

Event Hub Testing with Service Bus Explorer and CluedIn

Purpose

Let's use service bus explorer from the very beginning to understand what a freshly minted event hub looks like and how to configure it for use with CluedIn.

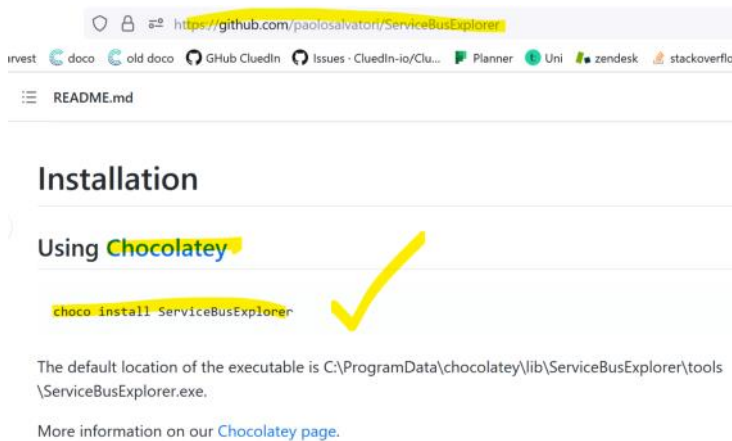
Results

Events seen in the event hub as sent from CluedIn.

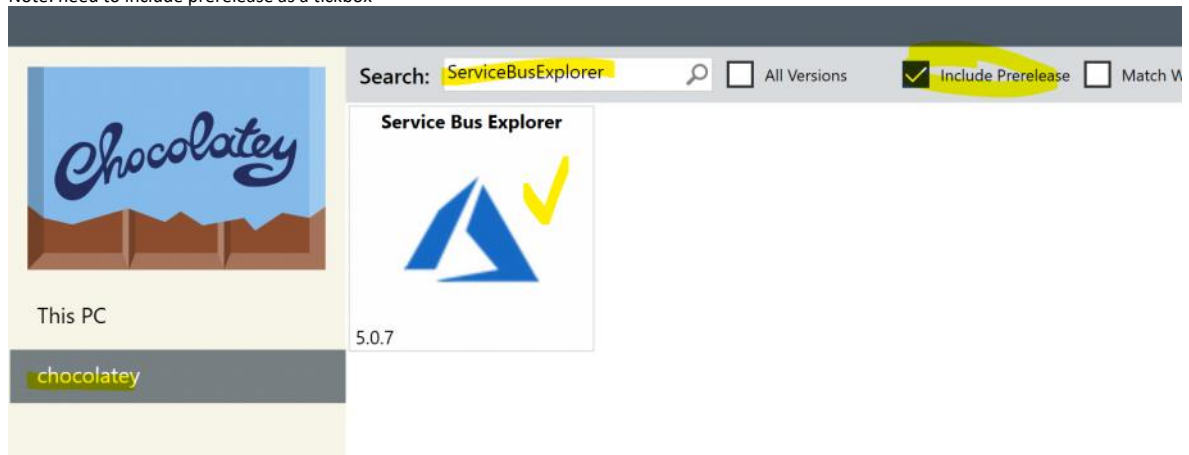
Method

Setup

Install Service Bus Explorer



Note: need to include prerelease as a tickbox



run as admin

<C:\ProgramData\chocolatey\lib\ServiceBusExplorer\tools\ServiceBusExplorer.exe>

Create Event Hub

Let's create an event hub in the event hub namespace

Create Event Hub

Event Hubs

[Basics](#) [Capture](#) [Review + create](#)

Event Hub Details

Enter required settings for this event hub, including partition count and message retention.

Name *	<input type="text" value="TestEventHub1"/>
Partition Count	<input type="range" value="2"/>
Message Retention	<input type="range" value="1"/>

[Basics](#) [Capture](#) [Review + create](#)

Capture Details

The Capture feature is not available in a Basic Tier Namespace. Please upgrade your Namespace to access this feature.

