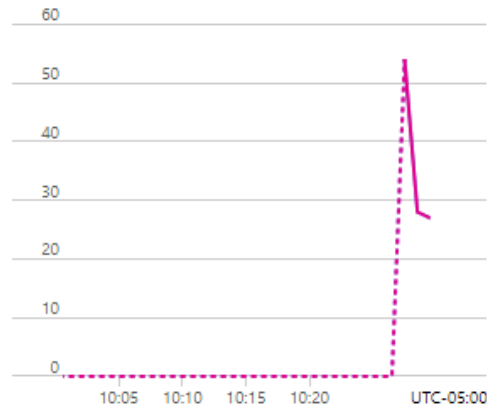
Resource utilization



CPU % Utilization (Avg)
asa-real-time-transa...
3.5000 %

SU (Memory) % Utiliz...
asa-real-time-transa...
5.9444 %

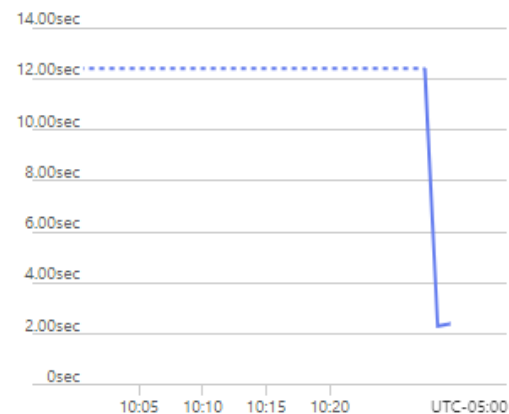
Events count



Input Events (Sum)
asa-real-time-transa...
109

Output Events (Sum)
asa-real-time-transa...
109

Watermark delay



Watermark Delay (Avg)
asa-real-time-transactions
5.72 sec

COSMOS DB – DATA QUERY

Microsoft Azure

Search resources, services, and docs (G+/)

🔍

🔖

🔔

⚙️

❓

👤

DEFAULT DIRECTORY (022118100...

Home > Resource groups > rg-real-time-transactions > cosmo-real-time-transactions

cosmo-real-time-transactions | Data Explorer

☆ ...

Azure Cosmos DB account

Search

«

📄

🔍

🔗

🔄

📄

📄

⚙️

New Item

Update

Discard

Delete

Upload Item

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Quick start

Notifications

Data Explorer

Settings

Features

Default consistency

Backup & Restore

Networking

CORS

Dedicated Gateway

Keys

NOSQL API

Home

transactions - l... x

DATA

lab_analytics

transactions

Items

Settings

Stored Procedures

User Defined Functions

Triggers

NOTEBOOKS

Notebooks is currently not available. We are working on it.

SELECT * FROM c

Edit Filter

id	/id
5eeff25...	5eeff25...
98a891...	98a891...
a5864c...	a5864c...
6921aa...	6921aa...
6074f52...	6074f52...
2df6dc0...	2df6dc0...
e6ddf3c...	e6ddf3c...
a7959b...	a7959b...
4da294...	4da294...
088c5c...	088c5c...
459f0b2...	459f0b2...
76c673...	76c673...
9e6b3e...	9e6b3e...

1

2

3

4

5

6

7

8

9

10

11

12

{

"id": "5eeff25c-ab79-4d81-b595-7a6bf1455a54",

"client": "Oona Hautala",

"transaction_type": "retiro",

"amount": 4479.24,

"date": "2024-02-07 22:24:54",

"_rid": "Vi81AJijUokBAAAAAAAAA==",

"_self": "dbs/Vi81AA=/colls/Vi81AJijUok=/docs/Vi81AJijUokBAAAAAAAAA=

"_etag": "\"0e0065c5-0000-0200-0000-65c449c50000\"",

"_attachments": "attachments/",

"_ts": 1707362757

}