Capture 

testeventhub1

Event Hubs Instance

eventhub/testeventhub1

[+ Consumer group](#) [Delete](#) [Refresh](#)

Overview

- [Access control \(IAM\)](#)
- [Diagnose and solve problems](#)

Settings

- [Shared access policies](#)
- [Properties](#)
- [Locks](#)

Entities

Essentials

[JSON View](#)

Resource group (move)	Status
eventhub-rg	Active
Location	Namespace
	eventhub
Subscription (move)	Created
	at 08:58:34 GMT+10
Subscription ID	Updated
	at 08:58:39 GMT+10
Partition Count	Message Retention
2	1 day

Resource JSON



testeventhub1 (eventhub/testeventhub1)

Resource ID

API version

```
1 {
2   "id": "/subscriptions/ resourceGroups,
3   "name": "testeventhub1",
4   "type": "Microsoft.EventHub/Namespace/EventHubs",
5   "location": " ",
6   "properties": {
7     "messageRetentionInDays": 1,
8     "partitionCount": 2,
9     "status": "Active",
10    "createdAt": "8:58:34.243",
11    "updatedAt": "58:39.017",
12    "partitionIds": [
13      "0",
14      "1"
15    ]
16  }
17 }
```

read

<https://docs.microsoft.com/en-us/azure/event-hubs/>
<https://docs.microsoft.com/en-us/azure/event-hubs/event-hubs-about>

Azure Event Hubs is a big data streaming platform and event ingestion service. It can receive and process millions of events per second. Data sent to an event hub can be transformed and stored by using any real-time analytics provider or batching/storage adapters.

The following scenarios are some of the scenarios where you can use Event Hubs:

- Anomaly detection (fraud/outliers)
- Application logging
- Analytics pipelines, such as clickstreams
- Live dashboards
- Archiving data
- Transaction processing
- User telemetry processing
- Device telemetry streaming

Capture event data

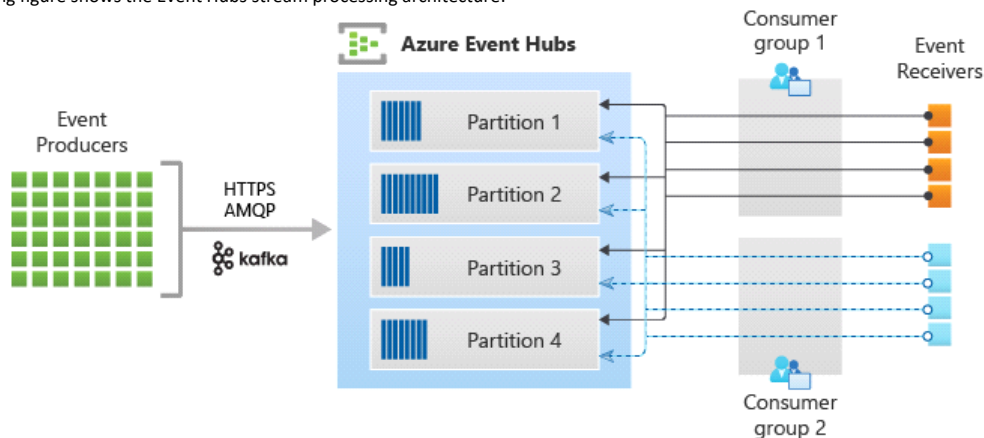
Capture your data in near-real time in an [Azure Blob storage](#) or [Azure Data Lake Storage](#) for long-term retention or micro-batch processing. You can achieve this behavior on the same stream you use for deriving real-time analytics. Setting up capture of event data is fast. There are no administrative costs to run it, and it scales automatically with Event Hubs [throughput units](#) or [processing units](#). Event Hubs enables you to focus on data processing rather than on data capture.

Key architecture components

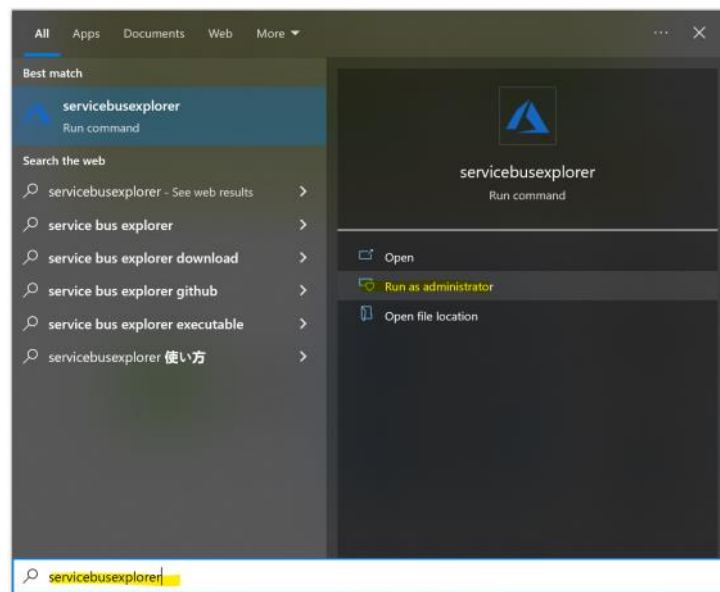
Event Hubs contains the following [key components](#):

- **Event producers:** Any entity that sends data to an event hub. Event publishers can publish events using HTTPS or AMQP 1.0 or Apache Kafka (1.0 and above)
- **Partitions:** Each consumer only reads a specific subset, or partition, of the message stream.
- **Consumer groups:** A view (state, position, or offset) of an entire event hub. Consumer groups enable consuming applications to each have a separate view of the event stream. They read the stream independently at their own pace and with their own offsets.
- [Throughput units \(standard tier\)](#) or [processing units \(premium tier\)](#) or [capacity units \(dedicated\)](#) : Pre-purchased units of capacity that control the throughput capacity of Event Hubs.
- **Event receivers:** Any entity that reads event data from an event hub. All Event Hubs consumers connect via the AMQP 1.0 session. The Event Hubs service delivers events through a session as they become available. All Kafka consumers connect via the Kafka protocol 1.0 and later.

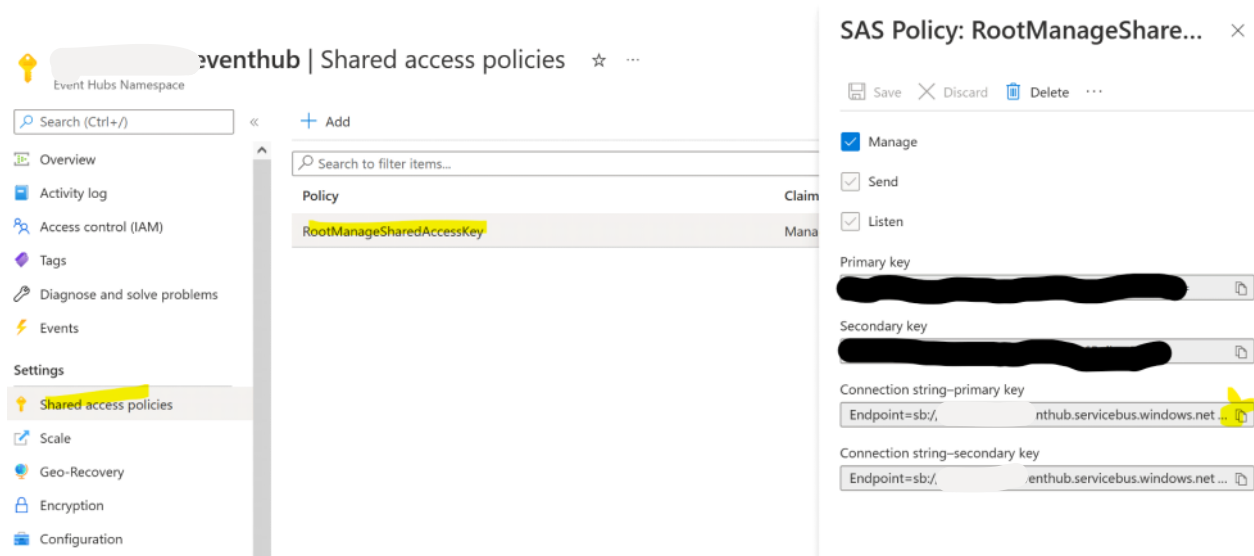
The following figure shows the Event Hubs stream processing architecture:



[Connect to the blank event hub with ServiceBusExplorer](#)



let's try the default connection string



Endpoint=sb://-
eventhub.servicebus.windows.net/;SharedAccessKeyName=RootManageSharedAccessKey;SharedA
ccessKey=LcWsbG<redacted>Gx3r9VFUc=

Connect to a Service Bus Namespace

Service Bus Namespaces

Enter connection string...

Filter Expressions

Selected Entities:

Queues, Topics, Event Hubs, Notification Hubs, Relays

Queue Filter Expression:

Topic Filter Expression:

Subscription Filter Expression:

Configuration File for Connections and Settings

Currently Service Bus Explorer is using:
The application config file
Go to View -> Options if you want to change this.

Connection Settings

Connection String:

Endpoint=sb://eventhub.servicebus.windows.net/;SharedAccessKeyName=RootManagementSharedAccessKey;SharedAccessKey=L[redacted]

Connectivity Mode:

AutoDetect

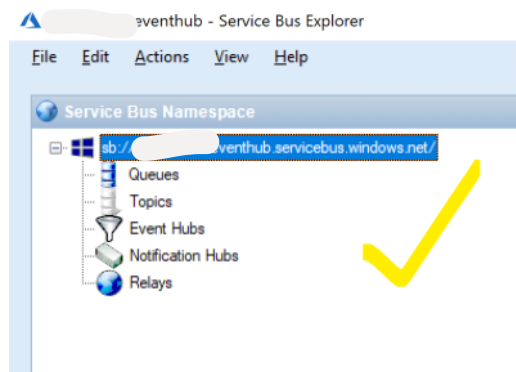
Transport Type:

NetMessaging

Use AMQP Web Sockets for Microsoft.Azure.ServiceBus.dll (new client)

Save OK Cancel

Success! - it is blank



Ensure The CluedIn.Connector.AzureEventHub is installed

```

17   cluedin:
18     components:
19       packages:
20         - name: CluedIn.Connector.SqlServer
21           version: [redacted]
22         - name: CluedIn.Provider.ExternalSearch.Libpostal
23           version: [redacted]
24         - name: CluedIn.Connector.AzureEventHub
25           version: [redacted]
26     sources:

```

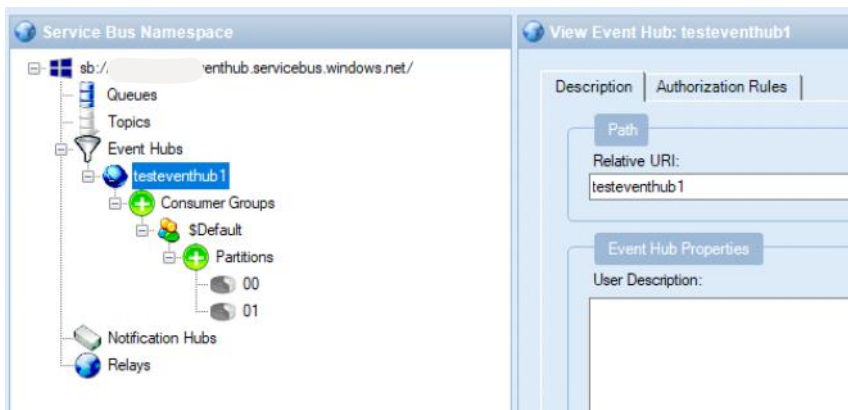
Connection String

Endpoint=sb://-
eventhub.servicebus.windows.net/;SharedAccessKeyName=RootManagementSharedAccessKey;Sh
aredAccessKey=L<redacted>Gx3r9VFUc=

Event Hub Name

testeventhub1

we can see this in the sbexplorer



Let's configure an export target to this one

Add Export Target

1 Choose Target

Q

⦿

Azure Event Hub Connector
Supports publishing of data to Azure Event Hubs.

Add Export Target ✕

✓ Choose Target 2 Configure

Connection String*

✓

Name*

✓

TEST CONNECTION

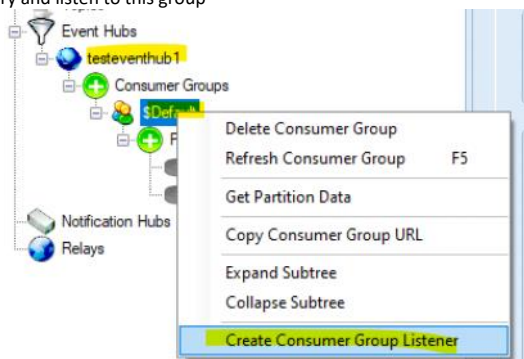
Back

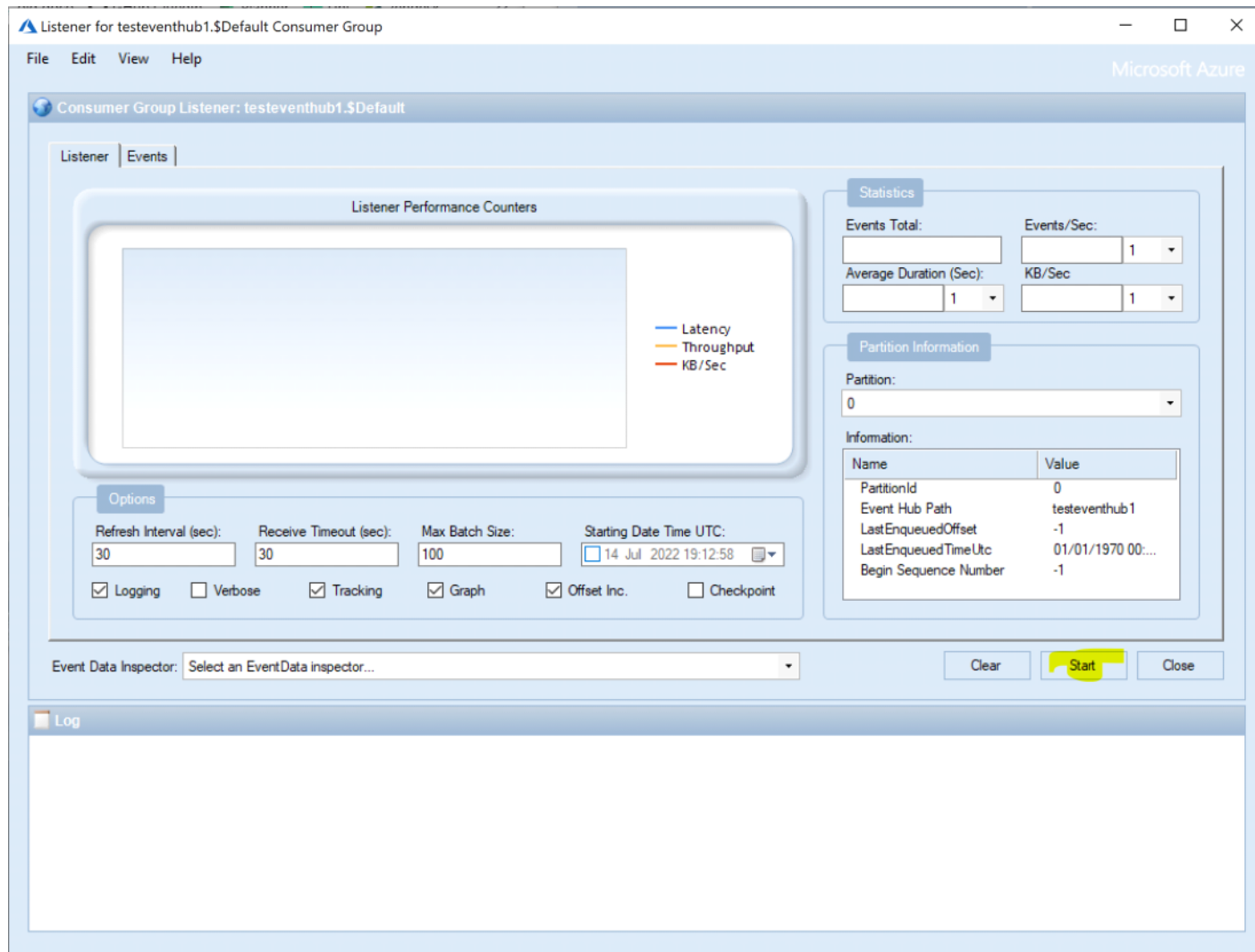
Add

TEST CONNECTION

Connection test successful ✓

let's try and listen to this group





Create test stream - using glossary term as the filter

Create Stream
✕

Stream Name*

User friendly name to help you find your stream once it has been created

send to testeventhub1|

Cancel
Create

Create ▼

Search for **glossary** term

Q

create category

Customer Location

Show Details

ENDORSE

Overview

Matches

18 found

Name	Entity Type
------	-------------

send to testeventhub1

Inactive

0

Cancel

Save

Created by A

Configuration

Export Target Configuration

Preview Condition

Data

Monitoring

Pending Changes

Audit Log

Name*

Please enter the name of the new stream

send to testeventhub1

Filters

Configuration the filters for the stream.

and or

Preview Condition

+ Rule + Group

Glossary

Customer Location

Is True

Configuration	Export Target Configuration	Preview Condition	Data
Pending Changes	Audit Log		
Attribute Type	Property Person Address Line 1	Property Person Address	
/Metadata/KeyValue	8 smallwood pl	NULL	
/Metadata/KeyValue	8 smallwood pl	NULL	
/Metadata/KeyValue	8 SMALLWOOD PL	NULL	
/Metadata/KeyValue	8 Smallwood place	NULL	
/Metadata/KeyValue	smallwood place	NULL	
/Metadata/KeyValue	8 smallwood pl	NULL	
/Metadata/KeyValue	8 smallwood pl	NULL	
/Metadata/KeyValue	8 smallwood Place	NULL	
/Metadata/KeyValue	smallwood place	NULL	
/Metadata/KeyValue	8 smallwood place	NULL	

Target name*

The name of the target container for your exported data (eg: for SQL, this would be the r

customer_location

Streaming Mode*

Export targets has the option to support multiple streaming modes. The streaming mode the data should be exported into the target. A synchronized streaming mode, if supported between the data stored in CluedIn and the target. An event log streaming mode, on the events (delete, update, create) each time an action is happening in CluedIn.

This export target only supports Sync mode

Export Edges*

Export edges gives you the necessary information to link correctly your data once it has l

☐ Outgoing

☐ Incoming

Properties to export

Default identify information for an entity is always exported. Add properties if you want i

Add Property

<input type="checkbox"/>	Property	Type
<input type="checkbox"/>	CreatedDate	entity
<input type="checkbox"/>	DisplayName	entity
<input type="checkbox"/>	person.sourceId	vocabulary
<input type="checkbox"/>	person.addressLine1	vocabulary

make the stream active such that events will start to stream

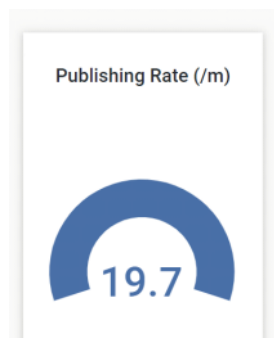
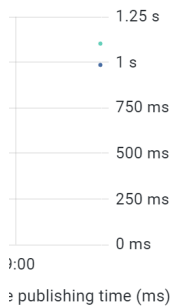
send to testeventhub1

Created by A Synchronized

Active 🗑️ 🔄 Cancel Save

Configuration **Export Target Configuration** Preview Condition Data

Monitoring Pending Changes Audit Log



back to sbexplorer

Listener for testeventhub1.\$Default Consumer Group

File Edit View Help

Microsoft Azure

Consumer Group Listener: testeventhub1.\$Default

Listener Events

Listener Performance Counters

Options

Refresh Interval (sec): 30 Receive Timeout (sec): 30 Max Batch Size: 100 Starting Date Time UTC: 19:12:58

☒ Logging ☐ Verbose ☒ Tracking ☒ Graph ☒ Offset Inc. ☐ Checkpoint

Statistics

Events Total: 54 Events/Sec: 497.6959

Average Duration (Sec): 0.0040 KB/Sec: 1404.1439

Partition Information

Partition: 0

Information:

Name	Value
PartitionId	0
Event Hub Path	testeventhub1
LastEnqueuedOffset	88504
LastEnqueuedTimeUtc	09:...
Begin Sequence Number	0

Event Data Inspector: Select an EventData inspector...

Clear Stop Close

Log

```
<19:13:32> [EventProcessor] Open: PartitionId=[1] Offset=[
<19:13:32> [EventProcessor] Open: PartitionId=[0] Offset=[
<19:23:33> [EventProcessor] Event: PartitionId=[1] SequenceNumber=[0] Offset=[0] EnqueuedTimeUtc= 9:23:33 AM]
<19:23:33> [EventProcessor] Event: PartitionId=[0] SequenceNumber=[0] Offset=[0] EnqueuedTimeUtc= ( ) :23:33 AM]
<19:23:33> [EventProcessor] Event: PartitionId=[1] SequenceNumber=[1] Offset=[2544] EnqueuedTimeUtc= 9:23:33 AM]
```

```

<19:13:32> [EventProcessor] Open: PartitionId=[1] Offset=[
<19:13:32> [EventProcessor] Open: PartitionId=[0] Offset=[
<19:23:33> [EventProcessor] Event: PartitionId=[1] SequenceNumber=[0] Offset=[0] EnqueuedTimeUtc= 9:23:33 AM]
<19:23:33> [EventProcessor] Event: PartitionId=[0] SequenceNumber=[0] Offset=[0] EnqueuedTimeUtc= 9:23:33 AM]
<19:23:33> [EventProcessor] Event: PartitionId=[1] SequenceNumber=[1] Offset=[2544] EnqueuedTimeUtc= 9:23:33 AM]
<19:23:33> [EventProcessor] Event: PartitionId=[0] SequenceNumber=[1] Offset=[2624] EnqueuedTimeUtc= 9:23:33 AM]
<19:23:33> [EventProcessor] Event: PartitionId=[1] SequenceNumber=[2] Offset=[5088] EnqueuedTimeUtc= 9:23:33 AM]
<19:23:33> [EventProcessor] Event: PartitionId=[0] SequenceNumber=[2] Offset=[5248] EnqueuedTimeUtc= 9:23:33 AM]
<19:23:33> [EventProcessor] Event: PartitionId=[1] SequenceNumber=[3] Offset=[7632] EnqueuedTimeUtc= 9:23:34 AM]

```

Listener for testeventhub1.\$Default Consumer Group

File Edit View Help

Microsoft Azure

Consumer Group Listener: testeventhub1.\$Default

Listener Events

Events List

PartitionKey	SequenceNumber	Offset	EnqueuedTimeUtc
0	0	0	9:23:33 AM
0	0	0	9:23:33 AM
1	1	2544	9:23:33 AM
1	1	2624	9:23:33 AM
2	2	5088	9:23:33 AM

Event System Properties

Misc

EnqueuedTimeUtc	9:23:33 AM
Offset	0
PartitionKey	
Properties	
SequenceNumber	0
SerializedSizeInBytes	2505
SystemProperties	

Event Text

```

1 {
2   "Id": "5ddd5a2c-9f66-57d8-b706-58fdb2ab11f9",
3   "PersistHash": "tpjeciqhg8ijvq92kjtug==",
4   "EntityType": "/Person",
5   "OriginEntityCode": "/Person#CRM:68FFBCA8F896E7119401000D3AD034",
6   "Codes": {
7     "Type": "System.Collections.Generic.List`1[System.Object, S",
8     "Values": [

```

Event Custom Properties

Name	Value
------	-------

Event Data Inspector: Select an EventData inspector...

Clear Stop Close

Log

```

<19:13:32> [EventProcessor] Open: PartitionId=[1] Offset=[
<19:13:32> [EventProcessor] Open: PartitionId=[0] Offset=[
<19:23:33> [EventProcessor] Event: PartitionId=[1] SequenceNumber=[0] Offset=[0] EnqueuedTimeUtc= 9:23:33 AM]
<19:23:33> [EventProcessor] Event: PartitionId=[0] SequenceNumber=[0] Offset=[0] EnqueuedTimeUtc= 9:23:33 AM]
<19:23:33> [EventProcessor] Event: PartitionId=[1] SequenceNumber=[1] Offset=[2544] EnqueuedTimeUtc= 9:23:33 AM]
<19:23:33> [EventProcessor] Event: PartitionId=[0] SequenceNumber=[1] Offset=[2624] EnqueuedTimeUtc= 9:23:33 AM]
<19:23:33> [EventProcessor] Event: PartitionId=[1] SequenceNumber=[2] Offset=[5088] EnqueuedTimeUtc= 9:23:33 AM]
<19:23:33> [EventProcessor] Event: PartitionId=[0] SequenceNumber=[2] Offset=[5248] EnqueuedTimeUtc= 9:23:33 AM]
<19:23:33> [EventProcessor] Event: PartitionId=[1] SequenceNumber=[3] Offset=[7632] EnqueuedTimeUtc= 9:23:34 AM]
<19:23:33> [EventProcessor] Event: PartitionId=[0] SequenceNumber=[3] Offset=[7872] EnqueuedTimeUtc= 9:23:34 AM]
<19:23:33> [EventProcessor] Event: PartitionId=[1] SequenceNumber=[4] Offset=[11488] EnqueuedTimeUtc= 9:23:34 AM]

```

Example of the event text

```

{
  "Id": "5ddd5a2c-9f66-57d8-b706-58fdb2ab11f9",
  "PersistHash": "tpjeciqhg8ijvq92kjtug==",
  "EntityType": "/Person",
  "OriginEntityCode": "/Person#CRM:68FFBCA8F896E7119401000D3AD0344E",
  "Codes": {
    "Type": "System.Collections.Generic.List`1[System.Object, System.Private.CoreLib], System.Private.CoreLib",
    "Values": [
      "/Person#CluedIn(email):<redacted>",
      "/Person#CluedIn(hash-sha1):321e83a280d5d684b1ec8a326a347c68512b636f",
      "/Person#CluedIn(hash-sha1):58f93a833b6ebe59a70a42cc4be1632ca125e439",
      "/Person#CluedIn(hash-sha1):808b401a17a8797e8bcfbfb329c44c490317b73a",
      "/Person#CluedIn(hash-sha1):f40efac0a1973282552b6be15a88f4565ae333b",
      "/Person#CluedIn(hash-sha1):fc15ceaf65af9302039dff035f4b9acdaa9351f5",
      "/Person#CluedIn(mobilenumber):<redacted>",
      "/Person#CluedInImporter(dataset-8803377A86AE4801809D9DFA6C4D391):110006705",
      "/Person#CluedInImporter(dataset-8803377A86AE4801809D9DFA6C4D391):110213613",
      "/Person#CluedInImporter(dataset-8803377A86AE4801809D9DFA6C4D391):65244",
      "/Person#CluedInImporter(dataset-8803377A86AE4801809D9DFA6C4D391):68FFBCA8F896E7119401000D3AD0344E",
      "/Person#CluedInImporter(dataset-

```

```

C38C41C00B514A5AA339D3E31E13C313):68FFBCA8F896E7119401000D3AD0344E",
  "/Person#CluedInImporter(dataset-DB5A90D46C77479991D1BBD122C7F5A3):68FFBCA8F896E7119401000D3AD0344E",

  "/Person#CluedInImporter(datasource-3):68FFBCA8F896E7119401000D3AD0344E",
  "/Person#CluedInImporter(datasource-5):110006705",
  "/Person#CluedInImporter(datasource-5):110213613",
  "/Person#CluedInImporter(datasource-5):65244",

  "/Person#CluedInImporter(datasource-5):68FFBCA8F896E7119401000D3AD0344E",

  "/Person#CluedInImporter(datasource-7):68FFBCA8F896E7119401000D3AD0344E",
  "/Person#CluedInImporter(datasourcegroup-3):110006705",
  "/Person#CluedInImporter(datasourcegroup-3):110213613",
  "/Person#CluedInImporter(datasourcegroup-3):65244",

  "/Person#CluedInImporter(datasourcegroup-3):68FFBCA8F896E7119401000D3AD0344E",
  "/Person#CRM:68FFBCA8F896E7119401000D3AD0344E",
  "/Person#File Data Source:110006705",
  "/Person#File Data Source:110213613",
  "/Person#File Data Source:65244",
  "/Person#File Data Source:68FFBCA8F896E7119401000D3AD0344E",
  "/Person#Global:68FFBCA8F896E7119401000D3AD0344E",
  "/Person#Jasper:110006705",
  "/Person#Jasper:110213613",
  "/Person#Jasper:65244",
  "/Person#Jasper:68FFBCA8F896E7119401000D3AD0344E",
  "/Person#Loyalty:68FFBCA8F896E7119401000D3AD0344E",
  "/Person#Loyalty:B000738417"
},
"CreatedDate": "<redacted>T10:13:38+00:00",
"DisplayName": null,
"personsourceId": "110213613",
"personaddressLine1": "8 smallwood pl"
}

```

spot audit

Listener for testeventhub1.\$Default Consumer Group

File Edit View Help

Consumer Group Listener: testeventhub1.\$Default

Listener Events

Events List

PartitionKey	SequenceNumber	Offset	EnqueuedTimeUtc
	7	18480	:23 AM
	10	25344	:23 AM
	11	26880	:23 AM
	8	21696	:23 AM
	12	28416	:23 AM

Event Text

```

1 {
2   "Id": "bbc88b70-9fc4-5b16-b2af-efa199937cff",
3   "PersistHash": "osakz6niweklpme7eoj8qw==",
4   "EntityType": "/Person",
5   "OriginEntityCode": "/Person#CRM:B839F1161E0C4DD4AB8CC8749B38E9",
6   "Codes": {
7     "$type": "System.Collections.Generic.List`1[[System.Object, S",
8     "$values": [

```

num of records looks good

send to testeventhub1

Synchronized

Number of records: 18
Number of rules: 0